Who Disseminates Foreign Information into Stock Prices?

WEI JIAO*

ABSTRACT

As the economy is increasingly globalized, firms are operating and competing on a global scale. Inevitably, foreign information is of growing importance on firm value and understanding how foreign information disseminates into stock prices becomes critical. This paper finds that portfolio managers of active international mutual funds can disseminate foreign information across countries into U.S. multinationals' stock prices. Investing in non-U.S. markets helps these managers gather foreign information that is relevant to U.S. multinationals' foreign operations. When these managers use their foreign information to trade U.S. multinationals' stocks, they move stock prices and hence disseminate foreign information. In doing so, they generate abnormal returns of 0.5% monthly from investing in U.S. multinationals. Through disseminating foreign information, these managers increase U.S. multinationals' stock price informativeness on foreign information, which in turn improves U.S. multinationals' real economic efficiency.

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The acquisition of information and its dissemination to other economic units are central activities in capital markets (Merton (1987)). How information disseminates into stock prices is one of the fundamental issues in finance.[1] Although many papers have explored the channels of information dissemination,[2] no study focuses on information generated in foreign countries and how foreign information disseminates across countries into stock prices. As the economy is increasingly globalized, however, many firms operate in foreign countries and almost all firms become competing on a global scale. Inevitably, firms' value is increasingly affected by foreign information. Therefore, understanding how foreign information disseminates into stock prices becomes critical to our understanding of the relation between information and stock prices. In this paper, I aim to uncover the channels of cross-border information dissemination.

Studying the channels of cross-border information dissemination is also important for firms' real economic activity. Information encoded in stock prices affects firms' real decisions.[3] Foreign information, however, is significantly less efficiently incorporated into stock prices than domestic information, because most investors either overlook foreign information or have considerable difficulty in collecting and processing it. The delays in incorporating foreign information can translate into severe real investment distortions and misallocations of resources across firms. Uncovering and developing the channels of cross-border information dissemination help increase firms' stock price informativeness on foreign information. More informative stock prices can better guide firms' real decisions and improve firms' real economic efficiency.

This paper studies the channels of cross-border information dissemination by focusing on U.S. multinational firms. Multinational firms have become the primary participants in our economy. For example, over the last decade, at least half of the S&P 500 firms are multinationals, and more than 40% of their sales come from abroad. Thus, it is economically meaningful to study how foreign information disseminates into multinationals' stock prices. Multinational firms are also a

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[1] For example, see Beaver (1968), Grossman and Stiglitz (1976), Copeland (1976), and Shiller and Pound (1989).
[2] For example, see Brennan, Jegadeesh, and Swaminathan (1993), Coval and Moskowitz (2001), Hong, Kubik, and Stein (2005), Malloy (2005), Cohen, Frazzini, and Malloy (2008, 2010), Chen et al. (2014), Pool, Stoffman, and Yonker (2015), Gao and Huang (2016), and Ahern (2017).
[3] For example, see Hayek (1945), Barro (1990), Luo (2005), Chen, Goldstein, and Jiang (2007), Bond, Goldstein, and Prescott (2010), Bond, Edmans, and Goldstein (2012), Edmans, Goldstein, and Jiang (2012), Edmans, Jayaraman, and Schneemeier (2017), Bennett, Stulz, and Wang (2018), and Binsbergen and Opp (2019).

great laboratory for studying the channels because foreign information directly impacts multinationals' foreign operations and hence their value.

In this paper, I find that portfolio managers of active international equity mutual funds can disseminate foreign information into U.S. multinationals' stock prices. Through disseminating foreign information, these portfolio managers increase U.S. multinationals' stock price informativeness on foreign information, which in turn improves U.S. multinationals' real economic efficiency.

In global markets, information is overly rich. For example, about 40 million events in 2015 appeared in broadcast, print, and web news in more than 200 non-U.S. countries.[4] This wealth of information means a dearth of people's attention (Simon (1971)), and investors' limited attention slows the incorporation of information into stock prices (e.g., Hong and Stein (2007) and Duffie (2010)). When investing in U.S. multinational firms, most investors simply cannot continually focus on gathering value-relevant foreign information. Most investors also have difficulty in understanding foreign information because of cultural and linguistic barriers. Compared to domestic information, therefore, foreign information tends to be downplayed and significantly less efficiently incorporated into U.S. multinationals' stock prices.[5]

However, portfolio managers of active international equity funds are tasked with exploring investment opportunities globally. They have the incentives, expertise, and resources to gather information from a wide range of countries and to make timely investment decisions based on such information. Compared to most other investors, these portfolio managers can collect and process foreign information more efficiently. When they use their gathered foreign information relevant to U.S. multinationals' foreign operations to trade U.S. multinationals' stocks, these portfolio managers move stock prices. In doing so, they exploit the slow diffusion of foreign information and become the channels through which foreign information disseminates across countries into U.S. multinationals' stock prices.

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[4] This information is based on the Global Database of Events, Language, and Tone (GDELT).
[5] Huang (2015), Nguyen (2017), and Finke and Weigert (2017) provide empirical evidence that foreign information slowly diffuses into multinationals' stock prices.

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In this study, I use U.S.-based active international equity funds for empirical tests. These funds are domiciled in the United States. They mainly invest in non-U.S. stocks but also in U.S. stocks.[6] I refer to stocks of U.S. multinationals with sales in the non-U.S. countries in which a fund's portfolio managers also invest as foreign-connected stocks (FCSs), and to stocks of U.S. firms without such sales as nonforeign-connected stocks (non-FCSs). Both FCSs and non-FCSs are the stocks held by a fund, and a fund's U.S. stock holdings include only FCSs and non-FCSs. And FCSs and non-FCSs are defined on the fund-quarter-stock level. For FCSs, I also refer to sales in the non-U.S. countries in which portfolio managers also invest as connected foreign sales.

For example, if a U.S. multinational has sales in Japan and portfolio managers of a fund also invest in Japan, then I regard the stocks of this U.S. multinational held by the fund as FCSs. This U.S. multinational's sales in Japan are connected foreign sales. In this example, the investments in Japan indicate that portfolio managers have gathered information in Japan. Their gathered information in Japan may be relevant to this U.S. multinational's operations in Japan and thus help portfolio managers assess this U.S. multinational's value. When portfolio managers use such information to trade this U.S. multinational's stocks, the information in Japan flows through portfolio managers into this U.S. multinational's stock prices.

Grossman and Stiglitz (1976, 1980) argue that information is costly, and agents who have comparative advantages in gathering information can earn abnormal returns. If portfolio managers employ their gathered foreign information to select FCSs and move stock prices, then on average we should observe them earning abnormal returns on FCSs. Consistent with this hypothesis, I find that portfolio managers place larger concentrated bets and perform significantly better on their foreign-connected positions than on their nonforeign-connected positions.

On average, portfolio managers allocate 3.37% of a fund's U.S. holding assets to one U.S. stock. If the U.S. stock is an FCS, portfolio managers place an additional 1.00% of the fund's U.S. holding assets in this stock. To alleviate the omitted variable concern, I examine portfolio

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[6] The sample for these U.S.-based active international equity funds is from Morningstar. Morningstar defines a U.S. equity fund as a U.S. international equity fund if on average in the past three years, the fund allocates more than 70% of total assets to non-U.S. stocks. Thus, U.S. international equity funds can also hold U.S. stocks.

managers' reactions to earthquakes that occur in non-U.S. countries. Earthquakes are devastating natural disasters that can negatively affect U.S. multinationals' foreign operations. I find that portfolio managers significantly lower their bets on FCSs when earthquakes happen in the non-U.S. countries where corresponding multinationals have sales and portfolio managers also invest.

To conduct the performance tests, I create calendar time portfolios that mimic the aggregate portfolio allocations of all active U.S. international equity funds to FCSs and non-FCSs. A long-short portfolio that buys a mimicking portfolio of FCSs and sells short a mimicking portfolio of non-FCSs generates abnormal returns of 69 basis points per month. A long-short portfolio that buys a mimicking portfolio of FCSs and sells short one-month U.S. Treasury bills delivers abnormal returns of 52 basis points per month.

In addition, I examine the performance of pseudo-FCSs. Pseudo-FCSs are stocks of U.S. multinationals with sales in the non-U.S. countries in which a fund's portfolio managers also invest but not held by the fund. Thus, portfolio managers have an edge in gathering foreign information relevant to these pseudo-FCSs but choose to shun them. I find that pseudo-FCSs do not generate abnormal returns and FCSs significantly outperform pseudo-FCSs. These findings provide additional evidence that portfolio managers use their gathered foreign information to screen U.S. multinationals' stocks and avoid those without positive foreign news.

To help pin down that foreign information disseminates through portfolio managers, I study the mechanisms behind the high average returns earned by FCSs. I begin by examining how U.S. multinationals' expansion in foreign operations affects the performance of FCSs. When U.S. multinationals expand their business in foreign markets, more positive value-relevant foreign information is produced. Thus, the expansion gives portfolio managers more room to profit from foreign information. In accordance with this, I find that FCSs experiencing expansion in foreign operations deliver superior performance, whereas FCSs without expansion in foreign operations do not.

I then show that portfolio managers' ability to gather foreign information affects FCSs' return premium. I define portfolio managers as having a better ability to gather information in a foreign country when their investments in that country outperform the country's market. FCSs with more

than half of connected foreign sales in countries where portfolio managers can beat the market, generate significant abnormal returns. In contrast, FCSs with less than half of connected foreign sales in countries where portfolio managers can beat the market do not significantly outperform.

I also find that the relation between connected foreign sales and FCSs' performance is concave. When connected foreign sales account for a small proportion of a multinational's total sales, foreign information gathered by portfolio managers has little impact on the multinational's value. But connected foreign sales that are too large draw the attention of many investors and hence accelerate the incorporation of foreign information into stock prices, which leaves portfolio managers less room to profit from their foreign information. Therefore, FCSs' superior returns concentrate in the FCSs with a moderate level of connected foreign sales.

Moving beyond examining the average returns of FCSs, I find that portfolio managers use their gathered foreign information to trade FCSs wisely. My empirical results show that FCSs purchased by portfolio managers subsequently generate significantly positive abnormal returns, and FCSs sold by portfolio managers stop delivering superior performance. Moreover, I focus on one type of corporate transactions that significantly influences multinationals' foreign operations: cross-border mergers. I examine the performance of FCSs traded by portfolio managers around the time when the corresponding multinationals acquire non-U.S. targets in the countries where portfolio managers also invest. FCSs purchased by portfolio managers after the merger announcements deliver superior performance in the first quarter after the announcements. FCSs sold by portfolio managers after the merger announcements generate significant negative returns in the second quarter after the announcements.

With the help of the trading tests, I delve into the sources of foreign information disseminated by portfolio managers. I focus on differentiating firm-specific foreign information (e.g., a firm's cross-border mergers) from market-wide foreign information (e.g., a foreign government's economic policy changes). After portfolio manager trade FCSs, I examine FCSs' performance in months with earnings announcements and in months without earnings announcements. The tests are based on the premise that firm-specific foreign information is mainly incorporated into stock prices during months with scheduled quarterly earnings announcements. I show that portfolio

managers are able to gather and disseminate both market-wide and firm-specific foreign information. Both market-wide and positive firm-specific foreign information gathered by portfolio managers take about four months to be fully incorporated into stock prices. However, negative firm-specific foreign information takes much longer, because firms may be reluctant to disclose such foreign information in a timely manner.

To address the concern that FCSs' superior performance is driven by the general stock-picking ability of portfolio managers instead of foreign information, I examine the performance of funds that hold FCSs. I find that funds holding FCSs significantly outperform funds without any FCS holdings by about 16 basis points per month. This finding indicates that portfolio managers who can use foreign information to select FCSs do have the better stock-picking ability. However, I also show that FCSs outperform corresponding funds by about 57 basis points per month. This result confirms that it is foreign information, instead of portfolio managers' stock-picking ability, that mainly drives the superior performance of FCSs.

In addition, the patterns on FCSs extend beyond active U.S. international equity funds. Some portfolio managers manage active U.S. domestic equity funds and active U.S. international equity funds at the same time. In their active U.S. domestic equity funds, these portfolio managers also invest disproportionately and outperform on those FCSs that they hold in their active U.S. international equity funds. Since these results are based on a different mutual fund sample, they further support the genuineness of the main findings in this study.

Finally, I provide evidence that portfolio managers of active U.S. international equity funds can improve U.S. multinationals' real economic efficiency. When portfolio managers disseminate foreign information into FCSs' stock prices, they increase stock price informativeness on foreign information. More informative stock prices can better guide firms' real decisions and improve firms' real economic efficiency.

I employ the welfare-based measure of price informativeness proposed by Bai, Philippon, and Savov (2016). I find that the U.S. multinationals' stocks that are held by active U.S. international equity funds as FCSs exhibit significantly higher price informativeness relative to other U.S. stocks. In the analyses, I control for the effects of total institutional ownership based on the premise that

institutional investors of U.S. stocks are mainly U.S. institutions investing domestically. Thus, these institutional investors primarily disseminate domestic information into stock prices. I show that the positive effects of active U.S. international equity funds on price informativeness are much stronger than the positive effects of total institutional ownership, suggesting that active U.S. international equity funds mainly increase price informativeness on foreign information.

Bond, Edmans, and Goldstein (2012) state that it is mainly the amount of information in prices not already possessed by real decision makers matters for real efficiency. They term this notion revelatory price efficiency (RPE). Here, the foreign information disseminated by portfolio managers should contain the component unknown to real decision makers. Real decision makers may be the most informed agents in the economy about the multinational firm. However, optimal real decisions, especially the ones about foreign markets, depend not only on internal information but also heavily on external information, such as the state of the foreign economy, foreign governments' policies, the position of foreign competitors, the preferences of foreign consumers, and so forth. The tremendous amount of foreign information and the linguistic and cultural barriers inevitably bring real decision makers great difficulty in collecting and processing foreign information. Portfolio managers of active U.S. international equity funds, however, specialize in acquiring foreign information. Indeed, because of the difficulty in acquiring foreign information, the one disseminated by portfolio managers can greatly increase the revelatory price efficiency and guide firms' real decisions.

In addition, I provide evidence that real decision makers use foreign information disseminated by portfolio managers to guide their investment in foreign countries. When U.S. multinationals' shares are held by active U.S. international equity funds as FCSs, their stock prices predict future investment in foreign countries more strongly. This effect is more salient on firms' future investment in emerging markets, where foreign information is less accessible and more valuable to real decision makers.

Bai, Philippon, and Savov (2016) show that U.S. firms' price informativeness has increased at longer horizons, in particular among firms with greater institutional ownership. However, my finding that the positive effects of active U.S. international equity funds on price informativeness

are much stronger than the positive effects of total institutional ownership suggests that even most institutional investors may not efficiently gather foreign information and incorporate it into stock prices. Thus, our capital markets demand unique mechanisms to facilitate the dissemination of foreign information. And active U.S. international equity funds can be one of the mechanisms.

This paper contributes to the debate about the social costs and benefits of the active asset management industry and whether active portfolio managers possess stock-picking ability. Some studies (e.g., Jensen (1968), Malkiel (1995), Gruber (1996), Carhart (1997), French (2008)) find that active portfolio managers fail to outperform passive benchmarks and destroy investors' value, while others (e.g., Grinblatt and Titman (1989, 1993), Grinblatt, Titman, and Wermers (1995), Daniel et al. (1997), Berk and Green (2004), Berk and Van Binsbergen (2015)) find that active portfolio managers do exhibit some stock-picking ability. The literature also further explores whether certain types of managers perform consistently better than others or whether portfolio managers exhibit stock-picking ability in certain groups of stocks.[7] This paper differs from previous studies by exploiting a novel setting to examine whether the investments in one country can help portfolio managers invest in multinationals in another country. I find that some portfolio managers of active U.S. international equity funds can take advantage of their investments in foreign countries to select U.S. multinational firms. These managers generate superior performance on selected U.S. multinationals and significantly increase selected U.S. multinationals' stock price informativeness on foreign information. Given the importance of multinational firms, these findings suggest that the active international asset management industry can potentially add substantial value to our economy through facilitating multinationals' stock price discovery on foreign information.

The relation between information and stock prices is central to finance. Many papers have studied how information disseminates through agents in financial markets and into stock prices.[8] To my knowledge, however, no study exists that attempts to understand the dissemination of

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[7] For example, see Chevalier and Ellison (1999), Coval and Moskowitz (2001), Kacperczyk, Sialm, and Zheng (2005), Cohen, Frazzini, and Malloy (2008), Cremers and Petajisto (2009), Kacperczyk, Van Nieuwerburgh, and Veldkamp (2014), and Pool, Stoffman, and Yonker (2015).

[8] For example, see Brennan, Jegadeesh, and Swaminathan (1993), Coval and Moskowitz (2001), Hong, Kubik, and Stein (2005), Malloy (2005), Cohen, Frazzini, and Malloy (2008, 2010), Chen et al. (2014), Pool, Stoffman, and Yonker (2015), Gao and Huang (2016), and Ahern (2017).

information generated in foreign countries. But as globalization has increased in recent years, firms' operations and value are increasingly exposed to foreign information. Thus, studying the channels of cross-border information dissemination becomes an indispensable part of the literature on the relation between information and stock prices. This paper contributes to this literature by providing some initial findings on the channels through which foreign information can disseminate across countries into stock prices.

This study also advances the emerging literature that analyzes how investors' limited attention delays the incorporation of foreign information into security prices. Duffie (2010) theorizes that investor inattention slows the incorporation of information into asset prices. Huang (2015) finds that foreign industry-level information is slowly incorporated into the stock prices of U.S. multinational firms because of investor inattention and linguistic and cultural barriers. Nguyen (2017) shows that foreign country-level information can predict the returns of U.S. multinational firms. Finke and Weigert (2017) confirm the slow diffusion of foreign information into multinationals' stock prices by using a sample from 22 developed countries. This study, however, focuses on uncovering the mechanisms to mitigate the slow diffusion of foreign information. I exploit a novel setting to show that active U.S. international equity funds can serve as the mechanism and facilitate the dissemination of foreign information into U.S. multinationals' stock prices.

I. Data and Methods

This section describes the data used in this study, the definition of FCSs, and the summary statistics of the sample.

A. Data

This study uses data from several sources. The U.S. multinationals' geographical operation information is from Compustat Segment files. The active U.S. international equity mutual fund information is from Morningstar. The active U.S. domestic equity mutual fund information is from the Center for Research in Security Prices (CRSP) and the Thomson Financial CDA/Spectrum

Mutual Fund database. The returns of non-U.S. stocks are obtained from Datastream. The return information for U.S. stocks is from CRSP, and the accounting information of U.S. stocks is from Compustat. Information on Fama-French factors and one-month U.S. Treasury-bill rates is obtained from Kenneth French's data library.[9] Information on significant earthquakes is from the National Centers for Environmental Information.[10] Information on a country's total land area is from the World Bank Group.[11] Information on cross-border mergers is from Security Data Corporation's (SDC's) Mergers and Corporate Transactions Database. Information on institutional ownership is from 13-F filings provided by Thomson Reuters.

To test the main hypothesis, I focus on U.S.-based active international equity mutual funds. These funds are domiciled in the United States. They mainly invest in non-U.S. stocks but also in U.S. stocks.[12] Morningstar reports funds' equity holdings, categories of funds' investment objectives, and fund characteristics.[13]

For North American firms, Compustat Segment files report the locations, industry classification, and sales of each geographical segment. The locations of geographical segments may refer to a U.S. state (e.g., NY), a country (e.g., Germany), or a region (e.g., Europe). Financial Accounting Standards No. 131, issued in June 1997, establishes standards for related disclosures about products and services, geographic areas, and major customers. After the Financial Accounting Standards No. 131, Compustat starts to collect geographic information as reported by the company. As a result, Compustat Segment files report complete and reliable locations of non-U.S. geographical segments starting in 1998. To ensure that the geographical segment information is

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[9]   These   data   are   obtained   with   thanks   from   Kenneth   French's   data   library   at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.
[10] The datasets of significant earthquakes are available from the National Centers for Environmental Information: https://www.ngdc.noaa.gov/nndc/struts/form?t=101650&s=1&d=1. The datasets include earthquakes that meet at least one of the following criteria: moderate damage (approximately $1 million or more), 10 or more deaths, magnitude 7.5 or greater, Modified Mercalli Intensity X or greater, or the earthquake generated a tsunami.
[11] Data of total land area by country is available at https://data.worldbank.org/indicator/AG.LND.TOTL.K2.
[12] Morningstar defines a U.S. equity fund as a U.S. international equity fund if on average in the past three years, the fund allocates more than 70% of total assets to non-U.S. stocks. Thus, U.S. international equity funds can also hold U.S. stocks.
[13] Based on funds' investment objectives, Morningstar classifies U.S. international equity mutual funds into the following categories: Foreign Large-Value Funds, Foreign Large-Blend Funds, Foreign Large-Growth Funds, Foreign Small/Mid-Value Funds, Foreign Small/Mid-Blend Funds, Foreign Small/Mid-Growth Funds, Work Stock Funds, Diversified Emerging Market Funds, Diversified Pacific/Asia Funds, Europe Stock Funds, Latin America Stock Funds, Pacific/Asia ex-Japan Stock Funds, China Region Funds, India Equity Funds, and Japan Stock Funds.

available for a sufficient number of U.S. multinational firms, the sample period is from 1999 to 2014.[14]

B. Foreign-Connected Stocks

At the beginning of each calendar quarter, I refer to stocks held by a fund of U.S. multinationals with sales in the non-U.S. countries, in which portfolio managers also invest as FCSs, and to stocks of U.S. firms without such sales as non-FCSs.[15] Both FCSs and non-FCSs are the stocks held by a fund, and a fund's U.S. stock holdings include only FCSs and non-FCSs. And FCSs and non-FCSs are defined on the fund-quarter-stock level. I also refer to the sales of FCSs in the non-U.S. countries in which portfolio managers also invest as connected foreign sales. I restrict FCSs and non-FCSs to U.S. common stocks (CRSP share codes 10 and 11).

For example, if a U.S. multinational firm has sales in Japan and portfolio managers of a fund also invest in Japanese stocks, then I consider the stocks of this multinational firm held by the fund as FCSs and the sales in Japan as connected foreign sales. Figure 1 presents an example to illustrate the definitions.

To determine the non-U.S. countries in which a portfolio manager invests, I consider all the active U.S. international equity funds she manages at the beginning of a quarter. To determine the non-U.S. sales for a U.S. multinational firm at the beginning of a quarter, I use the latest geographical segment files prior to the beginning of the quarter. I also require there to be a gap of at least 90 days between the report date of the geographical segment file and the beginning of a quarter. This requirement ensures that the geographical segment information is publicly known before I conduct the stock return tests. For FCSs, I require that connected foreign sales account for at least 5% of the corresponding U.S. multinationals' total sales. This requirement ensures that foreign information gathered by portfolio managers has a sizable impact on the value of U.S. multinationals.

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[14] The sample period ends in 2014, because my sample of active U.S. international equity funds stops in 2014.
[15] Since mutual funds typically report their quarter-end holdings, I assume that funds keep the holdings reported at the end of the previous quarter in the following quarter.

In addition, I define the strength of the foreign connection of FCSs on three levels. The strength of the foreign connection is based on the efficiency with which information can disseminate across countries through portfolio managers. Given that the geographical segment files occasionally report non-U.S. sales based on regions instead of countries, I define the region-level connection as involving stocks of U.S. multinationals with sales in the non-U.S. regions or countries in which the managers of a fund also invest. The country-level connection involves stocks of U.S. multinationals with sales in only the non-U.S. countries in which the managers of a fund also invest. The country-industry-level connection involves stocks of U.S. multinationals with sales in the same industries of the non-U.S. countries in which the managers of a fund also invest. Industries are classified based on Fama and French 12 industries. For the country-level and country-industry-level connections, I consider only the geographic segments with locations reported by country in Compustat Geographic Segment files. For all three connections, non-FCSs include the same group of stocks, which are the stocks of U.S. multinationals without any sales in the non-U.S. regions or countries in which portfolio managers of the fund also invest. The country-industry-level connection is most efficient in transferring foreign information through portfolio managers into U.S. stock prices, while the region-level connection is the least efficient.

C. Summary Statistics

Table I presents the summary statistics. Summary statistics regarding FCSs in this table are based on the region-level connection. There are on average 263 active U.S. international equity funds per quarter in the sample. The average total assets of each fund are $1.73 billion. Each fund holds on average 30 U.S. stocks and allocates 23% of its total assets in U.S. stock holdings. Among funds that hold FCSs, each of them holds on average 7 different FCSs and allocates about 5% of its total assets in FCSs. Importantly, about 57% of the funds in the sample hold FCSs, suggesting that a significant number of portfolio managers realize that their processed foreign information is useful to select FCSs.

I also report the summary statistics for funds' U.S. stock holdings. For each U.S. stock, on average only about 10% of its total sales are in non-U.S. countries. However, for each FCS, 52%

of its total sales are in non-U.S. countries. Importantly, 45% of its total sales are connected foreign sales, which is equivalent to about 85% of each FCS's sales in non-U.S. countries. These statistics suggest that portfolio managers focus on U.S. multinationals' foreign operations when selecting FCSs.

On average, 0.8% total shares outstanding of an FCS are held by the active U.S. international equity funds which hold the U.S. stock as an FCS. This finding highlights the importance of active U.S. international equity funds' holdings on FCSs and signals that these funds' trading behavior can significantly move FCSs' stock prices.

The average market cap of an FCS is about $9,977 million, which roughly corresponds to the 80th percentile of all New York Stock Exchange (NYSE) stocks. The median market cap of an FCS is about $2,253 million, which corresponds to the 50th percentile of all NYSE stocks. All the active U.S. international equity funds in total hold about 175 unique FCSs in each quarter, which represents 12% of the total market cap of U.S. common stocks included in CRSP.[16] This observation highlights the economic significance of the main findings of this study and indicates that they are not driven by just a few stocks. In addition, only 29% of the 175 unique FCSs per quarter are S&P 500 constituents, suggesting that most FCSs are not highly noticeable and unlikely to be held by funds for the sole purpose of achieving diversification.[17]

II. Asset Allocations on Foreign-Connected Stocks

In this section, I examine portfolio managers' asset allocation decisions on FCSs. If portfolio managers' foreign information gives them an edge in selecting FCSs, they should place large concentrated bets on FCSs relative to non-FCSs.

A. Asset Allocation Tests

Table II presents the regression analyses of portfolio weights on FCSs and non-FCSs. The analyses focus on funds' U.S. stock holdings. The dependent variable is the percentage of total

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[16] Over the entire sample period, 845 unique U.S. stocks are ever held as FCSs.

[17] In Table IA.I of the Internet Appendix, I also report summary statistics of additional variables to supplement the statistics in Table I.

U.S. stock holding assets that a fund allocates to one U.S. stock. The observations are at the fund-quarter-stock level. The independent variable of interest is FCS, which is a dummy variable to indicate whether a U.S. stock is an FCS. The control variables include the natural logarithm of market value of equity, book-to-market ratio, past 12-month return, % of sales in foreign countries of a U.S. firm, the natural logarithm of total assets of a fund, and the percentage of a fund's total assets in U.S. stock holdings.

In Panel A of Table II, the empirical results show that portfolio managers significantly overweight FCSs relative to non-FCSs. On average, portfolio managers allocate 3.37% of a fund's U.S. stock holding assets to one non-FCS. For the region-level connection, portfolio managers invest an additional 1.00% of the fund's U.S. stock holding assets in one FCS, even after controlling for the stock characteristics, category fixed effect, and quarter fixed effect. This result suggests that the overweighting on FCSs is economically significant. Furthermore, for the country-level connection, the overweighting is much higher, at 1.67% per FCS. For the country-industry-level connection, the overweighting is 1.53% per FCS.

The coefficients on % of sales in foreign countries are negative and significant, suggesting portfolio managers on average underweight U.S. multinationals' stocks. Only if the stocks of U.S. multinationals are foreign-connected do managers choose to place larger bets on them.

The overweighting on FCSs remains economically and statistically significant when I control for category × quarter fixed effect or fund family × quarter fixed effect. These findings indicate that the overweighting results are unlikely to be induced by some unobserved characteristics that vary at the category level or at the fund family level. In addition, I conduct the tests by focusing on U.S. multinational equity holdings. I still observe that portfolio managers significantly overweight FCSs relative to non-FCSs of U.S. multinationals.

B. Connected Foreign Sales

To alleviate the omitted variable problem, in this subsection, I examine how the magnitude of connected foreign sales affects the asset allocations on FCSs. Foreign information used by

portfolio managers to select FCSs should be directly related to connected foreign sales. If portfolio managers' foreign information mainly drives their bets on FCSs, we would expect the magnitude of connected foreign sales to matter.

When connected foreign sales account for a small proportion of a multinational's total sales, foreign information gathered by portfolio managers has little impact on the multinational's value. On the other hand, too significant foreign sales draw investors' attention and hence reduce the delays in incorporating foreign information into stock prices. This leaves portfolio managers with little room to exploit their processed foreign information. As a result, if portfolio managers mainly use their foreign information to select FCSs, they should bet heavily on FCSs with a moderate level of connected foreign sales. The relation between connected foreign sales and the overweighting on FCSs should be concave.

In Panel B of Table II, I regress portfolio weights on connected foreign sales and the square of connected foreign sales. I find that the coefficients on connected foreign sales are positive and significant, while those on the square of connected foreign sales are negative and significant.[18] These findings confirm the concave relation between the overweighting on FCSs and connected foreign sales.

C. Significant Earthquakes

To further alleviate the concern that some omitted characteristics associated with FCSs drive the overweighting, in this subsection, I test portfolio managers' reactions to significant earthquakes that occur in non-U.S. countries.

Earthquakes are devastating and unpredictable natural disasters that can negatively affect U.S. multinationals' foreign operations. If portfolio managers mainly employ their gathered foreign information to select FCSs, they should react to earthquakes that occur in the non-U.S. countries in which they gather such foreign information.

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[18] In Table II, I report the results based on country-level connection. The results for region-level and country-industry-level connection are in Table IA.II of the Internet Appendix.

In Table III, I find that portfolio managers substantially reduce their overweighting on FCSs when earthquakes occur in the previous quarter in the non-U.S. countries in which the corresponding multinationals have sales and portfolio managers also invest. In contrast, portfolio managers do not significantly change their overweighting on FCSs if earthquakes occur only in non-U.S. countries in which the U.S. multinationals have sales but portfolio managers do not invest.

Since I do not know the exact locations where U.S. multinationals' foreign operations are and where the earthquakes occur, I construct an alternative earthquake measure to reflect the negative impact that earthquakes can have on U.S. multinationals' foreign operations. This alternative measure is the total number of earthquakes in the previous quarter that occur in a non-U.S. country scaled by the country's total land area. It is not perfect, but it reflects that earthquakes that occur in a smaller country have a higher chance of affecting U.S. multinationals' foreign operations in that country. The regression results using this alternative earthquake measure are consistent with those previous findings.

III. Performance of Foreign-Connected Stocks

In the previous section, I show that portfolio managers overweight FCSs. In this section, I examine the performance of FCSs. If portfolio managers employ their foreign information to select FCSs and move stock prices, we should observe FCSs on average generate superior performance.

A. Portfolio Tests: Fund Holdings

I use a standard calendar time portfolio approach to conduct the performance tests. At the beginning of each calendar quarter, the long-short portfolio buys FCSs and sells short non-FCSs. Since mutual funds typically report their quarter-end holdings, I assume that funds keep the holdings reported at the end of the previous quarter in the following quarter. For the long side, within a fund, each FCS is weighted by the fund's dollar investments of this stock as a fraction of the fund's total dollar investments of all FCSs. For the short side, within a fund, each non-FCS is weighted by the fund's dollar investments of this stock as a fraction of the fund's total dollar investments of all non-FCSs. Finally, I compute monthly returns of the long-short portfolio by

averaging across funds, weighting individual fund's portfolios by the fund's total assets as a fraction of the total assets of all funds in each side. This approach has the advantage of mimicking a simple investment strategy of investing FCSs and non-FCSs, in proportion to the amount held by the universe of active U.S. international equity mutual funds.[19]

I analyze the risk-adjusted monthly returns of the long-short portfolio. I regress monthly returns of the long-short portfolio on the market (MKT), size (SMB), value (HML), and momentum (UMD) factors (Fama and French (1992), Carhart (1997)) to compute the four-factor alpha. I also regress monthly returns of the long-short portfolio on the four factors, plus the liquidity factor (LIQ) (Pástor and Stambaugh (2003)), to compute the five-factor alpha. Finally, I regress monthly returns of the long-short portfolio on the four factors, plus the profitability (RMW) and investment factors (CMA) (Fama and French (2015)), to compute the six-factor alpha.

Table IV shows the main return results: FCSs outperform non-FCSs in a statistically and economically significant manner for all three levels of foreign connections. The magnitudes of risk-adjusted returns also increase, as the strength of the foreign connection increases. For the region-level connection, the four-factor alpha of the long-short portfolio is 69 basis points per month, the five-factor alpha is 69 basis points per month, and the six-factor alpha is 79 basis points per month. For the country-level connection, the six-factor alpha of the long-short portfolio is 103 basis points per month. For the country-industry-level connection, the six-factor alpha of the long-short portfolio is 106 basis points per month.[20]

An important concern about the performance tests is why we observe such distinct performance difference between FCSs and non-FCSs if FCSs in one fund could simultaneously be the non-FCSs in other funds. The answer is that most funds do not hold other funds' FCSs as their non-FCSs. Table IA.I of the Internet Appendix shows that only 9% of the funds hold other funds' FCSs as their non-FCSs, and a fund on average allocates only 0.2% of its total assets to such non-FCSs.

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[19] Since I use funds' quarterly holdings from 1999 to 2014 and require there to be a gap of at least 90 days between the report date of the geographical segment file and the beginning of a quarter, the monthly returns of the long-short portfolio start in April 1999 and end in March 2015 (192 months).
[20] The results for the equal-weighted calendar time portfolios are similar and available in Table IA.V of the Internet Appendix.

Therefore, the performance difference between FCSs and non-FCSs would not be washed out across all the funds by those FCSs that are held by other funds as non-FCSs.

In Table IV, I also show that FCSs by themselves generate positive and significant abnormal returns. The abnormal returns of long-short portfolios that buy FCSs and sell short one-month U.S. Treasury bills are positive and significant. For the region-level connection, the six-factor alpha is 57 basis points per month. For the country-level connection, the six-factor alpha is 81 basis points per month. For the country-industry connection, the six-factor alpha is 84 basis points per month.

Since U.S. multinational firms have business in both domestic and foreign markets, global risk factors may better capture the risks of their stocks. Thus, I also examine the abnormal returns of FCSs by risk-adjusting the Fama and French global market, size, value, momentum, profitability, and investment factors (Fama and French (2012, 2017)). I find that FCSs still deliver superior performance and the magnitudes of risk-adjusted returns become even larger. The results are available in Table IA.IV of the Internet Appendix.

For portfolio managers who hold FCSs, I also show that they do not outperform on their non-FCSs of U.S. multinational firms. The results are in Panel B of Table IA.III of the Internet Appendix. This finding has three implications. First, it suggests that foreign information gathered by portfolio managers is country specific. Portfolio managers' foreign investments cannot give them an edge in picking all U.S. multinational firms. Second, it suggests that the abnormal returns of FCSs are not driven by the differences between multinationals firms and purely domestic firms. Finally, since those multinational non-FCSs held by managers who hold FCSs do not outperform, it indicates that the abnormal returns of FCSs are not mainly driven by those managers' general stock-picking ability.

B. Portfolio Tests: Individual Stocks

In the previous subsection, I conduct the performance tests based on funds' actual holdings on FCSs and non-FCSs. As a robustness check, in this subsection, I conduct the performance tests by focusing on individual stocks. I construct calendar time portfolios by using individual stocks. Specifically, at the beginning of each calendar quarter, the long-short portfolio buys individual

U.S. stocks held by at least one fund as FCSs and sells short individual U.S. stocks held by all the funds as non-FCSs. As a result, any U.S. stock appears only once in the long-short portfolio at one time.

I find that FCSs significantly outperform non-FCSs when focusing on individual stocks, the magnitudes of risk-adjusted returns of the long-short portfolios increase as the strength of the foreign connection increases, and FCSs by themselves generate positive and significant abnormal returns. For the country-level connection, the six-factor alpha of the long-short portfolio that buys FCSs and sells short non-FCSs is 48 basis points per month, and the six-factor alpha of the long-short portfolio that buys FCSs and sells short one-month Treasury bills is 61 basis points per month. The results are shown in Panel C of Table IA.III of the Internet Appendix.

I also use Fama and Macbeth (1973) regressions of individual stocks to examine the performance difference between FCSs and non-FCSs. The dependent variable is the monthly returns of individual stocks. The independent variable of interest is the FCS dummy. It takes the value of 1 if a U.S. stock at the beginning of a quarter is held by at least one fund as an FCS and takes the value of 0 if a U.S. stock at the beginning of a quarter is held by all the funds as an non-FCS. Other independent variables include a set of predetermined firm characteristics: firm size (Banz (1981)), book-to-market ratio (Fama and French (1992)), operating profitability (Fama and French (2015)), and investment (Fama and French (2015)). I also control momentum for the stock-level momentum effect (Jegadeesh and Titman (1993)) and the previous month's stock return for the short-term reversal effect (Jegadeesh (1990)).

The Fama and Macbeth regressions also confirm that FCSs outperform non-FCSs. For the region-level connection, the coefficient on FCS dummy is 45 basis points per month; for the country-level connection, it is 52 basis points per month; and for the country-industry-level connection, it is 69 basis points per month. These results are presented in Panel D of Table IA.III of the Internet Appendix.

C. Portfolio Tests: Pseudo-Foreign-Connected Stocks

In previous subsections, the performance tests are based on the U.S. stocks held by active U.S. international equity funds. In this subsection, I conduct the tests from a different angle. I focus on those U.S. multinationals that portfolio managers have an edge in gathering foreign information relevant to their foreign operations but choose to shun. Specifically, I define pseudo-FCSs as the stocks of U.S. multinationals with sales in the non-U.S. countries in which portfolio managers of a fund also invest but are not held by the fund.

I construct calendar time portfolios to test the performance of pseudo-FCSs. The long-short portfolio holds FCSs and sells short pseudo-FCSs. The long side is based on funds' actual holdings on FCSs and follows the setting in subsection A. For the short side, since each fund has a unique set of pseudo-FCSs in a quarter, each pseudo-FCS for a fund is weighted by its market value at the beginning of a quarter. The empirical results show that FCSs significantly outperform pseudo-FCSs. When the long-short portfolio holds pseudo-FCSs and sells short one-month Treasury bills, I find that pseudo-FCSs by themselves generate insignificant abnormal returns. These results are available in Table IA.VI of the Internet Appendix. These findings provide additional evidence that portfolio managers deliberately use their foreign information to select U.S. multinationals' stocks and avoid those without positive foreign news.

IV. Mechanisms

To pin down that portfolio managers who invest globally can disseminate foreign information across countries into U.S. multinationals' stock prices, in this section, I explore the mechanisms behind the superior performance of FCSs.

A. Expansion in Foreign Operations

In this subsection, I begin by examining how U.S. multinationals' expansion in foreign operations affects the performance of FCSs. When U.S. multinationals expand their operations in foreign markets, it generates more positive value-relevant foreign information. This leaves portfolio managers more room to profit from foreign information. Thus, FCSs should perform

better when the corresponding U.S. multinationals expand their operations in the non-U.S. countries in which portfolio managers also invest.

In Table V, I test this hypothesis. Since Compustat reports firms' foreign sales annually and foreign information slowly diffuses into stock prices, I define FCSs with expansion in foreign operations as the ones with increases in connected foreign sales in the previous fiscal years. The increases in connected foreign sales should only be caused by the changes in multinationals' sales in foreign countries but not by portfolio managers investing in additional foreign countries. In fact, more than 75% of the observations of FCSs are within the fiscal years after connected foreign sales increase in the previous fiscal years, suggesting that portfolio managers focus on U.S. multinationals' foreign operations when selecting FCSs.

The performance tests also confirm that FCSs with expansion in foreign operations perform much better. The six-factor alpha of the long-short portfolio that buys FCSs with expansion in foreign operations and sells short one-month U.S. Treasury bills is 83 basis points per month. The six-factor alpha of the long-short portfolio that buys FCSs without expansion in foreign operations and sells short one-month U.S. Treasury bills is insignificantly different from zero.[21]

B. Connected Foreign Sales

In this subsection, I examine the relation between the magnitude of connected foreign sales and the performance of FCSs. Foreign information used by portfolio managers to select FCSs should be directly related to multinationals' sales in the non-U.S. countries where managers also invest, namely connected foreign sales. When connected foreign sales account for a small proportion of a U.S. multinational's total sales, foreign information has little impact on the firm's value. However, a very high level of connected foreign sales would draw investors' attention and hence reduce the delays in incorporating foreign information. This leaves portfolio managers little room to exploit

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[21] All the tests in this section are based on the country-level connection. In Table V, I report only the six-factor alpha of the long-short portfolio that buys FCSs and sells short one-month U.S. Treasury bills and omit factor loadings. The versions of the tables with more information are in Table IA.VII of the Internet Appendix.

their foreign information. Therefore, FCSs' superior returns should concentrate in the FCSs with a moderate level of connected foreign sales.

In Table V, the performance tests support the above hypothesis. When connected foreign sales account for less than 5% or more than 50% of a U.S. multinational's total sales, FCSs do not significantly outperform. Only if connected foreign sales account for more than 5% but less than 50% of a U.S. multinational's total sales is the six-factor alpha of the long-short portfolio that buys FCSs and sells short one-month U.S. Treasury bills 83 basis points per month.[22]

C. Portfolio Managers' Performance in Foreign Markets

If foreign information disseminates through portfolio managers into stock prices, portfolio managers' ability to collect and process foreign information should impact FCSs' performance. In this subsection, I examine whether FCSs' performance is stronger when connected foreign sales are mainly in countries in which portfolio managers beat the country's market index.

The performance of a portfolio manager in a country in a specific month is measured as the value-weighted monthly returns of all stocks held by the manager in that country. I consider all active U.S. international equity funds that a manager manages. I weight each stock by the total dollar investments of this stock as a fraction of the total dollar investments of all stocks held by the manager in a country. The monthly returns of a country's market index are the value-weighted monthly returns of all stocks in that country with information available in Datastream.[23]

I categorize FCSs into two groups: winning-country-connected stocks and losing-country-connected stocks. Winning-country-connected stocks are FCSs with more than 50% of connected foreign sales in countries where at least one manager of the fund outperforms the country's market index in a quarter. Losing-country-connected stocks are FCSs with less than 50% of connected foreign sales in countries where at least one manager of the fund outperforms the country's market index in a quarter.

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[22] The findings are similar when connected foreign sales account for less than 60%, 70%, or 80% of firms' total sales.
[23] I use the free-float market capitalization to weight individual stocks.

Table V shows that the superior performance of FCSs is concentrated in winning-country-connected stocks. The six-factor alpha of the long-short portfolio that holds winning-country-connected stocks and sells short one-month U.S. Treasury bills is 92 basis points per month. In contrast, losing-country-connected stocks do not deliver superior performance.

D. Connected Country Weights

In this subsection, I examine whether connected country weights affect FCSs' performance. For an FCS, the connected country weight is the percentage of fund assets allocated to stocks in the non-U.S. countries where connected foreign sales are. When portfolio managers allocate more assets to stocks in one country, it is likely that they put more effort to acquire information in that country. Thus, portfolio managers on average may have a better chance to uncover foreign information relevant to FCSs with higher connected country weights.

To test this hypothesis, I split FCSs into two groups: FCSs with above-median connected country weights and FCSs with below-median connected country weights. FCSs with above-median (below-median) connected country weights are FCSs with above-median (below-median) connected country weights among all FCSs in the sample in a quarter.

In Table V, I show that the six-factor alpha of the long-short portfolio that holds FCSs with above-median connected country weights and sells short one-month U.S. Treasury bills is 150 basis points per month. In contrast, FCSs with below-median connected country weights do not significantly outperform.

E. Cultural and Linguistic Barriers

In this subsection, I test the impact of cultural and linguistic barriers on FCSs' performance. Information generated in foreign countries that are culturally and linguistically more distant from the United States is harder to be incorporated into U.S. multinationals' stock prices. This in turn gives portfolio managers more room to profit from their gathered foreign information.

According to Huang (2015), Canada, the United Kingdom, China, and Japan are the four countries in which U.S. multinationals have the largest sales. Sales in these four countries account

for more than half of the total foreign sales of U.S. multinational firms. Canada and the United Kingdom are linguistically and culturally much closer to the United States than China and Japan. Therefore, I define two groups of FCSs: Canada and U.K.-connected stocks and China and Japan-connected stocks. Canada and U.K.-connected stocks are FCSs with more than 50% of connected foreign sales in either Canada or the United Kingdom. China and Japan-connected stocks are FCSs with more than 50% of connected foreign sales in either China or Japan.

In Table V, I find that the six-factor alpha of the long-short portfolio that buys Canada and U.K.-connected stocks and sells short one-month U.S. Treasury bills is 108 basis points per month. In contrast, the six-factor alpha of the long-short portfolio that buys China and Japan-connected stocks and sells short one-month U.S. Treasury bills is much higher at 183 basis points per month. Overall, these results indicate that portfolio managers can overcome the cultural and linguistic barriers and disseminate information in culturally and linguistically more distant countries into the stock prices of U.S. multinational firms.

V. Trading Foreign-Connected Stocks

The empirical results in the previous two sections show that FCSs on average deliver superior performance. In this section, I analyze FCSs' performance after portfolio managers trade them. These analyses provide additional evidence that portfolio managers indeed disseminate foreign information into U.S. multinationals' stock prices and also shed light on what kinds of foreign information that portfolio managers disseminate.

A. Trading Foreign-Connected Stocks and Returns

At the beginning of each calendar quarter, I define that a stock is purchased (sold) by portfolio managers if the number of shares of the stock held by the fund increases (decreases) from the beginning of the previous quarter. I again use the standard calendar time portfolio approach to conduct the performance tests. The long-short portfolios hold FCSs purchased (sold) by portfolio managers and sell short non-FCSs purchased (sold) by portfolio managers. Non-FCSs purchased (sold) by portfolio managers on the sell side serve as the control group. These non-FCSs' returns

reflect portfolio managers' performance when they do not use foreign information to trade U.S. stocks. This setting helps alleviate the concern that domestic information mainly drives any observed abnormal returns of the long-short portfolios.

In Panel A of Table VI, I find that FCSs purchased by portfolio managers significantly outperform non-FCSs purchased by portfolio managers. The six-factor alpha is 105 basis points per month. FCSs purchased by portfolio managers also generate positive abnormal returns by themselves. The six-factor alpha of the long-short portfolio that buys FCSs purchased by portfolio managers and sells short one-month U.S. Treasury bills is 105 basis points per month.[24] In Figure IA.I of the Internet Appendix, I plot the performance of FCSs in each of the following 12 months after portfolio managers purchase them. I find that the positive abnormal returns concentrate in the first four months. Overall, these findings suggest that portfolio managers can gather positive foreign information and pump such positive foreign information into stock prices through purchasing FCSs. Moreover, such positive foreign information on average takes about four months to be fully incorporated into FCSs' prices.

In Panel B of Table VI, I find that FCSs sold by portfolio managers perform similarly to non-FCSs sold by portfolio managers and do not generate significant abnormal returns. There are three possible explanations for this finding. First, not only does negative foreign information make portfolio managers to sell FCSs, but also portfolio managers in general tend to lower their holdings on FCSs that no longer generate positive abnormal returns. Second, portfolio managers have difficulty in gathering negative foreign information. Third, portfolio managers are able to gather negative foreign information, but negative foreign information takes even longer time to be incorporated into stock prices. In the following two subsections, I further investigate these explanations.

B. The Sources of Foreign Information

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[24] All the tests in this section are based on the country-level connection. In Table VI, I only report the 6-factor alpha of the long-short portfolios and omit factor loadings. The versions of the tables with more information are in Table IA.VIII of the Internet Appendix.

In the previous subsection, I present the performance of FCSs after portfolio managers trade them. In this subsection, I use portfolio managers' trades on FCSs to investigate what kinds of foreign information flows through portfolio managers into U.S. multinationals' stock prices. I focus on differentiating firm-specific foreign information (e.g., a firm's cross-border mergers) from market-wide foreign information (e.g., a foreign government's economic policy changes).

The tests in this subsection are based on the premise that firm-specific foreign information is mainly incorporated into stock prices during months with scheduled quarterly earnings announcements. Earnings announcements provide investors information about a firm's activities in domestic and foreign markets. That is the time when firm-specific foreign information is easily accessible to most investors and draws the attention of most investors. To conduct the tests, I categorize each U.S. stock's monthly returns into the ones in months with earnings announcements and the ones in months without earnings announcements.

In Panel A of Table VI, I find that FCSs purchased by portfolio managers significantly outperform non-FCSs purchased by portfolio managers and generate superior performance in both months with and without earnings announcements. This result suggests that portfolio managers can gather and disseminate positive firm-specific and market-wide foreign information.

However, FCSs sold by portfolio managers exhibit quite different performance in months with earnings announcements and in months without earnings announcements. In months without earnings announcements, FCSs sold by portfolio managers generate significantly negative returns. The long-short portfolio that buys FCSs sold by portfolio managers and sells short non-FCSs sold by portfolio managers has the six-factor alpha of -82 basis points per month.

In Figure IA.I of the Internet Appendix, I plot the performance of FCSs in each of the following 12 months without earnings announcements after portfolio managers sell them. The figure reveals that the negative abnormal returns concentrate in the first four months. These results support that portfolio managers can gather negative market-wide foreign information and disseminate such negative foreign information into stock prices through selling FCSs. Negative market-wide foreign information on average also takes about four months to be fully incorporated into FCSs' prices.

But, in months with earnings announcements, FCSs sold by portfolio managers generate insignificant abnormal returns.

The results in this subsection about FCSs sold by portfolio managers also help answer why FCSs sold by portfolio managers overall generate insignificant abnormal returns in the previous subsection. Because FCSs sold by portfolio managers generate significant negative abnormal returns in months without earnings announcements, it is unlikely that portfolio managers in general lower their holdings on FCSs that are no longer profitable. The real reason should be about the processing of negative firm-specific foreign information. And there are two possibilities: (1) portfolio managers cannot efficiently collect and process negative firm-specific foreign information, or (2) firms are reluctant to disclose negative foreign information in their earnings announcements. In the next subsection, the tests based on cross-border mergers shed light on which reason is more relevant.

C. Cross-Border Mergers

In this subsection, I provide further evidence that portfolio managers can disseminate firm-specific foreign information into FCSs' stock prices. I focus on one type of corporate transactions that significantly influences U.S. multinationals' foreign operations: cross-border mergers.[25]

I first focus on FCSs of U.S. multinationals that acquire non-U.S. targets in the countries in which portfolio managers also invest. If portfolio managers mainly employ foreign information to select FCSs, they should trade FCSs wisely when the corresponding U.S. multinationals conduct cross-border mergers.

When the mergers positively affect U.S. multinationals' value, the market would slowly absorb such information and reflect it in stock prices after the announcement dates. As a result, portfolio managers should purchase such FCSs. In Table VII, I show that in the first quarter after the

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[25] The merger sample is taken from Security Data Corporation's (SDC's) Mergers and Corporate Transactions Database. I exclude leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, partial equity-stake purchases, acquisitions of remaining interest, and privatizations. I include only cross-border mergers in which the acquirers are the U.S. multinationals held by the active U.S. international equity funds in my sample and the targets are non-U.S. firms. About 90% of these cross-border mergers are completed. The findings in this subsection remain when I focus on the completed mergers.

announcement dates, FCSs purchased by portfolio managers outperform one-month U.S. Treasury bills by 156 basis points per month. In contrast, the abnormal returns of these FCSs are not significant in the quarter when the mergers are announced or in the second quarter after the announcement dates.

In contrast, when the mergers negatively affect multinationals' value, portfolio managers should sell such FCSs. In Table VII, I find that FCSs sold by portfolio managers after the merger announcements deliver very weak negative abnormal returns in the quarter when the mergers are announced and in the first quarter after the announcement dates. But in the second quarter after the announcement dates, these FCSs exhibit significant negative abnormal returns of -150 basis points per month.

These results also help answer the remaining question in the previous subsection about whether portfolio managers can gather negative firm-specific foreign information. Since the significant negative abnormal returns after the merger announcements appear late—in the second quarter after the announcements instead of the first quarter—it suggests that portfolio managers can gather negative firm-specific foreign information, but firms are reluctant to disclose such negative foreign information in a timely manner.

Finally, I show that portfolio managers have difficulty in wisely purchasing non-FCSs of U.S. multinationals conducting cross-border mergers and FCSs of U.S. multinationals that acquire non-U.S. targets in the countries where portfolio managers do not invest. These U.S. stock holdings purchased by portfolio managers after the merger announcements do not generate significant positive abnormal returns.[26] The results are presented in Table IA.IX of the Internet Appendix. These results indicate that portfolio managers' foreign information is critical for them to trade U.S. multinationals that conduct cross-border mergers.

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[26] For non-FCSs of U.S. multinationals conducting cross-border mergers and FCSs of U.S. multinationals that acquire non-U.S. targets in the countries where portfolio managers do not invest, there are too few cases in the sample in which portfolio managers sell these U.S. stocks after the merger announcements. As a result, I cannot conduct meaningful empirical tests for the performance of these U.S. stocks sold by portfolio managers after the merger announcements.

VI. Performance of Funds that Hold Foreign-Connected Stocks

In previous sections, I focus on FCSs. In this section, I shift the focus to the active U.S. international equity funds that hold FCSs. Given the highly positive abnormal returns delivered by FCSs, we would expect that portfolio managers who hold FCSs are skilled and thus also perform better at the fund level. Fund returns are the returns earned by mutual fund investors and are not susceptible to the potential noises in the holding data, as a result of which the analyses in this section provide important evidence in support of the genuineness of the main findings in this study.

In Panel A of Table VIII, the long-short portfolio buys funds with FCSs and sells short funds without any FCS holdings. I adjusted the monthly returns of the long-short portfolio by the Fama and French global market (G_MKT), size (G_SMB), value (G_HML), momentum (G_UMD), profitability (G_RMW), and investment (G_CMA) factors (Fama and French (2012, 2017)). I report the results based on raw fund returns and net of fee fund returns. I find that funds with FCSs significantly outperform those without any FCSs. For all three-level connections, the six-factor alpha of the long-short portfolio based on the net of fee returns is about 29 basis points per month. The results based on the raw returns are very similar.[27]

The fund-level performance tests also help answer two important questions related to the main findings of the paper. First, why don't all the portfolio managers hold FCSs? Given the outperformance at the fund level, it is very likely that only portfolio managers with better stock-picking skills can obtain the foreign information necessary to pick FCSs. Second, does the difference in portfolio managers' stock-picking ability produce the superior performance of FCSs instead of foreign information? When we compare the abnormal returns delivered by FCSs in Table IV with the abnormal returns delivered by funds that hold FCSs in Panel A of Table VIII, we see a distinct difference. For example, for the country-level connection, the six-factor alpha of the long-short portfolio that buys FCSs and sells short non-FCSs is 103 basis points per month. In contrast, the six-factor alpha of the portfolio that buys funds that hold FCSs and sells short funds that do not hold any FCSs is just 29 basis points per month. More importantly, in Panel B of Table

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[27] The results in Table VIII are based on the country-level connection. The results based on the region-level and country-industry-level connection are shown in Table IA.X of the Internet Appendix.

VIII, I show that FCSs significantly outperform their corresponding funds. This significant performance difference between FCSs and funds that hold FCSs suggests that foreign information mainly drives the abnormal returns delivered by FCSs.

VII. Foreign-Connected Stocks in U.S. Domestic Equity Funds

In this section, I move beyond the active U.S. international equity fund sample and focus on portfolio managers who manage active U.S. domestic equity funds and active U.S. international equity funds at the same time. If the superior performance of FCSs is genuine, in their active U.S. domestic equity funds, these managers should also overweight and outperform on those FCSs that they hold in their active U.S. international equity funds.

The empirical results in Table IA.XI of the Internet Appendix support this hypothesis. In their active U.S. domestic equity funds, portfolio managers on average allocate about 0.62% of their funds' total assets to one U.S. stock. If the stock is an FCS, they allocate an additional 0.65% of their funds' total assets in this stock. FCSs also significantly outperform other U.S. stock holdings in the active U.S. domestic equity funds. The six-factor alpha of the long-short portfolio that buys FCSs and sells short other U.S. stocks is about 101 basis points per month.[28]

Overall, the results in this section suggest that portfolio managers' foreign informational advantages spill over to their active U.S. domestic equity funds. Since these tests are based on a different mutual fund sample from different data sources, they provide compelling evidence for the genuineness of the main findings in this study.

VIII. Stock Price Informativeness

In this section, I present evidence that through disseminating foreign information, portfolio managers of active U.S. international equity funds can significantly increase U.S. multinationals' stock price informativeness. Real decision makers (such as corporate managers, capital providers, directors, customers, regulators, employees, etc.) use information encoded in market prices when

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[28] The results reported here are based on the country-level connection. The results based on the region-level and country-industry-level connection are similar and shown in Table IA.XI of the Internet Appendix.

making real economic decisions. More informative stock prices can better guide firms' real decisions and improve firms' real economic efficiency. The results in this section, therefore, highlight the importance of the active international equity funds in improving U.S. multinationals' real economic efficiency.

I use the welfare-based measure of price informativeness proposed by Bai, Philippon, and Savov (2016). This measure reflects the extent to which a firm's current stock prices predict its future earnings. The authors use earnings before interest and taxes (EBIT) in the future scaled by current total assets as the dependent variable and the ratio of current market prices to current total assets as the independent variable of interest.[29] Larger coefficients on this independent variable indicate that a firm's current stock prices can better predict its future earnings, suggesting greater stock price informativeness.

In Panel A of Table IX, I use EBIT in future year 1, 2, 3, 4, or 5 scaled by current total assets (namely, total assets in year 0) as dependent variables, respectively. Following Bai, Philippon, and Savov (2016), I take stock prices as of the end of March each year and accounting variables as of the end of the previous fiscal year, typically December. Control variables include the ratio of current EBIT to current total assets, the natural logarithm of current total assets, and the percentage of current total sales in foreign countries. The sample contains all U.S. nonfinancial common stocks (CRSP share codes 10 and 11) from 1999 to 2014. I also include the industry (two-digit SIC code) × year fixed effect.

To examine whether portfolio managers improve stock price informativeness of FCSs, I interact Holding_FCS with the ratio of current market prices to total assets. Holding_FCS is the percentage of total shares outstanding of one U.S. firm that are held by active U.S. international equity funds as an FCS. It is based on the average percentage in the previous four quarters before the end of March each year. If a U.S. stock is not held by any active U.S. international equity funds as an FCS in the previous four quarters, then Holding_FCS is zero.

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[29] The ratio of current market prices to current total assets is taken the natural logarithm.

Panel A of Table IX shows that the coefficients on the interaction term are positive and significant, when EBIT in future year 1, 2, 3, or 4 scaled by current total assets are the dependent variables. These positive coefficients suggest that portfolio managers of active U.S. international equity funds do increase U.S. multinationals' stock price informativeness. [30]

To demonstrate that the increased stock price informativeness is mainly due to the foreign information disseminated by portfolio managers, I control for the effects of total institutional ownership. The premise is that institutional investors of any U.S. stock are mainly U.S. institutions focusing on U.S. investments. Therefore, these institutional investors mainly disseminate information generated in the U.S. market into stock prices.

To control for the effects of total institutional ownership, I include Holding_Inst and the interaction between Holding_Inst and the ratio of current market prices to current total assets as control variables. Holding_Inst is the fraction of total shares outstanding of one U.S. firm that are held by all institutional investors from 13-F filings. It is based on the average fraction in the previous four quarters before the end of March each year. I find that the coefficients on the interaction between Holding_Inst and the ratio of current market prices to current total assets are positive and significant, indicating institutional investors in general improves stock price informativeness. Importantly, after controlling for the effects of total institutional ownership, the effects of Holding_FCS on stock price informativeness are positive and significant. This finding demonstrates that portfolio managers increase U.S. multinationals' price informativeness mainly through disseminating foreign information.

Furthermore, the coefficients measuring the effects of Holding_FCS on stock price informativeness are way much larger than the coefficients measuring the effects of total institutional ownership on stock price informativeness. This result suggests that foreign information does affect multinationals' fundamentals and foreign information is significantly less efficiently incorporated into stock prices than domestic information. Meanwhile, this finding also

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[30] The results in Table IX are based on the country-level connection. The main findings hold for region-level and country-industry-level connections. The results are in Table A.XII of the Internet Appendix.

provides compelling evidence for the importance of active U.S. international equity funds in facilitating multinationals' price discovery on foreign information.

To further show that the increased stock price informativeness is mainly due to the foreign information disseminated by portfolio managers, I examine whether the magnitude of foreign sales affects the extent to which portfolio managers can improve U.S. multinationals' stock price informativeness.

When foreign sales account for a small fraction of total sales, the impact of foreign information on multinationals' value is small. On the other hand, a very high level of foreign sales would draw investors' attention and hence accelerate the incorporation of foreign information into stock prices. Thus, U.S. multinationals with a moderate level of foreign sales should exhibit much lower stock price informativeness on foreign information. Consequently, the positive impact of active U.S. international equity funds on stock price informativeness should concentrate in FCSs with a moderate level of foreign sales.

In Panel B of Table IX, I find that this is the case. The positive effects of Holding_FCS on price informativeness concentrate in the FCSs with the ratio of foreign sales to total sales between 5% and 50%. For the FCSs with the ratio smaller than 5% or larger than 50%, the positive effects are negligible. In addition, these findings also hold when the sample contains only U.S. nonfinancial multinational firms.

So far, the evidence in this section shows that portfolio managers indeed increase U.S. multinationals' stock price informativeness on foreign information. More informative prices, however, do not necessarily lead to an improvement in multinationals' real efficiency. Bond, Edmans, and Goldstein (2012) state that it is mainly the amount of information in prices not already possessed by real decision makers matters for real efficiency. They term this notion revelatory price efficiency (RPE).

In this study, the information asymmetry on foreign information very likely exists between portfolio managers and real decision makers. Real decision makers may be the most informed agents in the economy about the multinational firm. However, optimal real decisions, especially the ones about foreign markets, depend not only on internal information about the firm but also

heavily on external information, such as the state of the foreign economy, foreign governments' policies, the position of foreign competitors, the demand by foreign consumers, and so forth. The tremendous amount of foreign information and the linguistic and cultural barriers inevitably bring decision makers great difficulty in collecting and processing foreign information. However, portfolio managers of active U.S. international equity funds specialize in acquiring foreign information. Therefore, the foreign information disseminated by portfolio managers has a good chance of containing the component unknown to real decision makers.

In Section V, for instance, I show that portfolio managers disseminate market-wide foreign information. The information regarding the foreign market and industry conditions that is acquired by portfolio managers but unknown to real decision makers can well guide their decisions about multinationals' foreign operations. Indeed, because of the difficulty in acquiring foreign information, the one disseminated by portfolio managers should greatly increase the revelatory price efficiency and guide firms' real decisions.

Empirically, I also provide evidence that corporate managers learn new foreign information from portfolio managers of active U.S. international equity funds. I analyze whether current stock prices predict U.S. multinationals' future investment in foreign countries more strongly when multinationals' shares are held by active U.S. international equity funds as FCSs. Specifically, I replace the dependent variable of the price informativeness regressions with firms' future foreign investment. Foreign investment is measured by capital expenditure (CAPX) in foreign countries scaled by current total assets or research and development (R&D) in foreign countries scaled by current total assets. I also add current foreign investment scaled by current total assets and current total investment scaled by current total assets as additional controls. All the results analyzing future foreign investment are in Table A.XIII of the Internet Appendix.

The empirical results show that the holdings by active U.S. international equity funds greatly increase multinationals' sensitivity of future foreign investment to current stock prices. And this effect is significantly stronger than the effect of total institutional ownership and ceases to exist when we focus on firms' total investment. In fact, the effect of total institutional ownership on multinationals' sensitivity of future foreign investment to current stock prices is negligible,

suggesting that typical domestic institutional investors barely provide foreign information guiding corporate managers' investment in foreign countries.

To provide further evidence that the foreign information disseminated by portfolio managers guides corporate managers' real decisions, I separate firms' foreign investment into foreign investment in emerging markets and foreign investment in developed markets.[31] Information in emerging markets is less accessible to corporate managers than information in developed markets. Thus, the learning by corporate managers should be stronger from foreign information in emerging markets. Consistent with this hypothesis, I find that the effect of the holdings by active U.S. international equity funds on the sensitivity of future foreign investment to current stock prices concentrate in the foreign investment in emerging markets.

Together, all the results in this section demonstrate that through disseminating foreign information, portfolio managers of active U.S. international equity funds increase U.S. multinationals' stock price informativeness, which in turn improves U.S. multinationals' real economic efficiency.

IX. Conclusion

In this paper, I study how foreign information disseminates across countries into stock prices. I find that portfolio managers of active U.S. international equity funds can use their gathered foreign information to trade U.S. multinationals' stocks. In doing so, these portfolio managers disseminate foreign information into U.S. multinationals' stock prices, earn substantial returns, and significantly increase U.S. multinationals' stock price informativeness.

The relation between information and stock prices is central to finance. A large body of literature studies the channels through which information disseminates into stock prices, but no study focuses on the dissemination of foreign information. As the economy becomes increasingly globalized, however, firms are competing on a global scale. Inevitably, firms' value is increasingly affected by foreign information. Therefore, understanding the channels of cross-border

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[31] I define the major advanced economies classified by the International Monetary Fund (IMF) as developed markets. The major advanced economies include Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. Other countries are emerging markets.

information dissemination becomes critical. This study contributes to the literature by providing the first insights into the channels of cross-border information dissemination.

Moreover, this paper contributes to the ongoing debate on the social costs and benefits of the active asset management industry. This paper focuses on U.S. multinational firms. Multinational firms have become the primary participants in the economy, and their operations in foreign countries are directly affected by foreign information. However, there are significant delays in incorporating foreign information into multinationals' stock prices because of investor inattention and lack of understanding of foreign information. Since firms use information encoded in market prices when making real investment decisions, such delays can cause severe real investment distortions and misallocations of resources across firms. The findings of this study suggest that the active international asset management industry can add substantial value to the economy by facilitating the stock price discovery on foreign information and improving multinationals' real economic efficiency.

While this study provides initial evidence on the channels of cross-border information dissemination, it by no means provides the last word. As time goes by, globalization will only increase the extent to which firms' value is affected by foreign information. Foreign information, however, is considerably less efficiently incorporated into asset prices than domestic information. In this study, I also show that even typical institutional investors cannot efficiently gather foreign information and incorporate it into stock prices. Thus, it is a challenging task to uncover and develop the mechanisms in capital markets to channel foreign information into asset prices. But doing so is invaluable to our economy. This study is intended to start a discussion on exploring the mechanisms to facilitate the dissemination of foreign information. This work focuses on multinational firms and stock prices. Future work could explore other mechanisms for channeling foreign information into multinationals' stock prices. Future research could also uncover how foreign information disseminates into purely domestic firms' stock prices, since these firms' value is also affected by foreign information through economic exposure. Moreover, future studies could investigate how foreign information disseminates into the prices of different types of financial assets.

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Figure 1. The definition of foreign-connected stocks. This figure uses an example to illustrate the definitions of foreign-connected stocks (FCSs), nonforeign-connected stocks (non-FCSs), and connected foreign sales. At the beginning of each quarter, I define stocks held by a fund of U.S. firms (without) with sales in the non-U.S. countries in which portfolio managers of the fund also invest as (non)foreign-connected stocks. I name the sales in the non-U.S. countries in which portfolio managers also invest as connected foreign sales. In the figure below, at the beginning of quarter t, Fund A holds Japanese stocks and U.S. stocks. Fund A invests in three U.S. stocks: Stock X, Stock Y, and Stock Z. The firm of Stock X has sales in Japan and the United States; the firm of Stock Y has sales in Germany and the United States; the firm of Stock Z has sales only in the United States. Since the firm of Stock X has sales in the non-U.S. country (Japan) in which portfolio managers of Fund A also invest, Stock X is an FCS of Fund A in quarter t. The sales in Japan are connected foreign sales. Stocks Y and Z are non-FCSs of Fund A in quarter t.
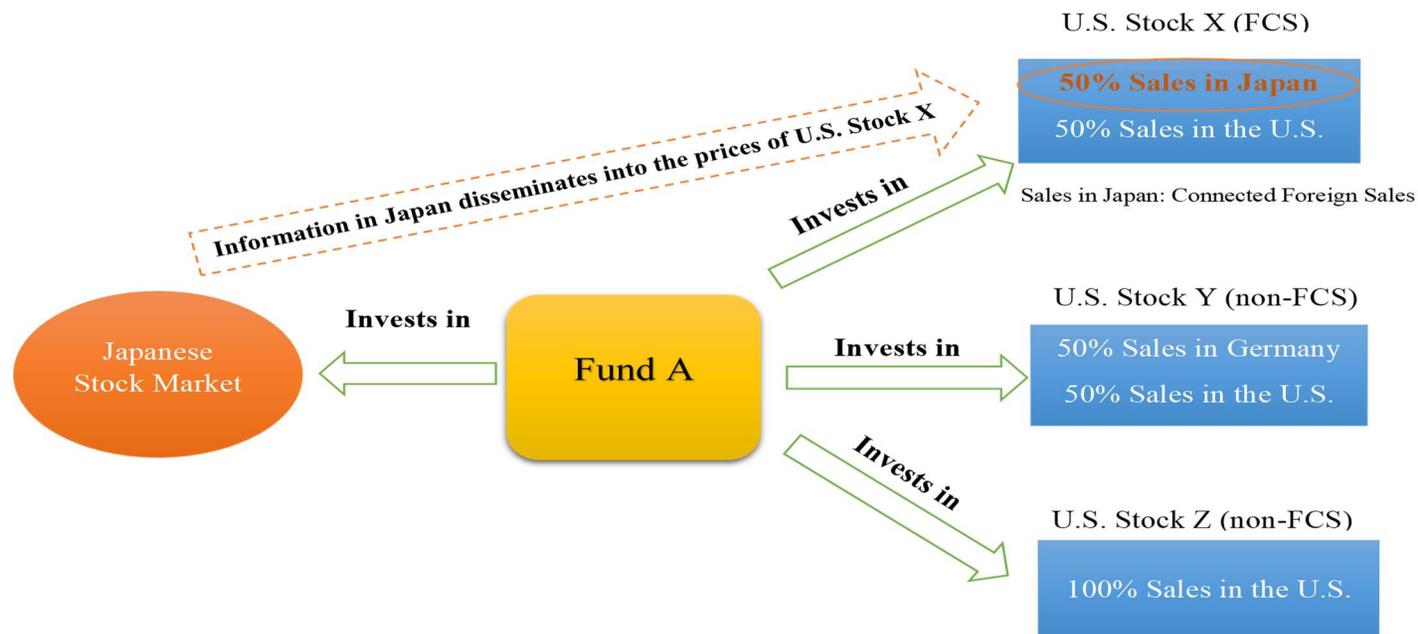
Table I
Summary Statistics

This table reports the summary statistics of active U.S. international equity mutual funds between 1999 and 2014. I refer to stocks of U.S. multinationals with sales in the non-U.S. countries in which a fund's portfolio managers also invest as foreign-connected stocks (FCSs), and to stocks of U.S. firms without such sales as nonforeign-connected stocks (non-FCSs). Both FCSs and non-FCSs are the stocks held by a fund, and a fund's U.S. stock holdings include only FCSs and non-FCSs. For FCSs, I also refer to sales in the non-U.S. countries in which portfolio managers also invest as connected foreign sales. Summary statistics regarding FCSs in this table are based on region-level connection. The definition of region-level connection is in Section I. In Panel A, I report the summary statistics of fund characteristics. No. of funds per quarter is the number of funds in the sample per quarter. Fund size is the total net assets of a fund in $million. No. of U.S. stocks per fund is the number of U.S. stocks held by each fund. % of total assets in U.S. stocks per fund is the percentage of total net assets invested in U.S. stocks per fund. % of funds that hold FCSs per quarter is the percentage of funds in the sample that hold FCSs. No. of FCSs per fund is the number of FCSs per fund among funds that hold FCSs. % of total assets in FCSs per fund is the percentage of total net assets invested in FCSs per fund among funds that hold FCSs. In Panel B, I report the summary statistics of U.S. stocks held by funds in the sample. % foreign sales per U.S. stock is the percentage of the firm's total sales in non-U.S. countries for a U.S. stock. % foreign sales per FCS is the percentage of the firm's total sales in non-U.S. countries for an FCS. % connected foreign sales per FCS is the percentage of the firm's total sales as connected foreign sales for an FCS. % shares outstanding as FCS per FCS is the percentage of shares outstanding of an FCS held by the funds in the sample as an FCS. Market value per FCS ($million) is the market value in $million for an FCS at the most recent fiscal year-end. No. of unique FCSs per quarter is the number of unique FCSs held by all the funds per quarter. FCS % coverage of CRSP universe per quarter is the total market value of unique FCSs held by all the funds divided by the total market value of U.S. common stocks included in CRSP per quarter. % of unique FCSs in S&P 500 per quarter is the percentage of unique FCSs held by all the funds that are S&P 500 constituents in a quarter.

Panel A: Fund Characteristics	Mean	Median	Standard Deviation
No. of funds per quarter	263	229	111
Fund size ($million)	1,729	209	6,780
No. of U.S. stocks per fund	30	13	81
% of total assets in U.S. stocks per fund	23%	20%	23%
% of funds that hold FCSs per quarter	57%	61%	19%
No. of FCSs per fund (among funds that hold FCSs)	7	3	15
% of total assets in FCSs per fund (among funds that hold FCSs)	5%	4%	4%

Panel B: Characteristics of U.S. Equity Holdings			
% foreign sales per U.S. stock	10%	0%	25%
% foreign sales per FCS	52%	46%	41%
% connected foreign sales per FCS	45%	35%	32%
% shares outstanding as FCS per FCS	0.8%	0.2%	1.9%
Market value per FCS ($million)	9,977	2,253	27,565
No. of unique FCSs per quarter	175	197	119
FCS % coverage of CRSP universe per quarter	12%	13%	7%
% of unique FCSs in S&P 500 per quarter	29%	31%	9%

Table II
Asset Allocations on Foreign-Connected Stocks

This table reports the asset allocations on FCSs. The dependent variable is a fund's dollar investments to one U.S. stock as a percentage of the fund's assets in all U.S. stock holdings at the end of the previous quarter. It is expressed in percentage (%). The definitions of FCSs and non-FCSs are in Table I. In Panel A, FCS is a dummy variable. It takes 1 for FCSs and 0 for non-FCSs. Book-to-market ratio is the ratio of book value per share to market price per share for a U.S. stock at the fiscal year-end before the end of the previous quarter. Past 12-month return is the cumulative return of a U.S. stock over the past 12 months till the beginning of each quarter. Market value, % foreign sales, Fund size, and % of assets in U.S. stocks are defined in Table I. I take the natural logarithm of the market value and fund size. And I conduct the tests on all three-level foreign connections of FCSs, which are defined in Section I. Morningstar assigns a category for each fund based on its investment objective. In Panel B, I use connected foreign sale and connected foreign sale^2 as independent variables of interest. Connected foreign sale^2 is the square of connected foreign sales. The tests in Panel B are based on country-level connection. For brevity, I do not report the coefficients on the same set of control variables and constants and constants for some tests in this table. In Model (1), I report the regression results without the control variables and fixed effects. In Model (2), I include the control variables, and category fixed effect and quarter fixed effect. In Model (3), I include the control variables and category × quarter fixed effect. In Model (4), I include the control variables, and fund family × quarter fixed effect. In Model (5), I focus on U.S. multinational equity holdings. Standard errors are clustered at the fund level. *T*-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: Asset Allocations on FCSs
Region-Level Connection

	(1)	(2)	(3)	(4)	(5) Multinationals
FCS	1.10***	1.00***	0.87***	1.03***	1.18***
	(4.67)	(5.00)	(4.95)	(5.21)	(5.92)
Log (market value)		0.25***	0.25***	0.12**	0.36***
		(4.67)	(5.27)	(2.38)	(5.58)
Book-to-market ratio		-0.46***	-0.43***	-0.58***	-0.62*
		(-2.70)	(-2.97)	(-3.89)	(-1.88)
Past 12-month return		0.21***	0.20***	0.27***	0.05
		(3.20)	(3.49)	(4.83)	(0.46)
% foreign sales		-0.99***	-0.94***	-1.03***	-0.60**
		(-4.19)	(-4.26)	(-5.24)	(-2.05)
Log (fund size)		-0.13	-0.16**	0.39***	-0.16*
		(-1.63)	(-2.21)	(2.78)	(-1.94)
% of assets in U.S. stocks		-0.17	-0.15	-0.28	-0.65
		(-1.14)	(-1.17)	(-1.33)	(-1.08)
Constant	3.37***	44.44***	2.37***	0.64	56.04***
	(11.72)	(2.81)	(3.65)	(0.81)	(3.70)
Observations	396,499	396,499	396,499	396,499	122,526
Adjusted R^2	0.0013	0.2865	0.3668	0.3456	0.2832
Category FE	NO	YES	NO	NO	YES
Quarter FE	NO	YES	NO	NO	YES
Category × Quarter FE	NO	NO	YES	NO	NO
Family × Quarter FE	NO	NO	NO	YES	NO

Country-Level Connection

	(1)	(2)	(3)	(4)	(5) Multinationals
FCS	2.51***	1.67***	1.50***	1.83***	1.96***
	(5.95)	(5.51)	(5.65)	(6.03)	(6.21)
Controls	YES	YES	YES	YES	YES
Observations	366,116	366,116	366,116	366,116	92,172
Adjusted R^2	0.0038	0.2959	0.3763	0.3443	0.3113
Category FE	NO	YES	NO	NO	YES
Quarter FE	NO	YES	NO	NO	YES
Category × Quarter FE	NO	NO	YES	NO	NO
Family × Quarter FE	NO	NO	NO	YES	NO

Country-Industry-Level Connection

	(1)	(2)	(3)	(4)	(5)
					Multinationals
FCS	2.15***	1.53***	1.27***	1.94***	1.85***
	(3.96)	(4.17)	(4.06)	(5.27)	(4.86)
Observations	353,496	353,496	353,496	353,496	79,581
Adjusted R^2	0.0019	0.2891	0.3744	0.3448	0.2836
Category FE	NO	YES	NO	NO	YES
Quarter FE	NO	YES	NO	NO	YES
Category × Quarter FE	NO	NO	YES	NO	NO
Family × Quarter FE	NO	NO	NO	YES	NO

Panel B: Connected Foreign Sales and Asset Allocations on FCSs

	(1)	(2)	(3)	(4)	(5)
					Multinationals
Connected foreign sales	11.14***	7.16***	6.60***	8.05***	7.64***
	(4.95)	(4.33)	(4.26)	(4.88)	(4.85)
Connected foreign sales^2	-8.64***	-4.44**	-3.93**	-5.90***	-4.61**
	(-3.22)	(-2.15)	(-2.02)	(-3.20)	(-2.30)
Controls	YES	YES	YES	YES	YES
Observations	366,116	366,116	366,116	366,116	92,172
Adjusted R^2	0.0031	0.2958	0.3764	0.3440	0.3107
Category FE	NO	YES	NO	NO	YES
Quarter FE	NO	YES	NO	NO	YES
Category × Quarter FE	NO	NO	YES	NO	NO
Family × Quarter FE	NO	NO	NO	YES	NO

Table III
Significant Earthquakes and Asset Allocations

This table reports how significant earthquakes affect the asset allocations on FCSs. The regressions follow the settings in Table II. Earthquake_con is a dummy variable. It takes 1 if any significant earthquakes occur during the previous quarter in the non-U.S. countries in which multinationals of FCSs have sales and portfolio managers also invest. Earthquake_noncon is a dummy variable. It takes 1 if significant earthquakes occur during the previous quarter only in the non-U.S. countries in which multinationals of FCSs have sales but portfolio managers do not invest. Since only for FCSs, Earthquake_con or Earthquake_noncon can possibly take the value of 1, these two variables are absorbed in the following regression analyses. Earthquake_con_impact is the number of earthquakes that occurred during the previous quarter in one non-U.S. country in which multinationals of FCSs have sales and portfolio managers also invest scaled by the total land area of the country. If earthquakes occur in multiple non-U.S. countries, I take the sum. Earthquake_noncon_impact is defined similarly but focuses on earthquakes in the non-U.S. countries in which multinationals of FCSs have sales, but portfolio managers do not invest. I conduct the tests based on the country-level connection. For brevity, I do not report the coefficients on control variables and constants. I include category fixed effect and quarter fixed effect. Standard errors are clustered at the fund level. T-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

FCS	1.97***	1.78***	1.65***	1.67***
	(5.46)	(5.44)	(5.40)	(5.50)
FCS * Earthquake_con	-0.85**			
	(-2.17)			
FCS *Earthquake_con_impact		-14.60**		
		(-2.04)		
FCS * Earthquake_noncon			0.98	
			(1.23)	
FCS * Earthquake_noncon_impact				2.50
				(0.13)
Controls	YES	YES	YES	YES
Observations	366,116	366,116	366,116	366,116
Adjusted R^2	0.2960	0.2959	0.2959	0.2959
Category FE	YES	YES	YES	YES
Quarter FE	YES	YES	YES	YES

Table IV
Performance of Foreign-Connected Stocks

This table presents the monthly performance of FCSs. At the beginning of each calendar quarter, the long-short portfolio buys FCSs and sells short non-FCSs. The definitions of FCSs and non-FCSs are in Table I. I assume funds keep their holdings reported at the end of the previous quarter in the following quarter. For the long side of the long-short portfolio, within a fund, each FCS is weighted by the fund's dollar holdings of this stock as a fraction of the fund's total dollar holdings of all FCSs. For the short side, within a fund, each non-FCS is weighted by the fund's dollar holdings of this stock as a fraction of the fund's total dollar holdings of all non-FCSs. Finally, I compute monthly returns of the long-short portfolio by averaging across funds, weighting individual fund's portfolios by the fund's total assets as a fraction of the total assets of all funds in each side. Portfolios are rebalanced every quarter to maintain value-weighted. I conduct the tests on all three-level foreign connections of FCSs: region-level connection, country-level connection, and country-industry-level connection. The definitions of the three-level foreign connections are in Section I. I report the Fama-French Market, SMB, HML, MOM, RMW, and CMA factors plus liquidity factor (LIQ) adjusted returns and the results by replacing the sell side with one-month U.S. Treasury bills. For brevity, I omit the factor loadings for results of country-level and country-industry-level connections. Robust *t*-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Region-Level Connection

	FCS – non-FCS			FCS – T bill		
	4-Factor	5-Factor	6-Factor	4-Factor	5-Factor	6-Factor
Alpha	0.0069**	0.0069**	0.0079***	0.0052**	0.0052**	0.0057**
	(2.37)	(2.37)	(2.72)	(2.03)	(2.02)	(2.23)
MKT	-0.1516*	-0.1581*	-0.1931**	0.9753***	0.9734***	0.9552***
	(-1.83)	(-1.86)	(-2.24)	(15.32)	(14.52)	(13.07)
SMB	0.0452	0.0471	0.0737	0.2288**	0.2293**	0.2464**
	(0.40)	(0.43)	(0.49)	(2.32)	(2.38)	(2.01)
HML	-0.5413***	-0.5411***	-0.3767***	-0.3934***	-0.3933***	-0.3094***
	(-4.71)	(-4.72)	(-2.71)	(-3.83)	(-3.82)	(-2.69)
UMD	-0.1475	-0.1474	-0.1286	-0.1765**	-0.1765**	-0.1670**
	(-1.37)	(-1.37)	(-1.20)	(-2.25)	(-2.25)	(-2.11)
RMW			-0.0192			-0.0037
			(-0.13)			(-0.03)
CMA			-0.3566**			-0.1863
			(-1.98)			(-1.22)
LIQ		0.0140			0.0042	
		(0.28)			(0.09)	
Observations	192	192	192	192	192	192
Adjusted R^2	0.1642	0.1601	0.1725	0.6946	0.6930	0.6935

Country-Level Connection

	FCS – non-FCS			FCS – T bill		
	4-Factor	5-Factor	6-Factor	4-Factor	5-Factor	6-Factor
Alpha	0.0080**	0.0080**	0.0103***	0.0064*	0.0064*	0.0081**
	(2.08)	(2.08)	(2.72)	(1.80)	(1.80)	(2.33)
Observations	192	192	192	192	192	192
Adjusted R^2	0.0987	0.0952	0.1111	0.5395	0.5374	0.5410

Country-Industry-Level Connection

	FCS – non-FCS			FCS – T bill		
	4-Factor	5-Factor	6-Factor	4-Factor	5-Factor	6-Factor
Alpha	0.0100**	0.0100**	0.0106**	0.0084**	0.0084**	0.0084**
	(2.30)	(2.30)	(2.53)	(2.04)	(2.03)	(2.11)
Observations	192	192	192	192	192	192
Adjusted R^2	0.0504	0.0460	0.0565	0.3939	0.3909	0.3932

Table V
Mechanisms

This table presents several tests that analyze the mechanisms behind the performance of FCSs. The long-short portfolio buys FCSs and sells short one-month U.S. Treasury bills. The monthly calendar time portfolio tests follow the setting in Table IV. I categorize FCSs into groups based on various metrics: (1) I categorize FCSs into two groups: FCSs with expansion in foreign operations and FCSs without expansion in foreign operations. FCSs with expansion in foreign operations are the FCSs of multinationals with increases in connected foreign sales because of expansion in foreign operations in the previous fiscal years. FCSs without expansion in foreign operations are the FCSs of multinationals without increases in connected foreign sales because of expansion in foreign operations in the previous fiscal years. (2) I categorize FCSs into three groups: FCSs whose connected foreign sales account for <5% of a firm's total sales, FCSs whose connected foreign sales account for between 5% and 50% of a firm's total sales, and FCSs whose connected foreign sales account for >50% of a firm's total sales. (3) I split FCSs into two groups: winning-country-connected stocks and losing-country-connected stocks. Winning-country-connected stocks are the FCSs with at least 50% of connected foreign sales in countries that at least one manager of the fund outperforms the corresponding markets in a quarter. Losing-country-connected stocks are the FCSs with less than 50% of connected foreign sales in countries that at least one manager of the fund outperforms the corresponding markets in a quarter. (4) I split FCSs into two groups: FCSs with above-median connected country weights and FCSs with below-median connected country weights. Connected country weights for an FCS are the percentage of funds' total assets in stocks of the non-U.S. countries in which the FCS has sales and managers also invest. (5) I define two groups of FCSs: Canada and U.K.-connected stocks and China and Japan-connected stocks. Canada and U.K.-connected stocks are FCSs with more than 50% of connected foreign sales in either Canada or the United Kingdom. China and Japan-connected stocks are FCSs with more than 50% of connected foreign sales in either China or Japan. All the tests in this table are based on the country-level connection. The definition of the country-level connection is in Section I. I report the Fama-French Market, SMB, HML, MOM, RMW, and CMA factors adjusted six-factor alphas. For brevity, I do not report the loadings on factors. Robust *t*-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

	Expansion in foreign operations	No expansion in foreign operations	Connected foreign sales <5% of total sales	Connected foreign sale between 5% and 50% of total sales	Connected foreign sales >50% of total sales
	6-Factor	6-Factor	6-Factor	6-Factor	6-Factor
Alpha	0.0083**	0.0016	0.0020	0.0083***	0.0043
	(2.36)	(0.32)	(0.54)	(2.63)	(0.49)
Observations	192	183	180	192	180
Adjusted R^2	0.5248	0.3581	0.4219	0.6184	0.3435

	Winning-country-connected stocks	Losing-country-connected stocks	Above-median connected country weights	Below-median connected country weights	Canada and U.K.-connected stocks	China and Japan-connected stocks
	6-Factor	6-Factor	6-Factor	6-Factor	6-Factor	6-Factor
Alpha	0.0092**	0.0063	0.0150***	0.0051	0.0108**	0.0183*
	(2.48)	(1.38)	(3.10)	(1.59)	(1.99)	(1.74)
Observations	192	180	192	192	180	180
Adjusted R^2	0.4906	0.6033	0.3185	0.6390	0.4064	0.4094

Table VI
Trading Foreign-Connected Stocks

This table presents the performance of FCSs after portfolio managers purchase or sell them. The monthly calendar time portfolio tests follow the setting in Table IV. Definitions of FCSs and non-FCSs are in Table I. In Panel A, the long-short portfolio buys FCSs purchased by funds in the previous quarter and sells short non-FCSs purchased by fund in the previous quarter. In Panel B, the long-short portfolio buys FCSs sold by funds in the previous quarter and sells short non-FCSs sold by funds in the previous quarter. In Panel A, the long-short portfolio is constructed based on the asset allocations at the beginning of the current quarter. In Panel B, the long-short portfolio is constructed based on the asset allocations at the beginning of the previous quarter. The tests in this table are based on the country-level connection, which is defined in Section I. I report raw returns, the Fama-French Market, SMB, HML, and MOM factors adjusted return, and the Fama-French Market, SMB, HML, MOM, RMW, and CMA factors adjusted return. I also report the results of the long-short portfolio that buys FCSs and sells short one-month U.S. Treasury bills. For brevity, I do not report the loadings on factors. In Panel A and B, for each stock, I further categorize months into the ones with earnings announcements and the ones without earnings announcements. I report the performance of the long-short portfolio based on monthly returns in months with or without earnings announcements, respectively. Robust t-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: FCSs and non-FCSs Purchased by Portfolio Managers

	All months		Months with earnings announcements		Months without earnings announcements	
	FCS – non-FCS 6-Factor	FCS – T bill 6-Factor	FCS – non-FCS 6-Factor	FCS – T bill 6-Factor	FCS – non-FCS 6-Factor	FCS – T bill 6-Factor
Alpha	0.0105***	0.0105***	0.0119*	0.0150**	0.0088**	0.0067*
	(2.67)	(2.92)	(1.75)	(2.40)	(2.03)	(1.66)
Observations	192	192	192	192	192	192
Adjusted R^2	0.0980	0.5859	0.0624	0.4434	0.1096	0.5754

Panel B: FCSs and non-FCSs Sold by Portfolio Managers

	All months		Months with earnings announcements		Months without earnings announcements	
	FCS – non-FCS 6-Factor	FCS – T bill 6-Factor	FCS – non-FCS 6-Factor	FCS – T bill 6-Factor	FCS – non-FCS 6-Factor	FCS – T bill 6-Factor
Alpha	-0.0002	-0.0018	0.0017	0.0058	-0.0082**	-0.0102**
	(-0.04)	(-0.48)	(0.23)	(0.89)	(-2.10)	(-2.53)
Observations	192	192	192	192	192	192
Adjusted R^2	0.0052	0.5453	0.0336	0.3488	0.0168	0.5058

Table VII
Cross-Border Mergers

This table presents the performance of FCSs around the announcements of cross-border mergers. I focus on FCSs of U.S. multinationals acquire non-U.S. targets in the countries in which U.S. multinationals have sales and portfolio managers also invest. The monthly calendar time portfolio tests follow the setting in Table IV. The long-short portfolio sells short one-month U.S. Treasury bills. First, I examine the performance of the FCSs purchased by portfolio managers in the quarter when the mergers are announced. Second, I examine the performance of the FCSs that portfolio managers sell in the quarter when the mergers are announced. All the tests in this table are based on the country-level connection, which is defined in Section I. I present the performance of FCSs in the quarter when the mergers are announced (quarter 0), in the first quarter after the announcements (quarter 1), and in the second quarter after the announcements (quarter 2). I use the asset allocations at the beginning of quarter 1 for all the tests of FCSs purchased by portfolio managers and the asset allocations at the beginning of quarter 0 for all the tests of FCSs sold by portfolio managers. I report the Fama-French Market, SMB, HML, MOM, RMW, and CMA factors plus liquidity factor (LIQ) adjusted 6-factor alphas. For brevity, I do not report the loadings on factors. Robust t-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

	FCSs purchased after the announcements			FCSs sold after the announcements		
	6-Factor	6-Factor	6-Factor	6-Factor	6-Factor	6-Factor
	Quarter 0	Quarter 1	Quarter 2	Quarter 0	Quarter 1	Quarter 2
Alpha	-0.0069	0.0156**	-0.0001	-0.0034	-0.0013	-0.0150*
	(-1.27)	(2.07)	(-0.02)	(-0.45)	(-0.18)	(-1.69)
Observations	106	106	106	102	102	102
Adjusted R^2	0.4298	0.3821	0.3214	0.2795	0.4630	0.3929

Table VIII
Performance of Funds that Hold Foreign-Connected Stocks

This table presents the performance of funds that hold FCSs. In Panel A, at the beginning of each calendar quarter, the long-short portfolio buys funds that hold FCSs and sells short funds that do not hold any FCSs. I weight individual fund portfolio by the fund's total assets as a fraction of the total assets of all funds in each side. Portfolios are rebalanced every quarter to maintain value-weighted. I use funds' raw returns (net of fee returns plus 1/12 annual expense ratio) and net of fee return in this table. I report the Fama-French global Market, SMB, HML, MOM, RMW, and CMA factors adjusted returns. I also report the results of the long-short portfolio that buys funds with FCSs and sells short one-month Treasury bills. In Panel B, I compare the performance difference between FCSs and the corresponding funds. I subtract each fund's raw monthly returns from the monthly returns of the fund's portfolio of FCSs. I report the Fama-French global or U.S. Market, SMB, HML, MOM, RMW, and CMA factors adjusted returns. For brevity, I do not report the loadings on factors. The results in this table are based on the country-level connection, which is defined in Section I. Robust t-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: Fund Performance

| | Funds with FCSs – Funds without FCSs | | | | Funds with FCSs – T bill | | | |
| | Raw Return | | Net of Fee Return | | Raw Return | | Net of Fee Return | |
Global Factors	4-Factor	6-Factor	4-Factor	6-Factor	4-Factor	6-Factor	4-Factor	6-Factor
Alpha	0.0017*	0.0029***	0.0016*	0.0029***	0.0013	0.0021**	0.0004	0.0011
	(1.75)	(3.30)	(1.77)	(3.22)	(1.44)	(2.15)	(0.42)	(1.18)
Observations	192	192	192	192	192	192	192	192
Adjusted R^2	0.2395	0.3812	0.2379	0.3805	0.9387	0.9412	0.9390	0.9414

Panel B: Performance Difference between FCSs and the Corresponding Funds

Global Factors	4-Factor	6-Factor	U.S. Factors	4-Factor	6-Factor
Alpha	0.0090**	0.0100**	Alpha	0.0057*	0.0070**
	(2.30)	(2.43)		(1.69)	(2.08)
Observations	192	192		192	192
Adjusted R^2	0.1135	0.1153		0.0967	0.1038

Table IX
Stock Price Informativeness

This table presents the stock price informativeness of FCSs. Stock price informativeness is measured based on the approach proposed by Bai, Philippon, and Savov (2016), which reflects the extent to which current stock prices predict a firm's earnings in the future. The analyses in this table include all U.S. nonfinancial common stocks from 1999 to 2014. The dependent variable is $E_{i,t+h}/A_{i,t}$. $E_{i,t+h}$ is firm i's earnings before interest and taxes (EBIT) in year $t+h$. $A_{i,t}$ is firm i's total assets in year t. $M_{i,t}$ is firm i's market capitalization in year t. I take stock prices as of the end of March and accounting variables as of the end of the previous fiscal year, typically December. Holding_FCS$_{i,t}$ is the percentage of total shares outstanding of firm i that are held by active U.S. international equity funds as an FCS in year t. Holding_FCS$_{i,t}$ is based on the average percentage in the previous four quarters before the end of March each year. For one U.S. stock that is not held by any active U.S. international equity funds as an FCS in the previous four quarters, Hold_FCS$_{i,t}$ is zero. The definitions of FCSs and non-FCSs are in Table I. Hold_Inst$_{i,t}$ is firm i's total institutional ownership as a percentage of total shares outstanding and is based on the average in the previous four quarters before the end of March each year. Other control variables are defined in Table I. The results in this table are based on the country-level connection, which is defined in Section I. I include U.S. nonfinancial common stocks in the tests. In Panel A, I present the baseline results. In Panel B, I split FCSs into two groups: FCSs with foreign sales accounting for between 5% and 50% of total sales, and FCSs with foreign sales accounting for larger than 50% or smaller than 5%. of total sales. I report the results by including only one group of FCSs and other U.S. common stocks. In Panel B, I also report the results based on only U.S. multinationals' stocks. For brevity, I do not report the coefficients on control variables and constants. For all the regressions, I include industry × year fixed effect. Industry is defined as two-digit SIC code. Standard errors are clustered at the firm level. *T*-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: Stock Price Informativeness, Baseline Results

	$E_{i,t+1}/A_{i,t}$	$E_{i,t+2}/A_{i,t}$	$E_{i,t+3}/A_{i,t}$	$E_{i,t+4}/A_{i,t}$	$E_{i,t+5}/A_{i,t}$
$Log(M_{i,t}/A_{i,t})$	-0.0006	-0.0101***	-0.0138***	-0.0140***	-0.0146***
	(-1.06)	(-12.15)	(-13.11)	(-4.99)	(-10.69)
$Log(M_{i,t}/A_{i,t})$ * $Holding\_FCS_{i,t}$	0.4374**	0.7419**	0.7565**	0.5614**	0.4380
	(1.96)	(2.03)	(2.26)	(2.05)	(0.68)
$Holding\_FCS_{i,t}$	-0.1111	-0.0520	0.4337*	0.5278	0.7220**
	(-0.64)	(-0.19)	(1.70)	(1.41)	(2.04)
$E_{i,t}/A_{i,t}$	0.7730***	0.6449***	0.5686***	0.5132***	0.4726***
	(202.45)	(113.34)	(81.80)	(12.15)	(52.16)
$Log(A_{i,t})$	0.0071***	0.0087***	0.0096***	0.0100***	0.0103***
	(31.54)	(24.94)	(22.22)	(9.64)	(19.11)
% foreign sales	0.0067***	0.0126***	0.0122***	0.0165	0.0212***
	(2.80)	(3.54)	(2.74)	(1.51)	(3.79)
$Log(M_{i,t}/A_{i,t})$ * $Holding\_Inst_{i,t}$	0.0206***	0.0272***	0.0288***	0.0283***	0.0296***
	(18.01)	(16.05)	(13.70)	(10.89)	(11.04)
$Holding\_Inst_{i,t}$	0.0135***	0.0195***	0.0200***	0.0191***	0.0180***
	(10.76)	(9.83)	(8.12)	(6.11)	(5.74)
Constant	-0.0432***	-0.0511***	-0.0524***	-0.0509***	-0.0487***
	(-35.26)	(-27.64)	(-22.92)	(-9.05)	(-16.48)
Observations	109,879	99,087	89,963	81,207	72,758
Adjusted R-squared	0.6914	0.5548	0.4839	0.4344	0.4007
Industry × Year FE	YES	YES	YES	YES	YES

Panel B: Foreign Sales and Stock Price Informativeness

	FCS with 5%<=Foreign Sales/Total Sales<=50%				FCS with Foreign Sales/Total Sales<5% or >50%			
	+ other U.S. stocks				+ other U.S. stocks			
	All Firms		*Multinationals*		*All Firms*		*Multinationals*	
	$E_{i,t+1}/A_{i,t}$	$E_{i,t+3}/A_{i,t}$	$E_{i,t+1}/A_{i,t}$	$E_{i,t+3}/A_{i,t}$	$E_{i,t+1}/A_{i,t}$	$E_{i,t+3}/A_{i,t}$	$E_{i,t+1}/A_{i,t}$	$E_{i,t+3}/A_{i,t}$
$Log(M_{i,t}/A_{i,t})$	-0.0006	-0.0140***	0.0029	-0.0087***	-0.0006	-0.0139***	0.0036*	-0.0078**
	(-1.14)	(-13.21)	(1.37)	(-2.83)	(-1.11)	(-13.14)	(1.65)	(-2.44)
$Log(M_{i,t}/A_{i,t})$ * Holding_FCS$_t$	0.6216***	1.3836***	0.4614*	1.5238***	0.2755	0.3370	0.2228	0.0234
	(2.73)	(3.47)	(1.94)	(2.95)	(0.94)	(0.92)	(0.76)	(0.08)
Holding_FCS$_t$	-0.0361	0.2538	-0.0861	-0.4089	-0.2542	0.4607	-0.2127	0.1617
	(-0.17)	(0.92)	(-0.41)	(-1.09)	(-1.02)	(1.23)	(-0.86)	(0.44)
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Observations	109,316	89,476	8,662	8,083	109,085	89,259	8,555	7,980
Adjusted R-squared	0.6911	0.4836	0.7139	0.5792	0.6909	0.4830	0.7108	0.5721
Industry × Year FE	YES	YES	YES	YES	YES	YES	YES	YES