How Fast Can the Market Get It?

Evidence from Alliance Synergies

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Abstract

We study how financial markets evaluate the synergies generated by alliances. Using the complete set of international alliances over the period 2002-2009, we find that fund managers choose to trade alliance stocks have superior information. Strategies based on fund rebalancing may deliver performance as high as 28% in the year after the alliance announcement. This profitability also increases in information proximity. The ability for the market to price synergies or learn from the trading of sophisticated investors, however, is rather limited.

Keywords: Alliances, Mutual Funds, Learning, International Finance.

JEL Codes: G14, G30

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Introduction

There is a consistent set of evidence showing that the market is not able to evaluate complex structures: investors find it difficult to evaluate conglomerates (Cohen and Lou, 2012) and the mere splitting into separate independent business units helps to reduce asymmetric information on firm's earnings prospects (e.g., Cusatis, Miles, and Woolridge, 1993, Krishnaswami and Subramaniam, 1999, Gilson *et al.,* 2001, Nanda and Narayanan, 2002, Burch and Nanda, 2003, and Ahn and Denis, 2004). Behind these stylized facts is the notion that the investors have limited ability to price the economic value created by the interaction of different business units – i.e., the synergies.

However, are these synergies difficult to properly quantify for all market participants, or is it the case that some investors are able to infer them more rapidly and effectively than the rest of the market? One may, of course, indirectly infer the ability to react to synergies by focusing on investor behavior around M&As. However, in such a case, the value of synergies coincides with other confounding effects such as agency costs and completion risk (e.g., Barraclough et al., 2013). In contrast, alliances provide a clean identification for synergy-related investor response. On the one hand, alliances may be regarded as informal conglomerates that share the same motivation for a tie-up as the creation of conglomerates: exploiting synergies (Chan et al, 1997; Robinson, 2008). On the other hand, the willingness of the alliance partners to maintain separate legal identities provides the market with different signals – i.e., the prices of the firms involved in the alliance – that help to control for confounding effects. These features make alliances an ideal testing ground to assess investor reaction to synergies and allow us to uniquely portray how the general market and sophisticated investors, such as mutual fund managers, react to synergy-related information.

A graphical depiction of the main findings is reported in Figure I. This figure presents the results of an event study on alliance announcements using the entire sample of alliances worldwide over the period 2002-2009. We sort the stocks of the firms involved in alliances into five quintiles on the basis of their announcement return and calculate the average abnormal return for each quintile of stocks from 12 months before (t = -12) to 12 months after the announcement month (t = 12). Panel A plots the average cumulative abnormal returns for Quintile 1 and Quintile 5 (the most positive announcement return) firms, together with their 90% confidence levels. At first glance, it may appear that the market response to the alliance announcements is quite "efficient": the price primarily changes during the announcement month (by approximately 20% for Q5 and -15% for Q1 firms), with no clear patterns of pre- or post-announcement drifts. Panel B concentrates on the post-announcement period and illustrates that the confidence regions for Quintile 1 and Quintile 5 firms overlap. In other words, we do not observe a post-earnings-announcement-drift type of anomaly for alliances.

However, when we sort alliance stocks into five quintiles on the basis of mutual fund rebalancing during the announcement period, the story changes dramatically. Panel C depicts the post-announcement abnormal returns for these quintiles. Two striking results emerge. First, *changes* in fund investment weights forecast abnormal returns in the post-announcement period, suggesting that sophisticated investors are capable of properly estimating and trading on the synergies of the alliance stocks. For instance, Quintile 5 firms deliver a cumulative annual abnormal return above 20%, which is on par with the magnitude of the announcement effect itself and significantly higher than the return of Quintile 1 firms. The difference between Quintile 5 and Quintile 1 is as high as 28%. Second, the price continues to drift – it takes over 6 months for the price to begin to converge. Therefore, the ability of the market as a whole to rapidly price synergies or to learn about their value from the trading of sophisticated investors is rather limited.

These graphs provide three main intuitions. First, alliances on average do not represent "easily-exploitable" sources of information, such as, e.g., share repurchases. The possibility for an average investor to simply use the alliance event to develop a successful trading strategy is almost non-existent. Second, the magnitude of rebalancing after the alliance allows the fund managers to profit, suggesting that fund managers are able to quickly process relevant information to evaluate the synergies related to the alliance. Finally, the market displays a lack of efficiency, at least with respect to the behavior of professional investors such as mutual funds.

Of course, the superior return associated with mutual funds may also come from their "voice" – i.e., funds may actively encourage alliances with positive synergies rather than properly pricing the latter after the firms make their alliance decisions. To assess the role of voice, in a fourth (unreported) graph, we re-perform the same analysis but now sorting alliance stocks into five quintile groups on the basis of mutual fund ownership *levels* before the announcement period (as well as changes before the announcement period). No difference is observed, and the results are again similar to those reported in Panel A. Institutional investor ownership before the event, therefore, does not provide additional information on the profitability of the alliance. This characteristic implies that, unlike what has been found for M&As (e.g., Gaspar et al., 2005, Ferreira et al., 2010), there is no solid evidence that institutional investors "push" firms to engage in alliances.

All the above results may be explained in terms of an information hypothesis in line with Kim and Verrecchia (1994) and Kandel and Pearson (1995) ("the information hypothesis"). This hypothesis posits that capable investors may derive from the alliance more accurate information than the rest of the market. This information processing ability implies that the rebalancing of these investors will predict stock returns.[1] Moreover, both fund magnitude of rebalancing and its corresponding predictive power should be stronger

[1] It is well known that professional traders have information processing skills. Engelberg, Reed and Ringgenberg (2012), for instance, demonstrate that short sellers are skilled at processing public information and that a significant portion of their trading profitability comes from this ability.

when fund managers have access to information – i.e., in the case of closer firms and firms operating in similar segments.

The alternative hypothesis (the diversification hypothesis) posits that mutual funds simply rebalance their stake in alliance stocks for diversification reasons. Indeed, the tie-up of two originally independent firms makes them more similar in terms of business lines and cash flow structures, reducing their diversification benefits in terms of portfolio investments. Fund managers respond by reducing the total investment weight in the pair of stocks. Because this magnitude of rebalancing is not information-driven, it should not have predictive power for the stock prices of the firms involved, regardless of the fund managers' access to information.

The two hypotheses have starkly different implications in terms of the informational content of synergies in the market. Under the information hypothesis, the delayed reaction of the market suggests that synergies are interpreted by the market with a delay but provide an opportunity for professional investors to develop and trade on superior information. Hence, some sort of professional judgment and skills, as proposed by Kim and Verrecchia (1994), may be necessary to properly and promptly evaluate synergies. In contrast, under the diversification hypothesis, synergies do not provide an opportunity for sophisticated investors to trade on private information, implying that the pricing of synergies does not differ drastically between more and less sophisticated investors.

We test these hypotheses using the complete sample of alliances and joint ventures (henceforth, for simplicity, "alliances") worldwide over the period 2002-2009. The availability of complete data on portfolio ownership by all international mutual funds allows us to investigate the behavior of sophisticated investors at the portfolio level.

We begin by documenting that fund managers tend to rebalance their portfolios with respect to the stocks of the partner firms – i.e., the firms involved in the alliance – around the establishment of the alliance. The absolute (i.e., not directional) portfolio rebalancing is related to the fund's degree of informational proximity, defined either in terms of the proximity between the stocks involved in the alliance (the *return correlation* between the stock and its alliance counterparty over the 18 months before the alliance announcement period) or in terms of the proximity between the fund manager and the stocks involved (the *geographic distance* between the fund's home country and the issuing country of the stock). More specifically, funds tend to rebalance their portfolio allocation in the alliance stocks to a greater extent as the pre-alliance correlation increases and the distance decreases. These results are consistent with both the information and the diversification hypothesis.

Next, we focus on returns and examine whether the return predictability plotted in Figure I is robust to a multivariate analysis and affected by information proximities as hypothesized. We thus aggregate the rebalancing of the individual mutual funds (i.e., absolute change in holdings) into aggregate fund changes in

holdings and relate them to stock performance in the 3-month, 6-month, 9-month and 1-year periods after the announcement period. We first find that, over all the horizons, fund rebalancing predicts stock performance, in line with Figure I. Stocks involved in alliances in which the funds increase their holdings by one standard deviation deliver a 3.13% (4.31%, 3.49%) higher return (four-factor-adjusted, DGTW-adjusted) over the following 3 months. The predicted effect is even stronger after 6 months. A one-standard-deviation increase in holding weight predicts a 7.18% (7.36%, 8.16%) higher return (four-factor-adjusted, DGTW-adjusted) over the following 6 months, 7.84% (8.25%, 8.14%) over the following 9 months and 7.73% (7.67%, 7.74%) over the following year. This suggests that the market begins catching up with mutual funds' understanding of alliance synergies only 6 months after the alliance announcement.

This general pattern delivers very successful trading strategies. The corresponding differences between the accumulated DGTW-adjusted abnormal returns of Quintile 5 stocks – i.e., the stocks in which mutual funds increase their holdings to the greatest extent – and Quintile 1 stocks – i.e., the stocks in which the funds decrease their holdings to the greatest extent – are 17.0%, 34.1%, 33.8%, and 28.2% for the 3-month, 6-month, 9-month and 1-year periods after the alliance announcement, respectively. Again, information on synergies primarily appears to be incorporated into the market during the first 6-month period following the announcement.

We then investigate whether the ability of fund rebalancing to predict stock performance is related to our proxies for information proximity. Conditioning on the correlation-based proxy for proximity improves the raw return differential between alliance stocks in which the funds increase their stakes and the alliance stocks in which they reduce their stakes over 3 months (1 year) by 2.83% (16.44%). The analogous figure for four-factor-adjusted performance is 10.03% (3.31%), whereas for the DGTW-adjusted performance, it is 4.85% (19.88%). Conditioning on the distance-based proxy for proximity leads to similar results. The analogous figure for the DGTW-adjusted performance in this case, for instance, is 10.55% (23.49%). A multivariate analysis of the portfolio analysis of the previous specifications confirms that the future performance of the stocks of the firms engaged in the alliance is higher when the funds increase their holdings and the pre-alliance correlation or the distance-based proximity is higher.

These results demonstrate that the fund managers use the information contained in the alliances and thereby deliver superior performance and that their ability is greater the higher the proximity. This finding implies that fund managers either have access to privileged inside information on the alliance or are better able to exploit the information arising from the alliance. The fact that the effect is stronger in the case in which the asset manager is "closer" to the stock suggests that the information contained in the alliance is complementary to that already held by the fund managers. In other words, the fact that the use of such information allows fund managers to deliver superior performance suggests that the fund managers are somehow able to either better interpret such information or link it to other available information.

We also verify, in multivariate regressions, our previous graphical finding that mutual funds do not actively encourage firms to engage in value-creating alliances. We thus relate the probability of the firm engaging in an alliance and the change in stock return to the prior-to-alliance mutual fund aggregated ownership in the alliance firms. We document a complete lack of a relationship between mutual fund ownership before the alliance and alliance returns. These results reject the possibility of mutual funds having a direct impact on firms that induces them to engage in alliances.

Overall, our findings provide evidence in favor of the information hypothesis and reject the diversification hypothesis. Also, they reject the possibility that (international) ownership may be responsible for cross-country alliances and joint ventures or help to discipline managers to select the best ones.

We contribute to various strands of the literature. First, we relate to the literature on information. It has been argued that several factors limit and delay the release of information. Limited attention, investor biases, and transaction costs have been argued to be responsible for the delayed spread of information (e.g., Hong and Stein, 1999, Huberman and Regev 2001, Hirshleifer and Teoh, 2003, Barber and Odean, 2006, DellaVigna and Pollet 2006, Hou, 2006, Menzly and Ozbas 2006, Hong, Torous, and Valkanov, 2007, Cohen and Frazzini, 2008, Cohen and Lou, 2012). We directly investigate the reactions of certain sophisticated investors in situations in which the slow transmission of information is related to an inability to process the value of synergies. In doing so, this contribution also relates to the literature on conglomerates. Diversification has been demonstrated to affect profitability (e.g., Williamson, 1970, Lewellen 1971, Melnik and Pollatschek, 1973, Majd and Myers, 1987, Shleifer and Vishny, 1992, Matsusaka and Nanda, 1995, Stein, 1997, Lamont, 1997), agency problems (e.g., Stein, 1997), value creation (e.g., Lang and Stulz, 1994, Maksimovic and Philips, 2002) and transparency (e.g., Cohen and Lou, 2012). We contribute by examining the way the perception of the synergies affects the financial markets.

Second, we are the first, to our knowledge, to investigate the informational content of firms' approaches to international expansion. The standard finance literature has argued that when international investors cannot freely allocate their assets across borders, the firms in which they hold a stake have an incentive to do so on their behalf. For example, if Fidelity cannot invest in India, IBM directly pursuing FDI in India will provide Fidelity with the possibility of doing so indirectly. Of course, this phenomenon also suggests that, as cross-border portfolio investment has become less constrained, institutional investors such as Fidelity would have a lower incentive to "piggyback" on the overseas investments of the firms in which they invest. Alternatively, it has been argued that, for example in the case of M&As (e.g., Gaspar et al., 2005, Ferreira et al., 2010), institutional investors (either domestic or international) play a disciplining role, enhancing governance and inducing managers (both of the buyer and the target firms) to select the best means of expansion, leading to value-creating M&As. Neither of these literatures accounts for the information dimension or, more specifically, the potential informational spillover effects of firms investing

abroad. More generally, whenever two firms form an alliance, new information will be generated for investors. This outcome suggests that alliances represent a potentially important source of investor information. Our first contribution is to investigate this effect. Moreover, in the case of alliances and joint ventures, we are able to strongly reject the possibility that (international) ownership plays any governance improving role.

Third, in doing so, we also contribute to the literature on alliances. In Finance, these have been studies as a form of "commitment technology" that helps to address agency problems by ring-fencing assets (Robinson, 2008). We argue and document that assets being ring-fenced *per se* has major direct effects on information. The focus on alliances, as partner firms retain separate legal structures with listed stocks, makes it possible to properly investigate the information channel.

Fourth, we contribute to the literature on mutual funds. The literature has primarily focused on fund performance (Brown and Goetzmann, 1995, 1997; Grinblatt and Titman, 1989, 1992; Elton, Gruber and Blake, 1996; Elton et al., 1993; Ferson and Schadt, 1996; Wermers, 2000). Examples of exogenous determinants of performance identified in the literature include location (Coval and Moskowitz, 1999, 2001) and outflows (Edelen, 1999), but in general, few papers have investigated the way funds interpret information.

The remainder of the paper is organized as follows. In Section II, we provide testable restrictions. In Section III, we describe the data. In Section IV, we provide a preliminary analysis. In Sections V and VI, we provide the main findings. A brief conclusion follows.

II. Testable Hypotheses

We now present our testable restrictions. We start from the fact that alliances are forms of "commitment technology" that help to address agency problems (Robinson, 2008). Multidivisional firms seek to motivate their division managers and ex ante commit to provide ex post payments to division managers even if a project fails. However, this is not dynamically consistent. Indeed, as the profitability of the projects is established, HQ has incentives to move resources ex post from low- to high-productivity projects – i.e., to engage in "winner-picking." This induces managers to shirk (e.g., Stein, 1997, Brusco and Panunzi, 2005; Robinson, 2008). Engaging in alliances allows the managers to solve this problem by ring-fencing the assets. This procedure makes it more difficult if not impossible to reallocate resources ex post and engenders stronger managerial incentives ex ante.

The ring-fencing of assets has important information implications. Indeed, the information on ring-fenced assets is not entirely originated within a unique firm, but "agreed" upon by the partner firms, which helps to improve the quality of the information. This feature is relatively rare because, in general, the firm

directly or indirectly provides information in financial markets. For example, analysts collect information that is indirectly provided by official firm statements. Managers directly release information through press releases, announcements and news conferences. Even the information contained in the public media is doctored and often released at the urging of the firm (Reuter and Zitzewitz, 2006). In contrast, in the case of alliances, the existence of competing interests between the two alliance partners makes the information not necessarily aligned with that of any particular partner. Moreover, such a plurality of signals as also come from the partner firms that ring-fence assets for the alliance and remain active afterwards, which, unlike the case for M&As, is less affected by confounding effects such as the completion risk. Finally, the novelty of the information comes from the fact the alliance often occurs in secondary or even new lines of business (Robinson, 2008) that may generate synergies for the two partners. These considerations suggest that alliances provide a rare glimpse into the value of the synergies on the basis of more abundant, less confounded, and better quality information.

How to properly price synergies, however, depends on the different ability of the various investors to process such information (e.g., Kim and Verrecchia, 1994; Kandel and Pearson, 1995; Engelberg et al., 2012). Professional fund managers, for example, may be able to derive a more precise evaluation of the firm on the basis of their professional "judgment" on synergies. By contrast, retail investors and the general market may lack the ability to evaluate synergies as rapidly as precisely and fast as professional managers do. This means that alliances represent opportunities for professional fund managers to exploit their information processing abilities when assessing synergies.

We argue that the professional fund managers rebalance their portfolio to take advantage of the information contained in the alliance and generate superior performance before the information pertaining to the synergies is fully incorporated into the market price ("information hypothesis"). Therefore mutual funds' rebalancing in the alliance stocks at the time of the alliance should predict the returns of the alliance stocks.

The asset managers who are more likely to benefit from the alliance-related information are those with a better understanding and knowledge of the firm. This is related to the degree of "proximity" between the firms involved in the alliance and the investor. We consider two dimensions of proximity. The first, in line with the mutual fund literature, is *geographical distance* (Coval and Moskowitz, 1999, 2001, Sarkissian and Shill, 2004). Fund managers are able to better process information of nearby firms. The second dimension is the *similarity between the alliance firms*, which will largely affect the precision of the processed information, even for professional managers. Because involvement in new lines of business increases the information costs, the processed information may be more accurate for alliances in existing business lines than for those occurring in new business segments.

We therefore expect that fund managers rebalance the magnitude of fund managers' portfolio rebalancing is predicts future stock returns. We also expect that the ability of the fund managers' to exploit the information related to the alliance is positively related to proximity. That is, the predictive ability of the

mutual funds' rebalancing in the alliance stocks at the time of the alliance of the returns of the alliance stocks should be more accurate as the "proximity" between the alliance firms and the mutual fund increases.

An alternative hypothesis ("diversification hypothesis") focuses on the fund managers' desire to rebalance their portfolios for diversification purposes. Specifically, the tie-up of two originally independent firms reduces their diversification benefits in terms of portfolio investment and makes them more similar in terms of business lines and cash flow structures. Fund managers respond by reducing the total investment weight in the pair of stocks. Because this rebalancing is not information-driven, it should not have predictive power for the stock prices of the firms involved. These considerations suggest some testable restrictions concerning the two hypotheses.

H1a (information hypothesis): Fund portfolio rebalancing predicts stock returns.
H1b (diversification hypothesis): Fund portfolio rebalancing does not predict stock returns.

H2a (information hypothesis): The ability of fund portfolio rebalancing to predict future stock behavior is positively related to the proximity of the alliance stocks.
H2b (diversification hypothesis): There is no link between the ability of portfolio rebalancing to predict future stock behavior and the proximity of the alliance stocks.

It is worth noting that fund managers may also change the investment weights of the alliance stocks for liquidity and/or other reasons unrelated to the information contained in the two stocks. The main difference between this and information-based magnitude of rebalancing is that the former should not deliver performance. Before we discuss our main findings, we describe the data and the main variables.

III. Data and Variable Construction

We now describe the sources of our data and the construction of our main variables.

A. Data Sample and Sources

We extract data on international alliances from the Securities Data Corporation (SDC) Database. We then relate these data to the accounting information concerning the firms in Worldscope/Compustat. Stock returns are derived from Datastream/CRSP.

We consider all the international (including US-based) alliances over the period 2002-2009. We define alliances and partnership agreements as cases in which two or more entities combine resources to form a new, mutually advantageous business arrangement to achieve predetermined objectives. This approach includes joint ventures, strategic alliances, research and development agreements, sales and marketing agreements, manufacturing agreements, supply agreements, and licensing and distribution agreements. We

include alliance events if both stocks in the deal have return, market capitalization and book-to-market ratio information.

We obtain the data on international mutual funds from Morningstar International, which has complete coverage of open-end mutual funds worldwide beginning in the early 1990s. The database is free of survivorship bias, as it includes data on both active and defunct funds. The initial sample included 65,336 equity funds and share classes (both active and dead funds). We consolidated multiple share classes into portfolios and focused on portfolio-level information, such as returns and flows.[2] We focus on actively managed, diversified equity funds. We eliminate balanced, bond, and money market funds. Among equity funds, we further exclude index funds and sector funds. We require that funds report holdings for at least three years. We further eliminate fund observations that have total net assets of less than 5 million in the previous half-year end and those with portfolio holdings of fewer than 10 valid stocks (i.e., stocks with return, market capital and book-to-market ratio information). The ensuing sample contained 3,360 equity funds (both active and dead funds).

We match these data with ownership data from FactSet/LionShares. This database provides portfolio holdings for institutional investors worldwide. The database contains institutional holdings at the investor stock level in 73 countries, with positions totaling US$18.29 trillion as of December 2008. FactSet/LionShares compiles institutional ownership from investors' semi-public filings (such as 13-F filings in the US), company annual reports, stock exchanges, and regulatory agencies worldwide. Institutions are defined as professional money managers, including mutual fund companies, pension funds, bank trusts, and insurance companies. Overall, institutional ownership represents over 40% of total global stock market capitalization in our sample period. In our analyses, we focus on open-end mutual fund ownership while controlling for general institutional ownership in our regressions.[3]

We consider all types of stock holdings of open-end funds (common shares, ADR, GDR, and dual listings). The reporting frequencies of mutual fund holdings are quarterly (34% of the cases), semi-annual (58%) or annual (8%). We select the semi-annual frequency to include the majority of funds. We require the funds to be fully invested in equity – i.e., the total amount invested in equity should not be lower than 95% of total net asset value.

We begin with all publicly listed companies worldwide for which we had accounting and stock market information from Datastream/WorldScope and CRSP/Compustat. This sample is then matched with data on institutional investors' stock holdings from FactSet/LionShares and mutual fund data from Morningstar. We then match the resulting sample with SDC data to filter out alliance stocks.

[2] The primary fund is typically the class with the highest total net assets (TNA). In general, the primary class represents more than 80% of total assets across all share classes.
[3] Ferreira and Matos (2008) provide a more detailed description.

The initial sample from Datastream/WorldScope and CRSP covers 33,950 firms over the period. After matching with Factset/Lionshare and Morningstar, the sample was reduced to 18,755 firms over the period. We also applied several screening procedures for Datastream data errors in monthly returns, as suggested by Ince and Porter (2006) and others, and drop penny stocks (prices lower than $1) and stocks with fewer than 12 months of return or trading information.

Our final sample included 2,253 mutual funds from 19 countries investing in 1,037 alliance stocks in 15 countries. On average, each stock announced 1.95 alliance events over the sample period. Most funds are from developed countries. Among them, US funds represent 69% of the sample in terms of TNA but only 22% of the number of funds. A further discussion of the data will be provided when we examine the summary statistics.

We use geographic distance data compiled by Sarkissian and Schill (2004). We exclude stocks listed in offshore locations such as Bermuda. Some issuing countries do not have distance data, and we select their nearest neighboring countries that have distance data. For example, Netherlands Antilles is replaced by Venezuela-Caracas, China is replaced by Hong Kong and Liechtenstein is replaced by Switzerland.

The main variables are as follows. The first is $\Delta Weight\_Fund_{f,i,t}$. This variable denotes the change in the holding weight of stock i by fund f from (the end of) period $t-1$ to (the end of) period t on semi-annual basis, where the stock announces an alliance event at time *t*. According to the information hypothesis, this variable correlates with the private signal that the fund can obtain for the stock. Next, we can also aggregate all fund-level signals into a variable for each alliance stock, and define it as $\Delta Weight_{i,t} = \sum_f \Delta Weight\_Fund_{f,i,t} \times V_{f,i,t-1} / \sum_f V_{f,i,t-1}$, where $V_{f,i,t-1}$ is the market value of the stock that fund f had invested prior to t. This variable denotes the investment value-weighted average of the change in mutual fund holdings, which will be linked to stock performance in later sections.

In addition, *Pre-Weight* is a mutual fund's holding weight of a stock before the stock's alliance announcement period. Mutual fund ownership data come from the FactSet database. *Pre-Alliance Corr* is the return correlation between the stock and its alliance counterparty over the 18 months before the alliance announcement period. *Distance* is the geographic distance between the fund's home country and the issuing country of the stock. We winsorize all our main variables at the 1% and 99% levels. Appendix I provides a detailed definition of each variable.

B. Summary Statistics

We report the summary statistics in Table I. Panel A reports the mean, median, standard deviation, and quantile distribution of the mutual fund ownership variables: Δ*Weight*, and *Pre-Weight*. We detail the statistics for three samples. The "All Alliance" sample is defined as a function of whether, when the alliance

is announced, either the stock of the firm that announces the alliance or its alliance counterparty at least one of the stocks of the firms participating in the event is in a mutual fund's portfolio. The "Within-Portfolio Alliance" sub-sample is defined as a function of whether, at the time of the alliance announcement, both the firm that announces the alliance and the allied firm are in the same mutual fund portfolio. The "Cross-Portfolio Alliance" sub-sample is defined as a function of whether, at the time the alliance is announced, one of the two alliance counterparties is in the mutual fund portfolio (but not both). Panel B reports the statistics for the proximity variables: *Pre-Alliance Corr*, and *Distance*. Panel C reports the statistics for mutual fund characteristics. Panel D reports the statistics for stock characteristics of both the overall global stock sample and alliance stocks alone.

The statistics are similar to those reported in the literature. For example, in Lau, Ng, and Zhang (2010), the average monthly return averages approximately 1% across stocks in different countries, compared to the mean of 1% in our sample. If we compare our sample to that of Karolyi and Wu (2012), the largest up-to-date sample, we observe that our initial stock sample of 33,950 firms from Datastream/WorldScope and CRSP is comparable to that in Karolyi and Wu (2012), with a total stock count of 37,399. After matching with FactSet/LionShares and Morningstar, our final sample is smaller and concentrates on firms that announced alliance events.

These statistics suggest that our overall sample is in line with those in the literature. Within this representative sample, we focus on the alliance stocks. These stocks differ in terms of size, book-to-market ratio, momentum, capital expenditures, and sales. Alliance stocks are larger in size and lower in book-to-market ratio and momentum but have more capital expenditures and sales. Moreover, their monthly stock returns have a greater dispersion but lower mean than the overall distribution of stock returns. The average monthly return variance for these stocks is 11%, compared to 8% in the overall sample. Their monthly return averages to approximately 0.5%, compared to the mean of 1% in the overall sample.

IV. Preliminary Findings

We begin by confirming the results in the first two panels of Figure I. In Table II, we report the cross-sectional variation of the post-alliance announcement stock returns in the five quintiles sorted by announcement return. We consider the raw returns and DGTW (adjusted by size and book-to-market ratio within each country) alphas of the alliance stocks, aggregated over the 3 months, 6 months, 9 months, and 1 year after the announcement of the alliance. Panels A1 and A2 report the mean, standard deviation, and percentile distribution of post-announcement accumulated returns for all our alliance stocks. In Panels B1 and B2, we divide our sample into five quintile groups based on the announcement return (the stock return in the month in which the alliance is announced) and report the above statistics separately for Quintile 1 and Quintile 5.

We observe sizable cross-sectional variation. This variation is so great that the alliance return alone does not provide useful information to develop a successful trading strategy. In particular, if we construct portfolios according to announcement returns, we cannot generate return gaps after the announcement month. This approach is consistent with Panels A and B of Figure I. It is interesting to compare this pattern to that of earnings announcements. In the latter case, the price typically begins to move before the announcement, spikes over the announcement period, and continues to drift after the announcement. This is typically considered an anomaly, as the announcement return itself predicts future price drift, implying an underreaction to the public signal on the announcement date. In contrast, in the case of alliances, the public information at the time of the announcement seems fully exploited by the market, and no post announcement drift is observed. Does this imply that there is a complete, efficient market reaction to information, or is it the case, as Panel C of Figure I suggests, that some mutual funds are better able to process some of the information and hence the market lags behind? In other words, is it the case that mutual fund managers process semi-public information regarding alliances and the market only subsequently adjusts, providing a window of opportunity for the managers? This is simply another formulation of the question of whether synergies are public or semi-public information. We explore this topic below.

V. Main Findings

In this section, we investigate the two main hypotheses. We first examine funds' trading behavior around alliance announcement period, and then investigate the return predictability of their trading. We then focus on the role played by proxies for information proximity (correlation-based and distance-based) in terms of return predictability.

A. Fund Rebalancing for Alliance Stocks

We begin our analysis by examining how mutual funds rebalance around alliance events and how their trading is related to information proximity. We thus regress the absolute value of the change in weight ("magnitude of rebalancing") on the information proximity variables and a set of controls. We estimate:

$$\left|\Delta Weight\_Fund_{f,i,t}\right| =$$
$$\beta_0 + \beta_1 DistProxy_{f,i} + \gamma_1 Mutual\ fund\ Controls_{f,t} + \gamma_2 Stock\ Controls_{i,t} + \varepsilon_t, \quad (1)$$

where $|\Delta Weight\_Fund_{f,i,t}|$ is the absolute value of the change in the holding weight of stock i by fund f from (the end of) period $t-1$ to (the end of) period t on semi-annual basis, where the stock announces an alliance event at time t. $DistProxy_{f,i}$ is our proxy for information proximity towards stock i by fund f, $Mutual\ fund\ Controls_{f,t}$ is a set of mutual fund-level control variables for fund f at time t including *Fund Size*, *Fund Age*, *Turnover*, and *Expense*, and $Stock\ Controls_{i,t}$ is a set of stock-level control variables

for stock i at time t including *Firm Size*, *BM*, *Mom12*, *Grow* and *Sale*. We also include $Pre\text{-}Weight_{f,i,t-1}$, holding weight of stock i by fund f by the end of period $t-1$ before the stock i announces alliance event at time t, as an additional control variable. The regressions are fund-stock-event time-level pooled OLS regressions on a semi-annual basis, which describe the degree to which mutual funds adjust their investments in alliance stocks during the (semi-annual) announcement period. Time, country, and industry fixed effects are included. The standard errors are robust and clustered at the fund-stock level.

We report the results in Table III. In models (1), (4), and (7), our proxy for proximity is the raw return correlation between stock i and its alliance counterparty j over the 18 months before the alliance announcement month ($Pre\text{-}Alliance\ Corr_{i,j}$), whereas in models (2), (5), and (8), our proxy for proximity is the geographic distance between the fund f's home country and the issuing country of stock i ($Distance_{f,i}$). In models (3), (6), and (9), we include both *Pre-Alliance Corr* and *Distance* in the regression model. Models (10) and (11) further divide *Distance* in (8) and (9) into *Distance_Outside* and *Distance_Existing*, where *Distance_Outside* is the geographic distance between the fund's home country and the issuing country of the alliance stock not in the fund's portfolio at time t, and *Distance_Existing* is the geographic distance between the fund's home country and the issuing country of the alliance stock in the fund's portfolio at time t. Similarly, models (12) and (13) replace *Distance* with the dummy variables for within/cross boarder alliances: *Domestic-Foreign* (equals 1 if in the alliance deal, the stock in the portfolio at time $t-1$ is a domestic stock, and the stock not in the portfolio at time $t-1$ is a foreign stock), *Domestic-Domestic* (equals 1 if in the alliance deal, both the stock in the portfolio and the stock not in the portfolio are domestic stocks), *Foreign-Foreign* (equals 1 if in the alliance deal, both the stock in the portfolio and the stock not in the portfolio at time $t-1$ are foreign stocks), and *Foreign-Domestic* (equals 1 if in the alliance deal, the stock in the portfolio at time $t-1$ is a foreign stock, and the stock not in the portfolio at time $t-1$ is a domestic stock). Models (1) to (3) correspond to the regressions using the All Alliance sample. Models (4) to (6) correspond to the Within-Portfolio Alliance sub-sample. Models (7) to (11) correspond to the Cross-Portfolio Alliance sub-sample. To save space, control variables are not included in the table.

The results display a strong positive correlation between the magnitude of fund portfolio rebalancing for alliance stocks and both of our proximity measures (*Pre-Alliance Corr* and *Distance*). If we focus on the joint specification with both proximity and correlation, we observe that a one-standard-deviation increase in $Distance_{f,i}$ (lower $Pre\text{-}Alliance\ Corr_{i,j}$) reduces (increases) on average fund f's rebalancing in stock i by 0.018% (0.006%) in the entire sample and by 0.016% (0.006%) in the Cross-Portfolio sub-sample. The result on distance is particularly interesting: the fact that funds rebalance more when they are closer to the alliance stocks provides some preliminary evidence that fund rebalancing is related to information, because any non-information related rebalancing, such as diversification, is unlikely to be affected by distance.

If funds indeed process information on alliance stocks, one interesting question is whether they do so only for stocks that they own or are familiar with. Models 10 to 13 shed more lights on the source of information. More specifically, models 10 and 11 illustrate that the distance effect is particularly strong for alliance stocks that were not part of the fund's portfolio. In particular, a one-standard-deviation increase in *Distance_Outside* reduces portfolio rebalance by 0.012%. However, a one-standard-deviation increase in *Distance_Existing* only reduces portfolio rebalance by 0.003%, and its effect is not statistically significant. Thus, funds seem to process alliance information not only from what they already own, but also from the alliance stocks that were not part of their original portfolio. Models (12) and (13) further show that, in the case of *Foreign-Foreign* – i.e., when both of the stocks in an alliance event are foreign and thus unfamiliar to funds – portfolio rebalance is 0.03% lower than in the case of *Domestic-Domestic* – i.e., when both of the stocks are located nearby. Therefore, funds seem to process information more from for stocks that they are familiar with (i.e., *Domestic-Domestic*) than stocks that they are unfamiliar with (i.e., *Foreign-Foreign*).

B. Return Predictability of Fund Rebalancing

Next, we link the alliance-induced portfolio rebalance to performance to formally verify the results plotted in Panel C of Figure I. We investigate whether the *direction* of the portfolio rebalance – i.e., rebalancing – predicts the performance of the stocks involved in the alliance. We focus on the stock performance (cumulative stock returns) 3 months, 6 months, 9 months, and 1 year after the alliance announcement period across the aggregated mutual fund's rebalancing ($\Delta Weight_{i,t}$) quintiles by different alliance-portfolio types. For instance, if the alliance is announced in October of 2006, then $\Delta Weight_{i,t}$ is computed from the (end of) June and (end of) December mutual fund holdings of the same year. The performance is computed for the 3 months, 6 months, 9 months, and 1 year periods in the following year.

Specifically, for each stock that announces an alliance event in a semi-annual period *t*, we consider three samples: the All Alliance sample, Within-Portfolio Alliance sub-sample, and Cross-Portfolio Alliance sub-sample. We then sort stocks into five quintiles according to $\Delta Weight$ computed in each Alliance-Portfolio sub-sample (i.e., All Alliance, Within-Portfolio Alliance, and Cross-Portfolio Alliance). We average the above post-alliance performance measures for each quintile. We also report the difference in sample means between Quintile 5 and Quintile 1 (row "5-1").

We report the results in Table IV. Panel A to Panel C present the results using raw returns, four-factor-adjusted alpha (rolling every two years) and DGTW-adjusted alpha (by size and book-to-market ratio within each country) as the post-alliance stock performance measure. The results demonstrate that the difference in performance between the stocks in which the funds increase their ownership the least (or reduce their holdings) and those in which the funds increase them the most over 3 months is between 15.68% for all

alliances, 8.74% for the within-portfolio alliances and 16.27% for the cross-portfolio alliances. These figures increase to 37.46%, 18.95% and 37.44%, respectively, over the following year.

If we instead consider the performance-net-of-risk based on the four-factor model, the analogous figures over 3 months are 19.33% for all alliances, 10.55% for the within-portfolio alliances, and 19.74% for the cross-portfolio alliances. These figures increase to 27.09%, 7.17%, and 27.52%, respectively, over the following year. Finally, if we focus on the DGTW-adjusted performance, the difference over 3 months is 16.96% for all alliances, 10.76% for the within-portfolio alliances, and 17.34% for the cross-portfolio alliances. These figures are 28.19%, 14.36%, and 25.59%, respectively, over the following year. Overall, these results provide clear evidence for a relationship between rebalancing in response to alliances and fund performance.

Next, we consolidate the previous results by performing a multivariate analysis of the portfolio analysis in the previous specifications. We regress post-alliance stock performance over the following 3 months, 6 months, 9 months, and 1 year on the portfolio rebalancing and a set of control variables. We estimate:

$$Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\, \Delta Weight_{i,t} + \gamma\, Stock\ Controls_{i,t} + \varepsilon_{i,t}, \quad (2)$$

where the $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1}$ is the post-alliance cumulative stock performance measure for stock i over 3 months in models (1), (5), and (9), 6 months in models (2), (6), and (10), 9 months in models (3), (7), and (11) and 1 year in models (4), (8), and (12). The time convention of the post-alliance cumulative stock performance is the same as the previous table. Here, $\Delta Weight_{i,t}$is the aggregate change in mutual fund holding weights over the alliance announcement period. We compute the aggregate $\Delta Weight_{i,t}$using the same method depicted in Table IV. $Stock\ Controls_{i,t}$ is a set of stock-level control variables for stock i at time t including *Firm Size*, *BM*, *Mom12*, *Grow* and *Sale*. The regressions are stock-level OLS regressions with robust standard errors corrected for heteroskedasticity. The corresponding t-statistics are reported in parentheses.

We report the results in Table V. Models (1) to (3) correspond to the regressions using the All Alliance sample. Models (4) to (6) correspond to the regressions using the Within-Portfolio Alliance sub-sample. Models (7) to (9) correspond to the regressions using the Cross-Portfolio Alliance sub-sample. Panel A to Panel C present the results for post-alliance cumulative stock performance measured using raw returns, four-factor-adjusted alpha (rolling every two years), and DGTW-adjusted alpha (by size and book-to-market ratio within each country), respectively.

The results reveal a strong, positive relationship between the rebalancing and stock performance. This finding holds across the different specifications and horizons. In particular, stocks involved in alliances in which the funds increase their holdings by one standard deviation deliver a 3.13% (4.31%, 3.49%) higher return (four-factor-adjusted, DGTW-adjusted performance) over the following 3 months in the case of all

alliances, 1.45% (1.83%, 1.80%) in the case of within-portfolio alliances, and 3.21% (4.22%, 3.53%) in the case of cross-portfolio alliances. If we consider the performance in the following year, returns increase by 7.73% (7.67%, 7.74%) (four-factor-adjusted, DGTW-adjusted performance) in the case of all alliances, 0.96% (-2.56%, 0.69%) in the case of within-portfolio alliances, and 8.15% (8.18%, 8.32%) in the case of cross-portfolio alliances. The results confirm those obtained previously and show a clear relationship between performance and rebalancing around alliances.[4]

C. Conditioning on Proximity-related Information

As a next step, we further analyze the results on the link between alliances and performance as a function of our proxies for information proximity.

C.1 A portfolio analysis

We begin with a portfolio-based analysis. We condition first on the *Pre-Alliance Corr*, sorting stocks into five quintiles according to this variable and focusing on the Low (the correlation is in bottom 2 quintile groups: from 0 to the 40th percentile) and High (the correlation is in the top 2 quintile groups: from the 60th to the 100th percentile) Pre-Alliance Correlation groups. Within each Pre-Alliance Correlation group, we further sort stocks into five quintiles based on $\Delta Weight_{i,t}$. Finally, we average the above post-alliance performance measures for the stock within each $\Delta Weight$ quintile in the Low and High Pre-Alliance Correlation groups.

We report the results in Table VI. Panel A to Panel C present the results using raw returns, four-factor-adjusted alpha (rolling every two years) and DGTW-adjusted alpha (by size and book-to-market ratio within each country) as the post-alliance stock performance measure. The last row "5-1" presents the difference in sample means between Quintile 5 and Quintile 1. We also report the p-value of the difference between the Low Pre-Alliance Correlation group and the High Pre-Alliance Correlation group for each cell.

The results show that, in general, the difference in performance between the stocks in which the funds increase their position the most and those in which the funds increase their position the least (or reduce the holdings of the alliance stocks in their portfolios) is higher in the case of High Pre-Alliance Correlation stocks. Over 3 months (1 year), the difference is approximately 2.83% (16.44%) for all alliances when considering raw returns. The analogous figure for the performance-net-of-risk based on the four-factor model is 10.03% (3.31%), whereas for the DGTW-adjusted performance, it is 4.85% (19.88%). These results indicate that the funds that increase their positions in the stocks involved in alliances that are highly

[4] It is worth noting that, since one alliance may be "within" for one fund but "cross" for another, the sample size of "all" is not the summation of "within" and "cross" for tests at the stock level.

correlated deliver the highest performance. This finding provides additional evidence for our working hypothesis.

The second measure of information proximity is *Distance*. We thus replicate the previous analysis but now divide the sample in terms of our *Distance* variable – i.e., the distance between the fund's home country and the home country of the firm is involved in the alliance. We first construct three subsamples of stocks based on *Distance*. The Zero Fund-Stock Distance group (*Distance* is 0, which represents from 0 to the 60th percentiles over all samples), Short Fund-Stock Distance group (*Distance* is between the 60th and 80th percentiles), and Long Fund-Stock Distance group (*Distance* is between the 80th and 100th percentile). Next, we sort stocks into five quintiles based on $\Delta Weight_{i,t}$ in each Fund-Stock Distance group, and average the above post-alliance performance measures by quintile.

The results are reported in Table VII. We focus on the Zero and Long Distance groups. As before, Panel A to Panel C present the results using raw returns, four-factor-adjusted alpha (rolling every two years), and DGTW-adjusted alpha (by size and book-to-market ratio within each country) as the post-alliance stock performance measure. In this case, we find that the difference in performance between the stocks in which the funds increase their position the most and those in which the funds increase their position the least (or reduce the holdings of the alliance stocks in their portfolios) is higher in the case of greater proximity – i.e., the Zero Fund-Stock Distance group. The effects are nearly monotonic in distance, being highest for the Zero Fund-Stock Distance group, intermediate for the Short Fund-Stock Distance group (unreported), and lowest for the Long Fund-Stock Distance group. Over 3 months (1 year), the difference is approximately 10.22% (28.78%) for all alliances overall when using raw returns. The analogous figure for the performance-net-of-risk based on the four-factor model is 8.93% (9.58%), whereas for the DGTW-adjusted performance, it is 10.55% (23.49%). These results confirm those reported above and demonstrate that the stocks involved in alliances that deliver higher performance appear to be those for which the funds increase their portfolio holdings as a function of the stocks' information.

C.2 A multivariate analysis

As in the previous section, we now consolidate the previous results by performing a multivariate analysis in which we regress post-alliance stock performance on rebalancing (aggregate $\Delta Weight$), information proximity, their interaction, and a set of controls. Specifically, we interact the rebalancing using the pre-alliance correlation between the stock and its alliance counterparty, the distance, or both. We consider cumulative stock returns over 3 months, 6 months, 9 months, and 1year following the alliance and focus on domestic and foreign funds separately. We estimate the following:

$$Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} =$$

$$\beta_0 + \beta_1\, \Delta Weight\ (Distance{=}0)_{i,t} + \beta_2\, \Delta Weight\ (Distance{>}0)_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}, \quad (3)$$

where $\Delta Weight\ (Distance = 0)_{i,t}$ is the aggregated change in the holding weights of mutual funds domiciled in the same country as the issuing country of the stock, and $\Delta Weight\ (Distance > 0)_{i,t}$ is the aggregate change in the holding weight of mutual funds domiciled in a country other than the issuing country of the stock. In all regression models, $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1}$ is the post-alliance cumulative stock performance measure. We consider different performance measures: the stock's raw return, the four-factor-adjusted alpha (rolling every two years), and the DGTW-adjusted (by size and book-to-market ratio within each country) alpha. $Stock\ Controls_{i,t}$ is a set of stock-level control variables for stock i at time t including *Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*. The regressions are stock-level OLS regressions with robust standard errors corrected for heteroskedasticity.

We report the results in Table VIII. In this table, we present the raw returns in Panel A, report the four-factor alpha results in Panel B, and report the DGTW-adjusted performance results in Panel C. The results demonstrate that the future performance of stocks engaged in the alliance is higher when both the funds increase their holdings and the pre-alliance correlation or the distance proximity is higher. In particular, the future performance of the stocks engaged in the alliance is higher when $\Delta Weight\ (Distance = 0)$.

Then, we expand equation (3) in models (5) to (8) and estimate:

$$Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\, \Delta Weight\ (Distance = 0)_{i,t} +$$
$$\beta_2\, \Delta Weight\ (Distance > 0)_{i,t} + \beta_3\, High\_corr_{i,t} + \beta_4\, \Delta Weight\ (Distance = 0)_{i,t} \times$$
$$High\_corr_{i,t} + \beta_5\, \Delta Weight\ (Distance > 0)_{i,t} \times High\_corr_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}, \quad (4)$$

where $High\_corr_{i,t}$ is a dummy variable for high *Pre-Alliance Corr* that equals 1 if *Pre-Alliance Corr* between stock i and its alliance counterparty is between the 60th and 100th percentiles. Here, we find that the correlation between $\Delta Weight\ (Distance = 0)$ and future performance in the case of the 3-month return (four-factor-adjusted, DGTW-adjusted performance) of the stocks is 0.15 (0.16, 0.10). These results increase to 0.24 (0.17, 0.17) in the 6-month period, 0.20 (0.14, 0.17) in the 9-month period, and 0.17 (0.09, 0.14) in the 1-year period. Conditional on high pre-alliance correlation, the correlation further increases by 0.05 (0.06, 0.02) in the 6-month period, 0.07 (0.07, 0.04) in the 9-month period, and 0.06 (0.09, 0.03) in the 1-year period.

Overall, these results provide evidence that mutual funds are able to use information from alliances and that this information improves when the fund is closer to the stocks involved. The next step is to focus on the role played by ownership.

D. Conditioning on Ownership

We now condition on ownership. We focus on the "Cross-Portfolio Alliance" sub-sample – i.e., that in which the funds already hold one of the alliance stocks in their portfolios – and relate the cumulative post-alliance stock returns over 3 months, 6 months, 9 months, and 1year to the aggregate $\Delta Weight$ over the alliance announcement period using four different groups of funds: funds domiciled in the same country as that issuing the stock and holding the stock in their portfolios before the announcement of the alliance *(Existing, Distance=0)*, funds domiciled in a country other than that issuing the stock and holding the stock in their portfolios before the announcement of the alliance *(Existing, Distance>0)*, funds domiciled in the same country as that issuing the stock but not holding the stock in their portfolios before the announcement of the alliance *(Outside, Distance=0)*, and funds domiciled in a country other than that issuing the stock and not holding the stock in their portfolios before the announcement of the alliance *(Outside, Distance>0)*. We estimate:

$$\begin{aligned} &Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} \\ &= \beta_0 + \beta_1\, \Delta Weight\ (Existing, Distance = 0)_{i,t} \\ &+ \beta_2 \Delta Weight\ (Existing, Distance > 0)_{i,t} + \beta_3\, \Delta Weight\ (Outside, Distance = 0)_{i,t} \\ &+ \beta_4\, \Delta Weight\ (Outside, Distance > 0)_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}. \quad (5) \end{aligned}$$

The variables and the econometric methodology are the same as before. We report the results in Table IX. In Panel A, the dependent variable is the stock's raw return, in Panel B, it is the four-factor-adjusted alpha (rolling every two years), and in Panel C, it is the DGTW-adjusted alpha (by size and book-to-market ratio within each country).

The results demonstrate that the future performance of the stocks engaged in an alliance is higher when $\Delta Weight\ (Existing, Distance = 0)$. If we focus on such a case, the correlation[5] in the case of the 3-month return (four-factor-adjusted, DGTW-adjusted performance) of the stocks is 0.11 (0.11, 0.08). These results increase to 0.19 (0.13, 0.15) in the 6-month period, 0.16 (0.13, 0.14) in the 9-month period, and 0.14 (0.14, 0.12) in the 1-year period.

Finally, we consider cross/within-boarder alliances conditional on ownership. We focus on the cross-portfolio alliance sub-sample and relate the post-alliance cumulative stock returns after 3 months, 6 months, 9 months, and 1 year cumulative to the aggregated $\Delta Weight$ over the alliance announcement period for four different groups of funds: funds for which the existing stock is domestic and the outside stock is domestic *(Domestic-Domestic)*, funds for which the existing stock is domestic and the outside stock is foreign

[5] We report the standardized coefficient "beta" here, which is the original coefficient*(std x)/(std y), x is the independent variable, and y is the dependent variable.

(Domestic-Foreign), funds for which the existing stock is foreign and the outside stock is foreign *(Foreign-Foreign)*, and funds for which the existing stock is foreign and the outside stock is domestic *(Foreign-Domestic)*. We estimate:

$$Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\ \Delta Weight\ (Domestic\text{-}Domestic)_{i,t}\ +$$
$$\beta_2\ \Delta Weight\ (Domestic\text{-}Foreign)_{i,t}\ +\ \beta_3\ \Delta Weight\ (Foreign\text{-}Foreign)_{i,t}\ +$$
$$\beta_4\ \Delta Weight\ (Foreign\text{-}Domestic)_{i,t}\ +\ \gamma\ Stock\ Controls_{i,t}\ +\ \varepsilon_{i,t},\ (6)$$

where the variables and the specifications are as before. We report the results in Table X. In Panel A, the dependent variable is the stock's raw return, in Panel B, it is the four-factor-adjusted alpha (rolling every two years), and in Panel C, it is the DGTW-adjusted alpha. The DGTW-matched portfolio is based on stocks similar in terms of size and book-to-market ratio within each country.

The results are consistent with those presented previously. They demonstrate that the future performance of the stocks engaged in an alliance is higher when Δ*Weight (Domestic-Domestic).* If we focus on such a case, the correlation in the case of the 3-month return (four-factor-adjusted, DGTW-adjusted performance) of the stocks is 0.11 (0.12, 0.08). These results increase to 0.20 (0.15, 0.15) in the case of the 6-month period, 0.17 (0.13, 0.15) in the case of the 9-month period, and 0.15 (0.09, 0.13) in the case of the 1-year period.

VI. Do Mutual Funds Affect Alliances?

The previous results may also be interpreted as mutual funds encouraging firms to engage in value-creating alliances. This interpretation would be consistent with the intuition that better governed firms tend to engage in more alliances (Bodnaruk et al., 2013). In effect, this phenomenon would suggest that mutual funds are a device that encourages improved governance. To test this argument, we relate the probability of the firm engaging in an alliance to the prior-to-alliance mutual fund ownership. In particular, we estimate:

$$Alliance_{i,t}\ =\ \beta_0\ +\ \beta_1 FundOwnership_{i,t-1}\ +\beta_2 Stock\ Controls_{i,t-1}\ +\ \varepsilon_{i,t},\ \ (7)$$

where $Alliance_{i,t}$ is a dummy variable that equals 1 if the stock i announced an alliance event at t and 0 otherwise, $FundOwnership_{i,t-1}$is the aggregate mutual funds' percentage ownership of the stock at $t-1$., and $Stock\ Controls_{i,t-1}$ is a set of stock-level controls for stock i at $t-1$ including *Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*. We use fixed-effect (stock-time level) panel logit regression to estimates the coefficients. We report the results in the Table XI, Panel A. Model (1) corresponds to the regression without $Stock\ Controls_{i,t-1}$, and model (2) corresponds to that with $Stock\ Controls_{i,t-1}$. The results indicate that there is no relationship between mutual fund ownership before the alliance and the probability of the firm engaging in an alliance.

As a further robustness check, we also relate the change in stock returns to the prior-to-alliance mutual fund aggregated ownership in the alliance firms. Specifically, we estimate the following:

$$DGTW\ Return_{i,t} = \beta_0 + \beta_1 FundOwnership_{i,t-1} + \beta_2 Stock\ Controls_{i,t-1} + \varepsilon_{i,t}, \quad (8)$$

where in Model (1), $DGTW\ Return_{i,t}$ is the stock's DGTW return in the month in which the alliance is announced, and in model (2), it is the stock's accumulated DGTW return over the 3 months following the announcement of the alliance and the other variables are defined as before. We report the results in Panel B. As in the previous case, there is no relationship between mutual fund ownership before the alliance and alliance returns.

Overall, these results reject the possibility that mutual funds have a direct effect in inducing firms to engage in alliances.

Conclusion

We study how markets assess the values of the synergies created by firm alliances. We consider a case in which a tie-up between companies, by preserving their separate legal structures, makes it possible to better capture the way in which the market evaluates synergies: alliances and joint ventures.

We argue that alliances are one of the very few instances in which information pertaining to a firm is not directly "spoon-fed" by the firm to the market but is released in the context of a joint agreement with the other partners involved in the alliance. We argue that if alliances help to ring-fence assets, they should ring-fence information to an even greater extent. In other words, each partner in the alliance will ensure that the information released is not doctored (exclusively) in the interest of the other partner. The competing interests changes the content of the information released in an alliance with respect to that released by the firm. We argue that this information increases fund managers' ability to evaluate the characteristics of the firms involved in the deal and that this effect is more pronounced when this information may be used in conjunction with other information available to the fund managers.

We first document that alliances do not provide additional valuable information to the investors in the market. The stock prices of the firms involved in alliances immediately react to the announcement of the alliance and do not display any ensuing drift. This average behavior, however, conceals substantial heterogeneity in stock performance. This heterogeneity demonstrates the absence of any obvious, direct mechanical link among alliances, market perceptions of value creation, and synergies. In other words, the alliance per se does not provide a signal of the quality of the firms involved – e.g., improved governance. However, the substantial cross-sectional variation provides opportunities for investors and thus allows us to test whether some investors are able to assess the value of the synergies.

We then argue that alliances are informational events that allow some investors – i.e., mutual fund managers – to develop highly successful strategies. We hypothesize that mutual funds rebalance their portfolios with respect to the stocks of the firms engaging in the alliance and this trading behavior predicts future stock prices. Their ability is greater in the case of alliances with firms operating in different segments and among geographically distant firms.

We test this hypothesis by focusing on all international alliances that occurred over the period 2001-2012. We first show that fund managers tend to rebalance their portfolios around the establishment of the alliance with respect to the stocks of the partner firms. The substantial variation in the reactions of funds indicates that the alliance per se is not a signal but has some informational content that is positive in some cases and negative in other cases. The behavior of the funds is dictated by their available information on the firms involved in the alliance. Funds tend to increase or reduce the portfolio allocations in alliance stocks to a greater extent as pre-alliance correlation increases and as distance decreases.

Next, we link alliance-induced rebalancing to performance. We demonstrate that fund rebalancing predicts the performance of the stocks involved in the alliance. Higher investment levels of the funds yield higher stock performance (cumulative stock returns) over the 3 months, 6 months, 9 months, and 1 year after the alliance announcement. The ability of the changes in funds' portfolios to predict stock performance is related to our proxies for information proximity. We find that the ability of changes in fund holdings to predict the behavior of the stock improves dramatically if we condition on our information proximity proxies. All our results hold in the portfolio and multivariate analysis.

Overall, our results provide evidence of both the informational context of alliances and of the ability of fund managers to successfully exploit it. These findings are a powerful indication of the way in which information spreads throughout international markets.

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Appendix I. Variable Definitions

Variable	Definition
A. Mutual Fund Ownership and Alliance	
$\Delta Weight\_Fund_{f,i,t}$	The change in the holding weight of stock i by fund f from (the end of) period $t-1$ to (the end of) period t on semi-annual basis, where the stock announces an alliance event at time *t*.
$\Delta Weight_{i,t}$	The investment value-weighted average of the change in mutual fund holdings in a stock. It is defined as $\Delta Weight_{i,t} = \sum_f \Delta Weight\_Fund_{f,i,t} \times V_{f,i,t-1} / \sum_f V_{f,i,t-1}$, where $V_{f,i,t-1}$ is the market value of stock i that fund f had invested prior to t. In the case when $V_{f,i,t-1}$ is zero, it is replaced by $V_{f,i,t}$ to avoid singularity.
$Pre\text{-}Weight_{f,i,t-1}$	Holding weight of stock i by fund f by the end of period $t-1$, before the stock *i* announces alliance event in period *t*.
$FundOwnership_{i,t-1}$	The aggregate mutual funds' percentage ownership of the stock at $t-1$.
$Alliance_{i,t}$	Dummy variable, which equals 1 if the stock announced alliance event at t and equals 0 otherwise
B. Distance Proximity	
Pre-Alliance Corr	The return correlation between the stock and its alliance counterparty over the 18 months before the announcement period of the alliance event
High_Corr	Dummy variable for high Pre-Alliance Corr, which equals 1 if Pre-Alliance Corr is between the 60th and 100th percentiles
Distance	Geographic distance in 100s of megameters between the capitals of the fund's home (domicile) country and the issuing country of the stock
Distance_Outside	Geographic distance in 100s of megameters between the capitals of the fund's home country and the issuing country of the stock that is not in the portfolio at t (outside stock) in a cross-portfolio alliance
Distance_Existing	Geographic distance in 100s of megameters between the capitals of the fund's home country and the issuing country of the stock that is in the portfolio at time t (existing stock) in a cross-portfolio alliance
Domestic-Foreign	Dummy variable equaling 1 if in a cross-portfolio alliance, the stock in the portfolio at time t (existing stock) is a domestic stock and the stock not in the portfolio at time t (outside stock) is a foreign stock
Foreign-Foreign	Dummy variable equaling 1 if in a cross-portfolio alliance, the stock in the portfolio at time t (existing stock) is a foreign stock and the stock not in the portfolio at time t (outside stock) is a foreign stock
Foreign-Domestic	Dummy variable equaling 1 if in a cross-portfolio alliance, the stock in the portfolio at time t (existing stock) is a foreign stock and the stock not in the portfolio at time t (outside stock) is a domestic stock
C. Mutual Fund Characteristics	
Fund Size	Log semi-annual TNA of the mutual fund in millions of US dollars (when a mutual fund has multiple share classes, TNA is aggregated over all share classes of the fund)
Fund Age	Log number of operational years since inception of the mutual fund
Turnover	Annualized turnover ratio of mutual fund in % (when a mutual fund has multiple share classes, the turnover ratio is the one-month lagged TNA-weighted turnover ratio of all share classes of the fund)
Expense	Annualized expense ratio of mutual fund in % (when a mutual fund has multiple share classes, the expense ratio is the one-month lagged TNA-weighted expense ratio of all share classes of the fund)
D. Stock Characteristics	
Firm Size	Log semi-annual market capitalization of the stock in millions of US dollars
BM	Semi-annual book-to-market ratio of the stock
Mom12	Past 12 month aggregated return of the stock
Grow	Log annual capital expenditure of the stock in millions of US dollars
Sale	Log annual net sales of the stock in millions of US dollars

Table I: Summary Statistics

This table presents the summary statistics for the data used in this paper from 2002 to 2009. Panel A reports the mean, median, standard deviation, and quantile distribution of the mutual fund ownership variables: $\Delta Weight\_Fund_{f,i,t}$, $\Delta Weight_{i,t}$, $Pre\text{-}Weight_{f,i,t-1}$ and $FundOwnership_{i,t-1}$. We provide the statistics of $\Delta Weight_{f,i,t}$ in the All Alliance sample (at the announcement of the alliance, at least one of the stocks involved in the event is in the mutual fund portfolio), the Within-Portfolio Alliance sub-sample (at the announcement of the alliance, both the stock and its alliance counterparty are in the same mutual fund's portfolio) and the Cross-Portfolio Alliance sub-sample (at the announcement of the alliance, either the stock or its alliance counterparty is in the mutual fund's portfolio). Panel B reports the statistics for the distance proximity variables: *Pre-Alliance Corr*, and various geographic proximity variables. Panel C reports the statistics for mutual fund characteristics. Panel D reports the statistics for stock characteristics of both the overall global stock sample and alliance stocks alone. We winsorize all our main variables at the 1% and 99% levels. Appendix I provides the detailed definition of each variable.

			Percentile Distribution				
	Mean	Std Dev	5%	25%	50%	75%	95%
A. Mutual Fund Ownership							
$\Delta Weight_{f,i,t}$ *(All Alliance)*	-0.16%	0.72%	-1.38%	-0.11%	0.00%	0.00%	0.49%
$\Delta Weight_{f,i,t}$ *(Within-Portfolio Alliance)*	-0.22%	0.79%	-1.59%	-0.32%	-0.03%	0.05%	0.58%
$\Delta Weight_{f,i,t}$ *(Cross-Portfolio Alliance)*	-0.15%	0.71%	-1.36%	-0.08%	0.00%	0.00%	0.48%
$\Delta Weight_{i,t}$	-0.23%	0.51%	-1.13%	-0.36%	-0.09%	0.00%	0.23%
$Pre\text{-}Weight_{f,i,t-1}$	0.68%	1.15%	0.00%	0.00%	0.07%	0.97%	2.97%
$FundOwnership_{i,t-1}$	6.48%	8.52%	0.05%	0.54%	2.82%	9.45%	24.45%
B. Distance Proximity							
Distance	0.0191	0.0308	0	0	0	0.0610	0.0664
Pre-Alliance Corr	0.2698	0.2724	-0.1931	0.0808	0.2830	0.4701	0.7003
Distance_Outside	0.0202	0.0325	0.0000	0.0000	0.0000	0.0610	0.0713
Distance_Existing	0.0178	0.0292	0.0000	0.0000	0.0000	0.0610	0.0664
Domestic-Foreign	0.0506	0.2191	0.0000	0.0000	0.0000	0.0000	1.0000
Foreign-Foreign	0.2737	0.4459	0.0000	0.0000	0.0000	1.0000	1.0000
Foreign-Domestic	0.0059	0.0766	0.0000	0.0000	0.0000	0.0000	0.0000
C. Mutual Fund Characteristics							
Fund Size	5.2047	1.8284	2.3443	3.8549	5.0982	6.4830	8.3799
Fund Age	2.3670	0.7461	1.0986	1.9459	2.3979	2.8332	3.6889
Turnover	1.1689	10.7956	0.0100	0.3000	0.6200	1.1600	2.7597
Expense	1.4018	0.5613	0.6600	1.0375	1.3480	1.6545	2.3867
D. Stock Characteristics							
Overall Stock Sample							
Return	0.0107	0.0805	-0.1411	-0.0400	0.0054	0.0506	0.1910
Firm Size	5.1946	2.0801	2.0096	3.8743	5.1027	6.5034	8.6912
BM	0.8719	0.6779	0.1606	0.4044	0.6840	1.1236	2.2989
Mom12	0.1587	0.5971	-0.6111	-0.1335	0.0570	0.3120	1.2637
Grow	1.9158	2.3418	-1.9173	0.3940	1.9244	3.4524	5.7541
Sale	5.0806	2.1335	1.6818	3.8269	5.0779	6.3927	8.5481
Alliance Stock Sample							
Return	0.0054	0.1164	-0.1924	-0.0658	0.0048	0.0715	0.2130
Firm Size	6.6287	2.4067	2.7985	5.0660	6.6134	8.2826	10.5934
BM	0.4018	2.8862	0.0089	0.2347	0.4084	0.6380	1.4298
Mom12	0.1403	1.0796	-0.6697	-0.1769	0.0321	0.2361	1.1300
Grow	2.7629	2.6545	-1.5750	0.9648	2.6241	4.6279	7.1920
Sale	5.8321	2.6523	1.4185	4.0451	5.8157	7.7163	10.1339

Table II: Post-Announcement Return Dispersion of Alliance Stocks

This table presents the dispersion of the post-announcement raw returns and DGTW alphas (by size and book-to-market ratio within each country) of alliance stocks, accumulated over 3 months, 6 months, 9 months, and 1 year. Panels A1 and A2 report the mean, standard deviation, and percentile distribution of post-announcement accumulated returns for all our sample alliance stocks. In panels B1 and B2, we divide our sample into 5 quintile groups based on announcement returns (stock returns in the month in which the alliance is announced) and report the above statistics separately for the Quintile 1 and Quintile 5 groups.

				Percentile Distribution				
		Mean	Std Dev	5%	25%	50%	75%	95%
Panel A1. Raw Return, All Sample								
3 Months		0.0097	0.2585	-0.4321	-0.1217	0.0082	0.1359	0.4500
6 Months		0.0215	0.3664	-0.5835	-0.1656	0.0162	0.1818	0.6387
9 Months		0.0465	0.4583	-0.6692	-0.2084	0.0167	0.2315	0.8897
1 Year		0.0786	0.5355	-0.6948	-0.2117	0.0310	0.2786	1.0087
Panel A2. DGTW Alpha, All Sample								
3 Months		0.0055	0.2196	-0.3281	-0.1101	-0.0070	0.1052	0.3900
6 Months		0.0050	0.2922	-0.4499	-0.1580	-0.0127	0.1277	0.4934
9 Months		0.0133	0.3589	-0.5165	-0.1843	-0.0276	0.1546	0.7126
1 Year		0.0254	0.4131	-0.5557	-0.1976	-0.0299	0.1789	0.7943
Panel B1. Raw Return, Quintile 1 and Quintile 5 Group (quintile by announcement return)								
3 Months	*Q1*	-0.0338	0.3333	-0.6168	-0.2226	-0.0452	0.1580	0.5535
	Q5	0.0590	0.2950	-0.3953	-0.1185	0.0317	0.2052	0.7032
6 Months	*Q1*	-0.0519	0.4607	-0.7693	-0.3454	-0.0594	0.1691	0.8038
	Q5	0.1118	0.4436	-0.5451	-0.1347	0.0665	0.2782	1.1224
9 Months	*Q1*	-0.0441	0.5534	-0.8219	-0.4131	-0.0846	0.2060	0.9620
	Q5	0.1608	0.5673	-0.6821	-0.1854	0.0807	0.3548	1.4093
1 Year	*Q1*	-0.0075	0.6330	-0.9055	-0.4255	-0.0356	0.2577	1.1587
	Q5	0.1950	0.6668	-0.6370	-0.2088	0.0847	0.3881	1.8115
Panel B2. DGTW Alpha, Quintile 1 and Quintile 5 Group (quintile by announcement return)								
3 Months	*Q1*	0.0096	0.2675	-0.4345	-0.1459	0.0042	0.1371	0.5406
	Q5	0.0117	0.2626	-0.3782	-0.1491	-0.0113	0.1400	0.5534
6 Months	*Q1*	-0.0150	0.3366	-0.5665	-0.2069	-0.0368	0.1245	0.6062
	Q5	0.0352	0.3547	-0.5193	-0.1528	0.0040	0.1809	0.8027
9 Months	*Q1*	-0.0111	0.3999	-0.6036	-0.2546	-0.0623	0.2003	0.6462
	Q5	0.0429	0.4413	-0.6139	-0.2328	-0.0334	0.2262	0.9884
1 Year	*Q1*	-0.0051	0.4403	-0.6345	-0.2561	-0.0453	0.2024	0.7543
	Q5	0.0492	0.4922	-0.6371	-0.2446	-0.0331	0.2212	1.0882

Table III: Distance Proximity and Absolute Weight Change of Alliance Stocks

This table reports the results of regressions relating the absolute value of $\Delta Weight\_Fund_{f,i,t}$ to information proximity. We report the results of the regression: $|\Delta Weight\_Fund_{f,i,t}| = \beta_0 + \beta_1 DistProxy_{f,i} + \gamma_1 Mutual\ fund\ Controls_{f,t} + \gamma_2 Stock\ Controls_{i,t} + \varepsilon_t$. In models (1), (4) and (7), the proxy for proximity is *Pre-Alliance Corr*. In models (2), (5), and (8), it is *Distance*. In models (3), (6), and (9), we include both of these proximity variables. Models (10) and (11) correspond to (8) and (9) except that we replace *Distance* with *Distance_Outside* and *Distance_Existing*. Similarly, models (12) and (13) correspond to (8) and (9), but we replace *Distance* with *Domestic-Foreign*, *Foreign-Foreign*, and *Foreign-Domestic*. Models (1) to (3) correspond to the regressions using the All Alliance sample, models (4) to (6) correspond to the Within-Portfolio Alliance sub-sample, and models (7) to (13) correspond to the Cross-Portfolio Alliance sub-sample (sub-samples are defined as in Table I). The regressions are fund-stock-event, time-level pooled OLS regressions on a semi-annual basis. We include *Mutual Fund Controls* (*Fund Size*, *Fund Age*, *Turnover*, and *Expense*), *Stock Controls* (*Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*) and control for *Pre-Weight*. Time, country, and industry fixed effects are included. The standard errors are robust and clustered at the fund-stock level. The corresponding t-statistics are reported in parentheses. The sample period is from 2002 to 2009. Appendix I provides the detailed definition of each variable.

	All Alliance			Within-Portfolio Alliance			Cross-Portfolio Alliance						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Pre-Alliance Corr	0.0002		0.0002	0.0002		0.0002	0.0002		0.0002		0.0002		0.0002
	(3.28)***		(3.20)***	(1.02)		(0.92)	(3.79)***		(3.70)***		(3.63)***		(3.69)***
Distance		-0.0057	-0.0050		-0.0095	-0.0097		-0.0053	-0.0044				
		(-11.26)***	(-9.44)***		(-5.88)***	(-5.94)***		(-10.14)***	(-8.11)***				
Distance_Outside										-0.0037	-0.0037		
										(-4.39)***	(-4.33)***		
Distance_Existing										-0.0010	-0.0010		
										(-1.07)	(-1.10)		
Domestic-Foreign												0.0000	0.0000
												(0.48)	(0.65)
Foreign-Foreign												-0.0003	-0.0003
												(-8.48)***	(-8.43)***
Foreign-Domestic												0.0004	0.0004
												(3.35)***	(3.28)***
Fund, Stock Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.42	0.42	0.42	0.43	0.44	0.44	0.42	0.42	0.42	0.42	0.42	0.42	0.42
No. of Obs	202726	219697	202726	18958	19224	18958	183768	200473	183768	183768	183768	183768	183768

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table IV: Weight Change and Stock Performance: Alliance-Portfolio Type

This table reports the variation in the 3-month, 6-month, 9-month and 1-year cumulative stock returns after the alliance announcement period across $\Delta Weight_{i,t}$ quintiles by different alliance-portfolio types. For each stock that announces an alliance event in a semi-annual period *t*, we consider three samples of mutual fund ownership: the All Alliance sample, Within-Portfolio Alliance sub-sample, and Cross-Portfolio Alliance sub-sample. We sort stocks into five quintiles based on $\Delta Weight_{i,t}$ computed in each Alliance-Portfolio sub-sample (i.e., All Alliance, Within-Portfolio Alliance, and Cross-Portfolio Alliance). We average the above post-alliance performance measures by quintile. The last row "5-1" presents the difference in sample means between Quintile 5 and Quintile 1. Sample t-statistics are reported in parentheses. Panel A to Panel C present the results using raw returns, four-factor-adjusted alpha (rolling every two years) and DGTW-adjusted alpha (by size and book-to-market ratio within each country) as the post-alliance stock performance measure. The sample period is from 2002 to 2009.

		All Alliance					**Within-Portfolio Alliance**					**Cross-Portfolio Alliance**			
Cumulative returns after		3 Months	6 Months	9 Months	1 Year		3 Months	6 Months	9 Months	1 Year		3 Months	6 Months	9 Months	1 Year
Panel A. Raw return															
Quintile	Δ Weight					Δ Weight					Δ Weight				
1	-0.97%	-5.00%	-7.68%	-5.45%	0.03%	-0.96%	-4.05%	-5.56%	-1.82%	6.29%	-0.99%	-5.28%	-8.26%	-6.21%	-0.91%
		(-4.07)***	(-4.54)***	(-2.79)***	(0.01)		(-2.45)**	(-2.56)**	(-0.74)	(2.13)**		(-4.33)***	(-4.93)***	(-3.19)***	(-0.40)
2	-0.30%	-4.28%	-5.37%	-2.86%	0.65%	-0.20%	-1.92%	-2.38%	-2.06%	1.80%	-0.30%	-4.45%	-5.29%	-3.22%	-0.40%
		(-4.27)***	(-3.65)***	(-1.47)	(0.28)		(-1.24)	(-1.16)	(-0.81)	(0.68)		(-4.57)***	(-3.66)***	(-1.68)*	(-0.18)
3	-0.09%	-2.59%	0.09%	0.64%	6.30%	-0.05%	-3.83%	-4.27%	-2.44%	0.76%	-0.09%	-1.99%	0.58%	1.76%	9.14%
		(-2.33)**	(0.06)	(0.32)	(2.68)***		(-2.75)***	(-2.40)**	(-0.97)	(0.25)		(-1.76)*	(0.38)	(0.88)	(3.67)***
4	0.00%	0.17%	5.05%	6.13%	9.01%	0.01%	3.66%	7.48%	7.76%	11.33%	0.00%	-0.26%	4.98%	5.96%	9.12%
		(0.11)	(2.09)**	(1.96)*	(2.41)**		(2.10)**	(2.85)***	(2.27)**	(2.98)***		(-0.17)	(2.04)**	(1.87)*	(2.40)**
5	0.20%	10.69%	27.14%	31.09%	37.49%	0.21%	4.68%	17.79%	19.58%	25.23%	0.23%	10.98%	27.22%	31.25%	36.54%
		(7.74)***	(13.21)***	(10.29)***	(10.43)***		(3.37)***	(8.21)***	(6.73)***	(6.56)***		(7.99)***	(13.33)***	(10.52)***	(10.38)***
5-1		15.68%	34.81%	36.54%	37.46%		8.74%	23.35%	21.40%	18.95%		16.27%	35.49%	37.46%	37.44%
		(8.49)***	(13.08)***	(10.16)***	(8.78)***		(4.05)***	(7.61)***	(5.60)***	(3.91)***		(8.84)***	(13.43)***	(10.56)***	(8.96)***
No. of Observations		1729	1729	1729	1729		950	950	950	950		1729	1729	1729	1729

Table IV (cont.)

Panel B. 4-factor adjusted alpha

Quintile	Δ WEIGHT					Δ WEIGHT					Δ WEIGHT				
1	-0.85%	-5.44%	-7.74%	-6.92%	-4.63%	-0.80%	-2.02%	-0.80%	7.27%	12.85%	-0.87%	-5.77%	-8.12%	-7.29%	-4.78%
		(-3.87)***	(-3.46)***	(-3.17)***	(-1.66)*		(-1.04)	(-0.19)	(1.13)	(1.45)		(-4.07)***	(-3.62)***	(-3.30)***	(-1.68)*
2	-0.28%	-2.79%	-6.34%	-1.49%	6.26%	-0.18%	-3.22%	-5.88%	-5.02%	-3.58%	-0.28%	-2.41%	-5.89%	-1.09%	6.05%
		(-2.33)**	(-2.62)***	(-0.38)	(0.86)		(-1.95)*	(-2.57)**	(-1.74)*	(-0.96)		(-2.11)**	(-2.48)**	(-0.28)	(0.83)
3	-0.09%	-1.25%	0.48%	3.33%	8.76%	-0.04%	-2.26%	-2.80%	1.29%	7.05%	-0.08%	-0.81%	1.11%	3.89%	9.87%
		(-0.96)	(0.18)	(0.85)	(1.44)		(-1.15)	(-0.70)	(0.20)	(0.80)		(-0.61)	(0.43)	(1.01)	(1.62)
4	0.00%	3.84%	5.09%	8.30%	7.37%	0.01%	5.82%	8.02%	4.65%	1.85%	0.00%	3.27%	4.31%	7.45%	6.35%
		(1.68)*	(1.38)	(1.61)	(1.14)		(2.87)***	(2.43)**	(1.43)	(0.48)		(1.42)	(1.17)	(1.45)	(0.99)
5	0.21%	13.88%	23.80%	24.54%	22.46%	0.22%	8.53%	18.00%	19.94%	20.02%	0.23%	13.97%	23.89%	24.81%	22.74%
		(7.72)***	(9.08)***	(7.31)***	(5.28)***		(4.96)***	(6.93)***	(5.83)***	(4.70)***		(7.81)***	(9.03)***	(7.19)***	(5.24)***
5-1		19.33%	31.54%	31.46%	27.09%		10.55%	18.79%	12.67%	7.17%		19.74%	32.01%	32.09%	27.52%
		(8.46)***	(9.15)***	(7.86)***	(5.33)***		(4.07)***	(3.83)***	(1.74)*	(0.73)		(8.65)***	(9.23)***	(7.84)***	(5.31)***

Panel C. DGTW-adjusted alpha

Quintile	Δ WEIGHT					Δ WEIGHT					Δ WEIGHT				
1	-0.97%	-6.89%	-11.80%	-11.77%	-10.16%	-0.96%	-5.38%	-7.67%	-5.44%	-1.44%	-0.99%	-7.14%	-12.15%	-12.26%	-10.90%
		(-4.56)***	(-6.07)***	(-5.50)***	(-4.17)***		(-3.68)***	(-3.99)***	(-2.48)**	(-0.54)		(-4.74)***	(-6.32)***	(-5.82)***	(-4.61)***
2	-0.30%	-5.23%	-8.85%	-8.78%	-9.65%	-0.20%	-1.92%	-5.03%	-6.51%	-5.78%	-0.30%	-5.02%	-8.41%	-9.51%	-10.67%
		(-5.65)***	(-6.98)***	(-4.71)***	(-4.25)***		(-1.37)	(-2.87)***	(-3.09)***	(-2.79)***		(-5.44)***	(-6.61)***	(-4.60)***	(-4.39)***
3	-0.09%	-4.19%	-5.26%	-8.29%	-5.97%	-0.05%	-4.45%	-8.20%	-8.99%	-7.91%	-0.09%	-3.66%	-4.86%	-6.93%	-4.38%
		(-3.51)***	(-2.90)***	(-3.20)***	(-2.08)**		(-3.47)***	(-3.36)***	(-2.96)***	(-2.34)**		(-3.08)***	(-2.68)***	(-2.86)***	(-1.57)*
4	0.00%	-20.94%	-26.10%	-19.89%	-26.31%	0.01%	2.61%	-0.68%	-3.54%	-7.72%	0.00%	-21.55%	-26.59%	-20.50%	-26.78%
		(-5.81)***	(-5.62)***	(-4.13)***	(-5.02)***		(1.62)	(-0.19)	(-0.85)	(-1.51)		(-5.99)***	(-5.72)***	(-4.24)***	(-5.11)***
5	0.20%	10.07%	22.27%	22.01%	18.03%	0.21%	5.38%	15.69%	15.71%	12.92%	0.23%	10.19%	22.26%	22.48%	18.69%
		(7.78)***	(10.90)***	(8.07)***	(4.98)***		(4.45)***	(8.88)***	(6.97)***	(3.90)***		(7.83)***	(10.91)***	(8.31)***	(5.21)***
5-1		16.96%	34.07%	33.77%	28.19%		10.76%	23.36%	21.15%	14.36%		17.34%	34.42%	34.74%	29.59%
		(8.52)***	(12.08)***	(9.74)***	(6.47)***		(5.67)***	(8.95)***	(6.72)***	(3.39)***		(8.70)***	(12.27)***	(10.14)***	(6.89)***

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table V: Forecasting Alliance Stock Returns with Δ WEIGHT

The table reports the results of the following regression relating post-alliance cumulative stock returns achieved in 3 months, 6 months, 9 months, and 1 year to aggregated $\Delta Weight_{i,t}$ over the alliance announcement period by mutual funds in different alliance-portfolio types: $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\, \Delta Weight_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}$. In the regression, $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1}$ is the post-alliance cumulative stock performance measure over 3 months in models (1), (5), and (9), 6 months in models (2), (6), (10), 9 months in models (3), (7), and (11), and 1 year in models (4), (8), and (12). Here, $\Delta Weight_{i,t}$ is the aggregated change in holding weight by mutual funds over the alliance announcement period. *Stock Controls* include *Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*. The regressions are stock-level OLS regressions with robust standard errors corrected for heteroskedasticity. The corresponding t-statistics are reported in parentheses. Models (1) to (3) correspond to the regressions using the All Alliance sample. Models (4) to (6) and (7) to (9) correspond to the regressions using the Within-Portfolio Alliance sub-sample and the Cross-Portfolio Alliance sub-sample, respectively. Panel A to Panel C present the results for post-alliance cumulative stock performance measure using raw returns, four-factor-adjusted alpha (rolling every two years) and DGTW-adjusted alpha (by size and book-to-market ratio within each country), respectively. The sample period is from 2002 to 2009.

	All Alliance				**Within-Portfolio Alliance**				**Cross-Portfolio Alliance**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year
Panel A. Raw Return												
Δ *WEIGHT*	6.1786	15.5693	15.4809	15.2770	2.4044	6.7718	4.8650	1.5885	6.1676	15.3489	15.3462	15.6800
	(4.43)***	(5.94)***	(4.18)***	(3.93)***	(2.18)**	(3.49)***	(2.33)**	(0.51)	(4.63)***	(6.21)***	(4.37)***	(4.36)***
Firm Size	0.0048	-0.0122	-0.0304	-0.0545	-0.0114	-0.0328	-0.0473	-0.0722	0.0049	-0.0120	-0.0301	-0.0539
	(0.73)	(-1.25)	(-2.29)**	(-3.38)***	(-1.37)	(-2.75)***	(-3.13)***	(-4.24)***	(0.75)	(-1.23)	(-2.27)**	(-3.35)***
BM	0.0020	0.0035	0.0068	0.0081	0.0026	0.0078	0.0156	0.0234	0.0019	0.0035	0.0068	0.0080
	(1.06)	(1.16)	(2.20)**	(2.22)**	(0.47)	(0.96)	(3.00)***	(5.12)***	(1.05)	(1.15)	(2.19)**	(2.21)**
Mom12	0.0058	0.0109	-0.0147	-0.0203	0.0011	-0.0081	-0.0243	-0.0295	0.0060	0.0112	-0.0143	-0.0196
	(0.64)	(0.84)	(-1.25)	(-1.48)	(0.13)	(-1.28)	(-2.95)***	(-3.08)***	(0.65)	(0.86)	(-1.22)	(-1.43)
Grow	-0.0032	-0.0035	-0.0055	0.0022	-0.0098	0.0020	-0.0089	0.0028	-0.0034	-0.0038	-0.0058	0.0019
	(-0.43)	(-0.36)	(-0.44)	(0.15)	(-1.16)	(0.16)	(-0.63)	(0.17)	(-0.45)	(-0.40)	(-0.47)	(0.12)
Sale	-0.0013	0.0132	0.0279	0.0387	0.0208	0.0253	0.0463	0.0536	-0.0012	0.0135	0.0281	0.0389
	(-0.17)	(1.38)	(2.24)**	(2.62)***	(2.58)**	(2.17)**	(3.25)***	(3.45)***	(-0.16)	(1.40)	(2.25)**	(2.64)***
Intercept	-0.0055	0.0887	0.1593	0.2892	-0.0146	0.1178	0.1448	0.2888	-0.0066	0.0863	0.1568	0.2862
	(-0.16)	(1.79)*	(2.32)**	(3.51)***	(-0.33)	(1.72)*	(1.69)*	(2.93)***	(-0.18)	(1.74)*	(2.28)**	(3.47)***
R-Square	0.02	0.05	0.04	0.04	0.01	0.04	0.04	0.05	0.02	0.05	0.04	0.05
No. of Observations	1729	1729	1729	1729	950	950	950	950	1729	1729	1729	1729

Table V (cont.)

	All Alliance				Within-Portfolio Alliance				Cross-Portfolio Alliance			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year
Panel B. 4-factor Alpha												
Δ *WEIGHT*	9.2683	15.8233	17.7429	16.5015	3.3824	5.8179	1.5947	-4.7175	8.8412	15.5217	17.7823	17.1251
	(4.23)***	(4.47)***	(3.95)***	(2.80)***	(2.02)**	(2.02)**	(0.47)	(-0.98)	(4.28)***	(4.60)***	(4.18)***	(3.09)***
Stock Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Square	0.03	0.02	0.02	0.01	0.02	0.01	0.00	0.00	0.03	0.02	0.02	0.01
No. of Observations	1655	1655	1655	1655	901	901	901	901	1655	1655	1655	1655
Panel C. DGTW Alpha												
Δ *WEIGHT*	6.8921	16.1281	16.0740	15.2883	2.9882	5.7243	3.8744	1.1428	6.7788	15.9067	16.1209	16.0071
	(3.91)***	(5.33)***	(4.33)***	(4.06)***	(2.61)***	(2.79)***	(1.68)*	(0.36)	(4.06)***	(5.60)***	(4.60)***	(4.63)***
Stock Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Square	0.05	0.07	0.04	0.04	0.02	0.01	0.01	0.01	0.05	0.07	0.04	0.04
No. of Observations	1729	1729	1729	1729	950	950	950	950	1729	1729	1729	1729

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table VI: Weight Change and Stock Performance by Pre-Alliance Correlation

This table reports the variation in cumulative stock returns in the 3 months, 6 months, 9 months, and 1 year after the alliance announcement period across $\Delta Weight_{i,t}$ and *Pre-Alliance Corr* double-sorted groups. We first sort alliance stocks into five quintiles according to *Pre-Alliance Corr* and construct the Low (the correlation is in bottom 2 quintile groups: from 0 to the 40th percentile) and High (the correlation is in the top 2 quintile groups: from the 60th to the 100th percentile) *Pre-Alliance Correlation* groups out of the five quintiles. Within each Pre-Alliance group, we further sort stocks into five quintiles based on $\Delta Weight_{i,t}$. We average the above post-alliance performance measures by quintile. The last row, "5-1," presents the difference in sample means between quintile group 5 and quintile group 1. Sample t-statistics are reported in parentheses. We also report the p-value of the difference between Low Pre-Alliance Correlation group and High Pre-Alliance Correlation group for each cell. Panel A to Panel C present the results using raw returns, four-factor-adjusted alpha (rolling every two years) and DGTW-adjusted alpha (by size and book-to-market ratio within each country) as the post-alliance stock performance measure. The sample period is from 2002 to 2009.

		Low Pre-Alliance Correlation					**High Pre-Alliance Correlation**				**P-Value for High-Low**			
Cumulative returns after		3 Months	6 Months	9 Months	1 Year		3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year
Panel A. Raw return														
Quintile	Δ WEIGHT					Δ WEIGHT								
1	-0.88%	-6.71%	-7.58%	-7.58%	-6.00%	-1.17%	-6.68%	-8.43%	-4.41%	3.78%				
		(-4.13)***	(-2.72)***	(-2.37)**	(-1.66)*		(-3.55)***	(-3.50)***	(-1.47)	(1.06)	0.9912	0.8197	0.4726	0.0564
2	-0.28%	-4.64%	-10.06%	-8.76%	-5.30%	-0.33%	-3.83%	-3.29%	-3.23%	2.10%				
		(-3.38)***	(-4.92)***	(-3.33)***	(-1.79)*		(-2.29)**	(-1.57)	(-1.19)	(0.63)	0.7045	0.0216	0.1443	0.0981
3	-0.09%	-1.45%	-4.41%	-4.69%	0.01%	-0.09%	-2.65%	5.21%	7.57%	14.33%				
		(-0.97)	(-2.16)**	(-1.95)*	(0.00)		(-1.54)	(2.35)**	(2.23)**	(3.48)***	0.5950	0.0015	0.0029	0.0054
4	0.00%	0.45%	2.17%	0.87%	5.69%	0.00%	-2.46%	11.57%	15.89%	17.79%				
		(0.18)	(0.61)	(0.21)	(1.03)		(-1.12)	(2.89)***	(2.69)***	(2.82)***	0.3840	0.0793	0.0334	0.1485
5	0.20%	9.01%	17.79%	16.78%	20.72%	0.26%	11.86%	34.39%	38.76%	49.35%				
		(4.93)***	(7.43)***	(5.02)***	(5.16)***		(4.80)***	(9.53)***	(7.48)***	(8.20)***	0.3474	0.0001	0.0003	<.0001
5-1		15.71%	25.37%	24.36%	26.72%		18.54%	42.82%	43.16%	45.57%				
		(6.43)***	(6.90)***	(5.27)***	(4.95)***		(5.97)***	(9.88)***	(7.22)***	(6.52)***	0.4739	0.0021	0.0127	0.0325
No. of Observations		810	810	810	810		716	716	716	716				

Table VI (cont.)

Panel B. 4-factor adjusted alpha

Quintile	Δ WEIGHT					Δ WEIGHT								
1	-0.86%	-4.53%	-3.53%	-3.66%	-5.34%	-0.97%	-7.63%	-11.71%	-8.83%	-3.64%				
		(-2.26)**	(-0.90)	(-0.89)	(-1.37)		(-3.53)***	(-4.63)***	(-2.90)***	(-0.78)	0.2933	0.0921	0.3296	0.7788
2	-0.27%	-7.16%	-3.35%	-0.86%	-1.89%	-0.29%	-4.20%	-8.21%	-4.82%	12.21%				
		(-1.65)	(-0.49)	(-0.09)	(-0.98)		(-2.42)**	(-3.22)***	(-1.18)	(0.89)	0.6087	0.8418	0.8603	0.4275
3	-0.08%	-1.89%	-2.44%	-5.29%	-3.21%	-0.07%	0.07%	4.54%	14.99%	25.86%				
		(-0.98)	(-0.76)	(-1.42)	(-0.73)		(0.03)	(0.89)	(1.83)*	(1.88)*	0.5014	0.2323	0.0186	0.0325
4	0.00%	7.47%	9.81%	12.69%	12.56%	0.01%	2.02%	5.41%	4.98%	3.53%				
		(1.85)*	(1.48)	(1.43)	(1.47)		(0.79)	(1.20)	(0.74)	(0.29)	0.2744	0.5958	0.5013	0.5318
5	0.21%	10.23%	18.94%	17.53%	19.14%	0.27%	17.16%	26.13%	27.51%	24.14%				
		(3.82)***	(4.59)***	(3.45)***	(2.88)***		(5.86)***	(7.25)***	(5.69)***	(3.91)***	0.0818	0.1983	0.1603	0.5860
5-1		14.76%	22.46%	21.19%	24.47%		24.79%	37.84%	36.34%	27.78%				
		(4.41)***	(3.95)***	(3.24)***	(3.18)***		(6.81)***	(8.59)***	(6.36)***	(3.59)***	0.0419	0.0321	0.0806	0.7610

Panel C. DGTW-adjusted alpha

Quintile	Δ WEIGHT					Δ WEIGHT								
1	-0.88%	-7.82%	-9.61%	-8.48%	-8.82%	-1.17%	-7.72%	-12.67%	-12.28%	-9.69%				
		(-3.42)***	(-3.02)***	(-2.87)***	(-2.69)***		(-4.29)***	(-4.71)***	(-4.02)***	(-2.67)***	0.9732	0.4701	0.3735	0.8578
2	-0.28%	-4.67%	-10.37%	-11.83%	-13.33%	-0.33%	-5.43%	-9.28%	-10.73%	-9.57%				
		(-3.62)***	(-5.99)***	(-3.90)***	(-3.58)***		(-3.74)***	(-5.06)***	(-4.82)***	(-3.60)***	0.6950	0.6643	0.7747	0.4225
3	-0.09%	-2.06%	-8.10%	-14.42%	-12.26%	-0.09%	-6.29%	-4.01%	-4.54%	-3.85%				
		(-1.61)	(-2.76)***	(-3.28)***	(-2.52)**		(-2.76)***	(-1.52)	(-1.33)	(-0.97)	0.0968	0.3066	0.0822	0.1885
4	0.00%	-27.23%	-31.10%	-14.60%	-23.37%	0.00%	-14.72%	-14.01%	-13.69%	-21.68%				
		(-4.49)***	(-4.02)***	(-1.83)*	(-2.65)***		(-3.84)***	(-2.66)***	(-2.42)**	(-3.55)***	0.0917	0.0764	0.9278	0.8779
5	0.20%	7.56%	13.89%	11.21%	10.05%	0.26%	12.51%	28.72%	25.22%	24.21%				
		(4.04)***	(4.28)***	(2.99)***	(2.11)**		(5.90)***	(10.50)***	(5.63)***	(4.20)***	0.0802	0.0007	0.0162	0.0571
5-1		15.38%	23.50%	19.69%	18.87%		20.23%	41.38%	37.50%	33.90%				
		(5.21)***	(5.17)***	(4.12)***	(3.27)***		(7.27)***	(10.79)***	(6.92)***	(4.98)***	0.2312	0.0026	0.0135	0.0914

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table VII: Weight Change and Stock Performance by Fund-Stock Distance

This table reports the variation in cumulative stock returns in the 3 months, 6 months, 9 months, and 1 year after the alliance announcement period across $\Delta Weight_{i,t}$ and *Distance* double-sorted groups. We first construct the Zero Fund-Stock Distance sub-sample (*Distance* is 0, which represents observations from 0 to the 60th percentile over all samples) and Long Fund-Stock Distance sub-sample (*Distance* is between the 80th and 100th percentiles) of alliance stocks. Next, we sort stocks into five quintiles based on $\Delta Weight_{i,t}$ in each Fund-Stock Distance group, and average the above post-alliance performance measures by quintile. The last row "5-1" presents the difference in sample means between Quintile 5 and Quintile 1. Sample t-statistics are reported in parentheses. We also report the p-value of the difference between the Zero Fund-Stock Distance group and Long Fund-Stock Distance group for each cell. Panel A to Panel C present the results using raw returns, four-factor-adjusted alpha (rolling every two years) and DGTW-adjusted alpha (by size and book-to-market ratio within each country) as the post-alliance stock performance measure. The sample period is from 2002 to 2009.

		Zero Fund-Stock Distance					**Long Fund-Stock Distance**				**P-Value for Zero-Long**			
Cumulative returns after		3 Months	6 Months	9 Months	1 Year		3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year
Panel A. Raw return														
Quintile	Δ WEIGHT					Δ WEIGHT								
1	-0.98%	-5.19%	-7.95%	-5.86%	-0.47%	-1.23%	-2.07%	-1.69%	0.70%	6.25%				
		(-4.11)***	(-4.64)***	(-2.92)***	(-0.19)		(-1.74)*	(-0.95)	(0.32)	(2.53)**	0.0775	0.0122	0.0284	0.0540
2	-0.30%	-4.49%	-6.11%	-3.55%	-0.42%	-0.36%	-3.51%	-3.02%	-0.52%	5.07%				
		(-4.35)***	(-4.39)***	(-1.94)*	(-0.20)		(-2.94)***	(-1.54)	(-0.21)	(1.69)*	0.5349	0.1899	0.3141	0.1270
3	-0.10%	-2.13%	-0.52%	-0.19%	5.30%	-0.07%	-2.99%	-2.72%	-1.70%	0.16%				
		(-1.92)*	(-0.36)	(-0.10)	(2.34)**		(-2.29)**	(-1.48)	(-0.75)	(0.07)	0.6127	0.6127	0.6127	0.6127
4	0.00%	-0.74%	4.24%	5.53%	9.03%	0.00%	1.59%	5.25%	7.18%	8.70%				
		(-0.47)	(1.81)*	(1.74)*	(2.40)**		(0.88)	(1.92)*	(1.94)*	(2.09)**	0.3287	0.7784	0.7344	0.9534
5	0.22%	11.16%	27.53%	31.82%	37.58%	0.31%	4.06%	12.05%	12.84%	15.52%				
		(7.69)***	(12.86)***	(10.15)***	(10.08)***		(2.90)***	(6.12)***	(4.94)***	(4.95)***	0.0006	<.0001	<.0001	<.0001
5-1		16.35%	35.48%	37.69%	38.05%		6.13%	13.74%	12.14%	9.27%				
		(8.50)***	(12.94)***	(10.13)***	(8.58)***		(3.34)***	(5.19)***	(3.56)***	(2.32)**	0.0001	<.0001	<.0001	<.0001
No. of Observations		1616	1616	1616	1616		1295	1295	1295	1295				

Table VII (cont.)

Panel B. 4-factor adjusted alpha

Quintile	Δ WEIGHT					Δ WEIGHT								
1	-0.87%	-5.66%	-9.03%	-7.58%	-4.68%	-1.15%	-1.29%	-1.93%	0.63%	2.62%				
		(-4.05)***	(-4.16)***	(-3.43)***	(-1.61)		(-0.89)	(-0.86)	(0.23)	(0.77)	0.0322	0.0246	0.0187	0.1009
2	-0.28%	-2.52%	-5.96%	-2.45%	-1.01%	-0.33%	-1.20%	-1.85%	2.30%	4.83%				
		(-1.99)**	(-2.40)**	(-0.68)	(-0.20)		(-0.87)	(-0.85)	(0.73)	(1.34)	0.4833	0.2261	0.3368	0.3759
3	-0.09%	-1.64%	-1.99%	-1.28%	-0.05%	-0.06%	-0.79%	-3.04%	-3.33%	-3.78%				
		(-1.34)	(-1.03)	(-0.50)	(-0.02)		(-0.41)	(-1.24)	(-1.09)	(-0.93)	0.6974	0.7330	0.6042	0.4641
4	0.00%	5.70%	8.22%	14.35%	14.45%	0.00%	3.20%	1.39%	3.75%	-2.29%				
		(2.43)**	(2.15)**	(2.65)***	(2.14)**		(1.40)	(0.44)	(0.88)	(-0.54)	0.4526	0.1845	0.1403	0.0490
5	0.22%	13.67%	23.60%	24.80%	22.04%	0.31%	9.11%	18.47%	20.86%	19.76%				
		(7.21)***	(8.51)***	(7.07)***	(5.03)***		(4.24)***	(4.37)***	(3.49)***	(2.74)***	0.1117	0.2942	0.5526	0.7786
5-1		19.33%	32.62%	32.38%	26.72%		10.40%	20.40%	20.23%	17.14%				
		(8.21)***	(9.26)***	(7.81)***	(5.09)***		(4.01)***	(4.27)***	(3.08)***	(2.15)***	0.0107	0.0393	0.1175	0.3155

Panel C. DGTW-adjusted alpha

Quintile	Δ WEIGHT					Δ WEIGHT								
1	-0.98%	-7.20%	-12.38%	-12.51%	-10.74%	-1.23%	-3.09%	-3.73%	-2.93%	-1.60%				
		(-4.57)***	(-6.15)***	(-5.65)***	(-4.20)***		(-2.86)***	(-2.36)**	(-1.49)	(-0.76)	0.0412	0.0012	0.0017	0.0080
2	-0.30%	-5.17%	-9.42%	-9.23%	-10.33%	-0.36%	-3.10%	-3.79%	-2.51%	-1.39%				
		(-5.41)***	(-7.95)***	(-5.06)***	(-4.66)***		(-2.72)***	(-2.13)**	(-1.27)	(-0.61)	0.1604	0.0068	0.0129	0.0056
3	-0.10%	-3.66%	-5.60%	-8.97%	-6.92%	-0.07%	-4.26%	-7.31%	-7.05%	-5.92%				
		(-3.00)***	(-3.06)***	(-3.35)***	(-2.33)**		(-2.64)***	(-3.11)***	(-2.90)***	(-2.29)**	0.7639	0.5587	0.6030	0.8046
4	0.00%	-23.03%	-28.18%	-21.23%	-27.94%	0.00%	-9.61%	-14.02%	-14.41%	-19.33%				
		(-6.05)***	(-5.77)***	(-4.18)***	(-5.00)***		(-3.12)***	(-3.42)***	(-3.04)***	(-3.66)***	0.0083	0.0318	0.3362	0.2723
5	0.22%	10.54%	23.01%	23.42%	19.18%	0.31%	4.10%	7.91%	6.08%	4.83%				
		(7.76)***	(10.56)***	(8.07)***	(5.06)***		(3.42)***	(3.51)***	(2.32)**	(1.53)	0.0006	<.0001	<.0001	0.0050
5-1		17.74%	35.39%	35.93%	29.92%		7.19%	11.64%	9.01%	6.43%				
		(8.52)***	(11.94)***	(9.85)***	(6.55)***		(4.45)***	(4.23)***	(2.75)***	(1.69)*	0.0001	<.0001	<.0001	0.0001

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table VIII: Forecasting Alliance Stock Return: Geographic Proximity and Alliance Stock Correlation

The table reports the results of the regression relating post-alliance cumulative stock returns over 3 months, 6 months, 9 months, and 1 year to the aggregated Δ *Weight* over the alliance announcement period for domestic and foreign funds separately and their interaction effect with the pre-alliance correlation between the stock and its alliance counterparty. The regression model is as follows:

In models (1) to (4), $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\, \Delta Weight\ (Distance = 0)_{i,t} + \beta_2\, \Delta Weight\ (Distance > 0)_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}$. $\Delta Weight_{i,t}$ *(Distance=0)* is the aggregated change in holding weight by mutual funds domiciled in the same country as that issuing the stock, and Δ *Weight (Distance>0)*$_t$ is the aggregated change in holding weight by mutual funds domiciled in a country other than that issuing the stock.

In models (5) to (8), $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\, \Delta Weight\ (Distance = 0)_{i,t} + \beta_2\, \Delta Weight\ (Distance > 0)_{i,t} + \beta_3\, High\_corr_{i,t} + \beta_4\, \Delta Weight\ (Distance = 0)_{i,t} \times High\_corr_{i,t} + \beta_5\, \Delta Weight\ (Distance > 0)_{i,t} \times High\_corr_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}$. $High\_Corr_t$ is dummy variable for high *Pre-Alliance Corr* that equals 1 if *Pre-Alliance Corr* is between the 60th to 100th percentiles. In all regression models, $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1}$ is the post-alliance cumulative stock performance measure, represented by the stock's raw return in Panel A, four-factor-adjusted alpha (rolling every two years) in Panel B and DGTW-adjusted alpha (by size and book-to-market ratio within each country) in Panel C. *Stock Controls*$_t$ is a set of stock-level control variables at time t including *Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*. The regressions are stock-level OLS regressions with robust standard errors corrected for heteroskedasticity. The corresponding t-statistics are reported in parentheses. The sample period is from 2002 to 2009.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year
Panel A. Raw Return								
Δ *Weight (Distance=0)*	8.4806	16.9695	19.6237	21.5734	9.1653	16.5839	17.4377	18.4788
	(4.65)***	(5.02)***	(4.08)***	(4.40)***	(4.52)***	(4.45)***	(3.73)***	(4.16)***
Δ *Weight (Distance>0)*	1.3028	3.9999	1.8185	1.0619	1.7970	3.8271	1.6050	1.4938
	(1.11)	(2.23)**	(0.82)	(0.41)	(1.52)	(2.24)**	(0.76)	(0.67)
High_Corr					-0.0215	0.0934	0.1412	0.1865
					(-1.26)	(3.84)***	(3.90)***	(4.49)***
Δ *Weight (Distance=0) × High_Corr*					3.0369	13.6754	21.3442	24.5826
					(0.67)	(2.41)**	(2.07)**	(2.23)**
Δ *Weight (Distance>0)× High_Corr*					-3.4310	-1.1402	-3.5937	-6.2817
					(-1.47)	(-0.32)	(-0.77)	(-1.07)
Firm Size	0.0066	-0.0102	-0.0312	-0.0552	0.0098	-0.0050	-0.0266	-0.0528
	(0.98)	(-1.03)	(-2.29)**	(-3.35)***	(1.49)	(-0.51)	(-2.03)**	(-3.28)***
BM	0.0018	0.0034	0.0067	0.0079	0.0034	0.0052	0.0093	0.0115
	(0.96)	(1.13)	(2.15)**	(2.17)**	(2.62)***	(2.56)**	(6.59)***	(6.08)***
Mom12	0.0064	0.0110	-0.0144	-0.0217	0.0074	0.0130	-0.0117	-0.0173
	(0.69)	(0.83)	(-1.21)	(-1.54)	(0.73)	(0.86)	(-0.83)	(-1.05)
Grow	-0.0064	-0.0077	-0.0099	-0.0035	-0.0076	-0.0121	-0.0183	-0.0093
	(-0.84)	(-0.78)	(-0.79)	(-0.23)	(-0.99)	(-1.21)	(-1.44)	(-0.61)
Sale	-0.0003	0.0161	0.0324	0.0443	-0.0022	0.0128	0.0329	0.0417
	(-0.04)	(1.66)*	(2.59)***	(2.98)***	(-0.29)	(1.31)	(2.59)***	(2.72)***
Intercept	-0.0149	0.0740	0.1529	0.2821	-0.0181	0.0653	0.1278	0.2832
	(-0.42)	(1.48)	(2.17)**	(3.36)***	(-0.51)	(1.30)	(1.89)*	(3.48)***
R-Square	0.03	0.06	0.06	0.06	0.05	0.09	0.08	0.09
No. of Observations	1599	1599	1599	1599	1599	1599	1599	1599

Table VIII

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	3 Months	6 Months	9 Months	1 Year	3 Months	6 Months	9 Months	1 Year
Panel B. 4-factor Alpha								
Δ *Weight (Distance=0)*	8.5906	15.1155	17.7248	17.9579	8.1864	14.6014	15.0799	9.7508
	(3.95)***	(4.28)***	(3.84)***	(2.93)***	(3.55)***	(3.78)***	(3.37)***	(2.21)**
Δ *Weight (Distance>0)*	2.4686	5.8843	3.6976	0.8940	3.1904	5.0381	1.4574	-1.8144
	(1.82)*	(2.67)***	(1.42)	(0.26)	(2.40)**	(2.16)**	(0.50)	(-0.53)
High_Corr					0.0187	0.0469	0.1202	0.3007
					(0.98)	(1.38)	(2.32)**	(2.84)***
Δ *Weight (Distance=0) × High_Corr*					5.7501	12.3661	20.9094	37.3420
					(1.20)	(2.40)**	(2.43)**	(2.55)**
Δ *Weight (Distance>0)× High_Corr*					-2.2276	0.5201	1.4769	1.2809
					(-0.85)	(0.14)	(0.32)	(0.19)
Stock Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Square	0.03	0.03	0.02	0.02	0.04	0.04	0.03	0.03
No. of Observations	1529	1529	1529	1529	1529	1529	1529	1529
Panel C. DGTW Alpha								
Δ Weight (Distance=0)	8.3649	18.2854	20.0362	19.7911	8.5790	17.4290	18.1716	17.8053
	(3.63)***	(4.60)***	(4.09)***	(4.10)***	(3.20)***	(3.91)***	(3.60)***	(3.86)***
Δ Weight (Distance>0)	1.5975	3.3945	1.7446	1.8767	1.7600	2.6583	1.3214	1.9505
	(1.33)	(1.93)*	(0.77)	(0.74)	(1.38)	(1.45)	(0.56)	(0.79)
High_Corr					-0.0127	0.0582	0.0755	0.0483
					(-0.55)	(1.95)*	(2.12)**	(1.12)
Δ Weight (Distance=0) × High_Corr					3.3874	12.9835	19.9156	19.6719
					(0.79)	(2.30)**	(2.23)**	(1.81)*
Δ Weight (Distance>0)× High_Corr					-1.8414	1.4242	-1.2062	-3.2292
					(-0.75)	(0.41)	(-0.29)	(-0.63)
Stock Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Square	0.06	0.07	0.05	0.05	0.06	0.08	0.06	0.06
No. of Observations	1599	1599	1599	1599	1599	1599	1599	1599

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table IX: Forecasting Alliance Stock Return: Geographic Proximity conditional on Ownership

The table reports the results of the regression in the *Cross-Portfolio Alliance* sub-sample relating post-alliance cumulative stock returns over 3 months, 6 months, 9 months, and 1 year to aggregated $\Delta Weight_{i,t}$ over the alliance announcement period using four different groups of funds: funds domiciled in the same country as that issuing the stock and holding the stock in their portfolios before the announcement of the alliance *(Existing, Distance=0)*, funds domiciled in a country other than that issuing the stock and holding the stock in their portfolios before the announcement of the alliance *(Existing, Distance>0)*, funds domiciled in the same country as that issuing the stock but not holding the stock in their portfolios before the announcement of the alliance *(Outside, Distance=0)*, and funds domiciled a country other than that issuing the stock and not holding the stock in their portfolios before the announcement of the alliance *(Outside, Distance>0)*. The regression model is as follows:

$$Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\, \Delta Weight\ (Existing, Distance = 0)_{i,t} + \beta_2 \Delta Weight\ (Existing, Distance > 0)_{i,t} + \beta_3\, \Delta Weight\ (Outside, Distance = 0)_{i,t} + \beta_4\, \Delta Weight\ (Outside, Distance > 0)_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}.$$

In all regressions, $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1}$ is the post-alliance cumulative stock performance measure, represented by the stock's raw return in Panel A, four-factor-adjusted alpha (rolling every two years) in Panel B and DGTW-adjusted alpha (by size and book-to-market ratio within each country) in Panel C. *Stock Controls*$_t$ is a set of stock-level control variables at time t including *Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*. The regressions are stock-level OLS regressions with robust standard errors corrected for heteroskedasticity. The corresponding t-statistics are reported in parentheses. The sample period is from 2002 to 2009.

	(1)	(2)	(3)	(4)
	3 Months	6 Months	9 Months	1 Year
Panel A. Raw Return				
Δ *Weight (Existing, Distance=0)*	4.8286	12.9372	14.0023	14.5144
	(3.59)***	(4.73)***	(3.74)***	(3.75)***
Δ *Weight (Existing, Distance>0)*	1.1474	3.7341	0.9658	-0.4238
	(1.02)	(2.16)**	(0.45)	(-0.17)
Δ *Weight (Outside, Distance=0)*	0.6087	2.9301	1.7089	2.0391
	(0.59)	(2.13)**	(0.92)	(0.96)
Δ *Weight (Outside, Distance>0)*	0.4764	-0.3695	2.2436	3.7381
	(0.44)	(-0.30)	(1.10)	(1.50)
Firm Size	0.0072	-0.0097	-0.0312	-0.0593
	(0.98)	(-0.87)	(-2.06)**	(-3.24)***
BM	0.0027	0.0053	0.0100	0.0119
	(1.39)	(1.80)*	(5.16)***	(4.62)***
Mom12	0.0056	0.0099	-0.0135	-0.0173
	(0.58)	(0.72)	(-1.11)	(-1.22)
Grow	-0.0075	-0.0057	-0.0082	0.0059
	(-0.92)	(-0.55)	(-0.62)	-0.3600
Sale	-0.0001	0.0118	0.0288	0.0346
	(-0.02)	(1.15)	(2.16)**	(2.15)**
Intercept	-0.0181	0.0897	0.1683	0.3368
	(-0.46)	(1.63)	(2.21)**	(3.68)***
R-Square	0.02	0.05	0.04	0.05
No. of Observations	1599	1599	1599	1599

Table IX (cont.)

	(1) 3 Months	(2) 6 Months	(3) 9 Months	(4) 1 Year
Panel B. 4-factor Alpha				
Δ *Weight (Existing, Distance=0)*	6.4564	12.6690	16.7609	13.0480
	(3.25)***	(2.95)***	(3.72)***	(4.38)***
Δ *Weight (Existing, Distance>0)*	3.1369	5.8527	2.3723	0.8248
	(2.29)**	(2.71)***	(0.88)	(0.4)
Δ *Weight (Outside, Distance=0)*	1.7283	2.8174	0.5614	2.6270
	(1.52)	(1.66)*	(0.25)	(1.68)*
Δ *Weight (Outside, Distance>0)*	0.8164	3.4865	7.1321	0.8540
	(0.59)	(1.39)	(1.79)*	(0.38)
Stock Controls	Yes	Yes	Yes	Yes
R-Square	0.03	0.03	0.02	0.03
No. of Observations	1529	1529	1529	1529
Panel C. DGTW Alpha				
Δ *Weight (Existing, Distance=0)*	5.7046	14.0366	14.9650	14.5336
	(3.29)***	(4.57)***	(3.94)***	(3.84)***
Δ *Weight (Existing, Distance>0)*	1.9849	4.0156	2.1710	1.8789
	(1.71)*	(2.40)**	(1.00)	(0.77)
Δ *Weight (Outside, Distance=0)*	-1.7595	-0.2633	-0.2177	-0.6670
	(-1.72)*	(-0.19)	(-0.14)	(-0.36)
Δ *Weight (Outside, Distance>0)*	-1.4141	-3.5434	-0.8481	0.8566
	(-1.14)	(-2.67)***	(-0.46)	(0.37)
Stock Controls	Yes	Yes	Yes	Yes
R-Square	0.05	0.07	0.04	0.04
No. of Observations	1599	1599	1599	1599

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table X: Forecasting Alliance Stock Return: Cross/Within-Boarder Alliance conditional on Ownership

The table reports the results of the regression in the *Cross-Portfolio Alliance* sub-sample relating post-alliance cumulative stock returns over 3 months, 6 months, 9 months, and 1 year to aggregated $\Delta Weight_{i,t}$ over the alliance announcement period using four different groups of funds: funds for which the existing stock is domestic and the outside stock is domestic *(Domestic-Domestic)*, funds for which the existing stock is domestic and the outside stock is foreign *(Domestic-Foreign)*, funds for which the existing stock is foreign and the outside stock is foreign *(Foreign-Foreign)*, and funds for which the existing stock is foreign and the outside stock is domestic *(Foreign-Domestic)*. In a cross-portfolio alliance, the existing stock is the stock held in the fund's portfolio at the time the alliance is announced, time t, and the outside stock is the stock not in the fund's portfolio at time t. The regression model is as follows:

$$Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1} = \beta_0 + \beta_1\,\Delta Weight\ (Domestic\text{-}Domestic)_{i,t} + \beta_2\,\Delta Weight\ (Domestic\text{-}Foreign)_{i,t} + \beta_3\,\Delta Weight\ (Foreign\text{-}Foreign)_{i,t} + \beta_4\,\Delta Weight\ (Foreign\text{-}Domestic)_{i,t} + \gamma\ Stock\ Controls_{i,t} + \varepsilon_{i,t}.$$

In all regressions, $Post\text{-}Alliance\ Cumulative\ Stock\ Return_{i,t+1}$ is the post-alliance cumulative stock performance measure, represented by the stock's raw return in Panel A, four-factor-adjusted alpha (rolling every two years) in Panel B and DGTW-adjusted alpha (by size and book-to-market ratio within each country) in Panel C. *Stock Controls*$_t$ is a set of stock-level control variables at time t including *Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*. The regressions are stock-level OLS regressions with robust standard errors corrected for heteroskedasticity. The corresponding t-statistics are reported in parentheses. The sample period is from 2002 to 2009.

	(1)	(2)	(3)	(4)
	3 Months	6 Months	9 Months	1 Year
Panel A. Raw Return				
Δ *Weight (Domestic-Domestic)*	5.0681	14.2869	15.2120	16.1862
	(3.66)***	(5.44)***	(3.92)***	(4.08)***
Δ *Weight (Domestic-Foreign)*	2.6957	4.6878	3.6124	1.1803
	(1.44)	(1.12)	(0.76)	(0.25)
Δ *Weight (Foreign-Foreign)*	1.4906	3.8457	1.4957	0.4910
	(1.41)	(2.44)**	(0.73)	(0.20)
Δ *Weight (Foreign-Domestic)*	4.7589	0.4738	-2.0567	-0.4622
	(1.59)	(0.08)	(-0.30)	(-0.06)
Firm Size	0.0079	-0.0081	-0.0283	-0.0547
	(1.10)	(-0.76)	(-1.94)*	(-3.09)***
BM	0.0027	0.0054	0.0102	0.0121
	(1.41)	(1.81)*	(5.11)***	(4.86)***
Mom12	0.0054	0.0095	-0.0139	-0.0174
	(0.57)	(0.71)	(-1.15)	(-1.23)
Grow	-0.0076	-0.0056	-0.0080	0.0063
	(-0.93)	(-0.53)	(-0.60)	-0.3800
Sale	-0.0003	0.0116	0.0278	0.0331
	(-0.03)	(1.13)	(2.10)**	(2.07)**
Intercept	-0.0211	0.0815	0.1559	0.3188
	(-0.55)	(1.51)	(2.09)**	(3.54)***
R-Square	0.02	0.06	0.05	0.05
No. of Observations	1599	1599	1599	1599

Table X (cont.)

	(1) 3 Months	(2) 6 Months	(3) 9 Months	(4) 1 Year
Panel B. 4-factor Alpha				
Δ *Weight (Domestic-Domestic)*	6.9422	14.7090	17.5708	18.3262
	(3.52)***	(4.43)***	(3.84)***	(3.01)***
Δ *Weight (Domestic-Foreign)*	3.2264	9.1852	13.7772	14.7782
	(1.22)	(1.22)	(1.12)	(0.86)
Δ *Weight (Foreign-Foreign)*	3.4686	7.1766	4.2331	1.7112
	(2.78)***	(3.72)***	(1.72)*	-0.5200
Δ *Weight (Foreign-Domestic)*	5.3614	-7.1371	-3.1279	-5.2410
	(0.89)	(-0.70)	(-0.27)	(-0.31)
Stock Controls	Yes	Yes	Yes	Yes
R-Square	0.03	0.04	0.03	0.02
No. of Observations	1529	1529	1529	1529
Panel C. DGTW Alpha				
Δ *Weight (Domestic-Domestic)*	5.7618	15.0645	16.2778	16.2152
	(3.18)***	(4.85)***	(4.13)***	(4.18)***
Δ *Weight (Domestic-Foreign)*	2.3675	4.9319	3.3495	2.3073
	(1.42)	(1.98)**	(1.12)	(0.67)
Δ *Weight (Foreign-Foreign)*	2.3103	3.8526	2.1692	2.2413
	(2.15)**	(2.54)**	(1.08)	(0.99)
Δ *Weight (Foreign-Domestic)*	-0.3042	-6.5529	-5.8140	-6.3775
	(-0.10)	(-1.18)	(-0.86)	(-0.79)
Stock Controls	Yes	Yes	Yes	Yes
R-Square	0.06	0.07	0.05	0.04
No. of Observations	1599	1599	1599	1599

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Table XI: Robustness Check on Reverse Causality

The table reports the results of our robustness check regarding reverse causality, that is, whether mutual funds encourage alliances. Panel A presents the results of a fixed-effect (stock-time level) panel logit regression relating aggregated mutual fund ownership of a stock to the probability of the stock engaging in an alliance event in the future. The regression model is as follows: $Alliance_{i,t} = \beta_0 + \beta_1 FundOwnership_{i,t-1} + \beta_2 Stock\ Controls_{i,t-1} + \varepsilon_{i,t}$. $Alliance_{i,t}$ is a dummy variable that equals 1 if the stock i announced an alliance event at t and 0 otherwise. $FundOwnership_{i,t-1}$ is the aggregate mutual funds' percentage ownership of the stock at $t-1$, and $Stock\ Controls_{i,t-1}$ is a set of stock-level control variables including *Firm Size*, *BM*, *Mom12*, *Grow*, and *Sale*. Model (1) corresponds to the specification without $Stock\ Controls_{i,t-1}$, and model (2) corresponds to that with $Stock\ Controls_{i,t-1}$. Z-statistics are reported in parentheses. Panel B focuses on alliance stocks and presents the results of a regression relating aggregate mutual fund ownership of the alliance stock before the announcement of the alliance to the stock return in the announcement month and over the 3 months after the announcement. The regression model is as follows: $Dgtw\ Return_{i,t} = \beta_0 + \beta_1 FundOwnership_{i,t-1} + \beta_2 Stock\ Controls_{i,t-1} + \varepsilon_t$. In model (1), $Dgtw\ Return_{i,t}$ is the stock's DGTW return in the alliance announcement month, and in model (2), it is the stock's accumulated DGTW return over the 3 months following the alliance announcement. Robust t-statistics are reported in parentheses. The sample includes all global stocks in Panel A and is confined to those stocks that announced alliance events over our sample period in Panel B. The sample period is from 2002 to 2009.

Panel A. Probability of Alliance

Dependent Variable: *Alliance* = 1, if the stock announced alliance event at t; *Alliance* = 0, otherwise

	(1)	(2)
FundOwnership	-0.1656	-0.5326
	(-0.28)	(-0.88)
Stock Controls	NO	Yes
Fixed Effect	Yes	Yes
No. of Obs	100587	100587

Panel B. Dgtw Return of Alliance Stocks

Dependent Variable: Dgtw return of alliance stocks in announcement month or over 3 months after announcement

	(1)	(2)
	Announcement Month Return	Post-Announcement 3-Month Return
FundOwnership	-0.0023	0.1074
	(-0.06)	(1.48)
Stock Controls	Yes	Yes
R^2	0.04	0.02
No. of Obs	1729	1729

***, **, * represent 1%, 5%, 10% confidence levels, respectively

Appendix II: Distance Proximity and Absolute Weight Change of Alliance Stocks (Alliance Pair Level)

This table reports the results of regressions relating the absolute value of $\Delta Weight_{f,i,t}$ to *Pre-Alliance Corr* and various geographic proximity variables at alliance pair level. The regression models are same as in Table III except that all the variables here are aggregated to alliance pair level by taking the value weighted average (market value of the stock that the fund's portfolio holdings represent) of the original variables of each stock in an alliance pair. Model (1) to (3) correspond to the regressions of All Alliance sample. Model (4) to (6) correspond to Within-Portfolio Alliance sub-sample. Model (7) to (13) correspond to Cross-Portfolio Alliance sub-sample. The regressions are fund-alliance pair-event time level pooled OLS regressions on semi-annual basis. Time fixed effects are included. The standard errors are robust and clustered at fund-alliance pair level. The corresponding t-statistics are reported in parentheses. The sample period is from 2002 to 2009.

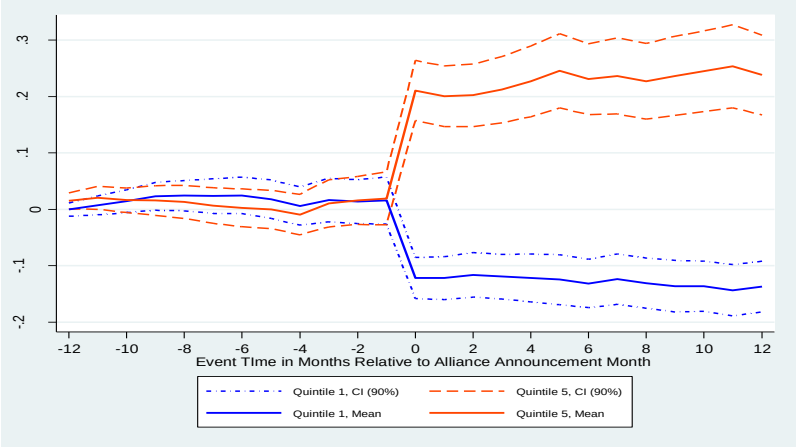
	All Alliance			Within-Portfolio Alliance			Cross-Portfolio Alliance						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Pre-Alliance Corr	0.0004		0.0004	0.0001		0.0001	0.0005		0.0005		0.0005		0.0005
	(5.34)***		(5.07)***	(0.27)		(0.22)	(5.77)***		(5.50)***		(5.50)***		(5.38)***
Distance		-0.0102	-0.0101		-0.0120	-0.0120		-0.0099	-0.0098				
		(-4.95)***	(-4.91)***		(-3.21)***	(-3.21)***		(-4.87)***	(-4.82)***				
Distance_Outside										-0.0047	-0.0046		
										(-3.83)***	(-3.79)***		
Distance_Existing										-0.0053	-0.0052		
										(-2.34)**	(-2.31)**		
Domestic-Foreign												-0.0003	-0.0002
												(-2.62)***	(-2.30)**
Foreign-Foreign												-0.0007	-0.0007
												(-4.70)***	(-4.65)***
Foreign-Domestic												0.0001	0.0001
												(0.55)	(0.48)
Fund Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.35	0.36	0.36	0.49	0.49	0.49	0.33	0.33	0.33	0.33	0.33	0.33	0.33
No. of Obs	104868	104868	104868	9612	9612	9612	92872	92872	92872	92872	92872	92872	92872

***, **, * represent 1%, 5%, 10% confidence levels, respectively

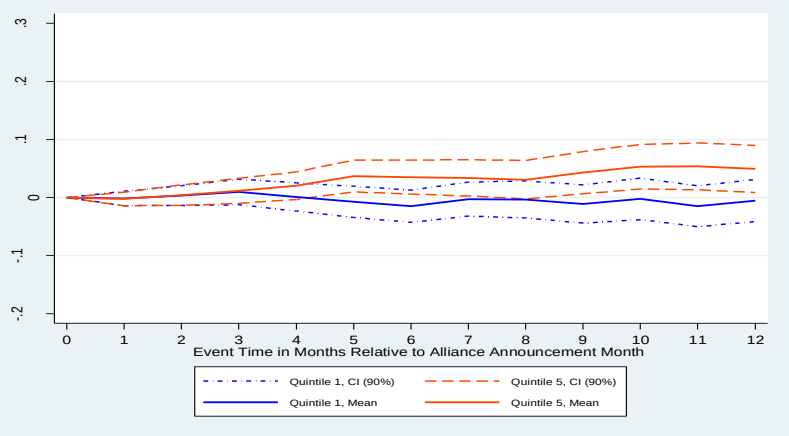
Figure I: Announcement Return and Post-Announcement Drift for Sorted Alliance Quantiles

We sort the sample of alliance stocks into five quintile groups based on announcement return (stock returns in the alliance announcement month: t = 0) and calculate the accumulated abnormal return (DGTW-adjusted within each country) around the announcement month. Using solid lines, Panel A plots the average cumulative abnormal return for Quintile 1 and Quintile 5 firms from 12 months before the announcement month (t = -12) to 12 months after the announcement month (t = 12), whereas the dashed lines plot the 90% confidence intervals. Panel B plots the similar cumulative abnormal return for the post-announcement period (i.e., starting from a zero abnormal return when t=0). Panel C sorts the sample of alliance stocks by their mutual fund investment weight changes over the announcement period and plots the post-announcement cumulative abnormal return for Quintile 1 and Quintile 5 firms that are associated with the most negative and positive fund ownership changes, respectively.

Panel A. Accumulated Abnormal Return (from t = -12 to t = 12 months) Sorted by Announcement Return



Panel B. Post-announcement Accumulated Abnormal Return Sorted by Announcement Return



Panel C. Post-announcement Accumulated Abnormal Return Sorted by Fund Investment Weight Changes