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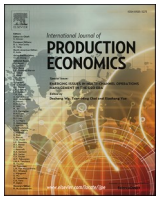

Is there a home field advantage? The impact of shareholder wealth from U. S. manufacturing location decisions: A comparative analysis☆

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ABSTRACT

The manufacturing location decision is inherently complex, resulting in supply chain tradeoffs between high-cost and low-cost manufacturing locations. Optimizing this decision can result in a firm's ability to be more profitable. Using the eclectic theory of international production, we use a short-term event study to investigate the impact on shareholder wealth after firms announce their manufacturing location decision. Our study uses 329 manufacturing location announcements and offers a comparative analysis to investigate the stock price impact for U.S. firms (n = 100) and foreign firms (n = 229) reshoring, relocating, or expanding manufacturing operations in the U.S. We find that there is a significantly more positive abnormal stock market return when U.S. firms announce the U.S. as a manufacturing location compared to when foreign firms make similar announcements. In addition, we offer specific conditions under which U.S. and foreign returns will be higher or lower than average, providing insight for managers, investors, and legislators.

1. Introduction

Given the continued turbulent environmental, political, and economic climates, making strategic location decisions has become increasingly difficult for manufacturing firms. These complex decisions require manufacturers to consider a multitude of complex and rapidly changing variables that play an important role in the organization's overall competitiveness (Tate et al., 2014). While pursuing low cost manufacturing locations has been an attractive strategy for manufacturers over the last 50 years (da Silveira, 2014), offshore manufacturing has proved to be more difficult and more expensive than previously expected for many firms (Ellram et al., 2013; Larsen et al., 2013; Tate, 2014). As a result, there is considerable evidence that companies headquartered in the U.S. are reshoring (relocating) manufacturing work back to the U.S. and are selecting the U.S. as a manufacturing location when expanding operations (Moser, 2021; Tate, 2014). Furthermore, foreign firms headquartered overseas also have shown a strategic willingness to relocate their manufacturing operations to the U. S. and an increased interest in selecting U.S. manufacturing locations in their expansion plans (Chung and Alcácer, 2002; Moser, 2021).

Various studies have attempted to capture and to assess top management motivations and benefits in moving from what have been considered low-cost manufacturing locations back to high-cost manufacturing locations (Brandon-Jones et al., 2017; Foerstl et al., 2016; Fratocchi et al., 2016; Zhai et al., 2016). These studies have uncovered valuable themes identifying the range of factors motivating the reshoring decision (Foerstl et al., 2016; Fratocchi et al., 2016), yet the results of these studies tend to be exploratory and based on small samples consisting of specific industries or geographies rather than considering a broader global manufacturing landscape. Consequently, much remains unknown about the reshoring context and the factors that are most promising to investors. Moreover, within this reshoring literature, significant emphasis is placed on U.S. manufacturing jobs lost over the last four decades, and thus, much attention is placed on bringing these jobs back to the U.S. Yet, even more important is creating a manufacturing climate that is attractive to all manufacturers, including capturing expansion opportunities (growth) of manufacturers currently manufacturing in the U.S., as well as foreign companies with an interest in relocating manufacturing operations to the U.S. According to the Organization for Economic Co-operation and Development (OECD), in 2020, Foreign Direct Investment (FDI) in the U.S. accounted for 164.4 billion dollars (OECD, 2021). This is, indeed, a significant and often overlooked area of economic opportunity. As a result, it is imperative to understand as much as possible about how and why these decisions are

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made and the impact these decisions have on the value of firms.

Similar to Wan et al. (2019), we defined U.S. firms as firms that are headquartered in the U.S. and defined foreign firms as firms that are headquartered in a country outside of the U.S. We believe this is a reliable definition to capture the differences among firms, because empirical research has found that more than 90% of firms are headquartered and keep their core operations in countries where they are founded (Ghemawat, 2007; Mcgahan and Victer, 2010; Noorderhaven and Harzing, 2003). Even for multinational companies operating in global environments, officially moving their corporate headquarters to another country is relatively rare (Wan et al., 2019).

On the surface, it appears that a location shift or expansion opportunity should result in similar benefits for both U.S. firms and foreign firms. For example, the decision to move from an overseas country to the U.S. seems to offer comparable opportunities for firms locating in the same geographical area with access to the same free market economy. Yet, there is a growing body of anecdotal evidence and literature to suggest that operating in an overseas market may be less fruitful than expected. First, the fact that an increasing number of U.S. manufacturers find themselves reshoring manufacturing from an overseas country to their home countries is an indicator (Moser, 2021). Second, finding local expertise (supply chain partners), and having less knowledge of the local market, may be more expensive and more capital intensive for foreign firms than domestic firms, thereby negatively affecting earnings. There also is a small amount of research to suggest that locating manufacturing in an overseas country is more difficult than anticipated (Larsen et al., 2013; Wan et al., 2019). Larsen et al. (2013) found that organizations make cost estimation errors due to the complexity of operating in an overseas country. In addition, Wan et al. (2019) found that home country advantages manifest themselves through institutional and cultural/cognitive factors. Because foreign firms may have less access to more formal institutions and less familiarity with cultural/cognitive practices in the U.S., evidence suggests that they may be at a comparative disadvantage.

The lack of research investigating the comparative impact of reshoring and FDI announcements on shareholder wealth merits a more thorough study. In addition, more analysis pertaining to how location decisions are made could offer additional insight into how these firms globally allocate manufacturing capital and how investors interpret their management decisions. The research questions that we explore in this study are: First, do investors respond favorably to the announcements of manufacturing firms locating operations in the U.S.? Second, what are the factors that result in more or less investor optimism? Third, do investors react more favorably to U.S. location announcements of U.S. manufacturing firms compared to U.S. location announcements of foreign manufacturing firms?

Using an event study methodology, we explore these research questions in four steps: First, we measure the cumulative abnormal stock returns for U.S. firms and foreign firms after a public announcement is made selecting the U.S. as a manufacturing location. Second, using a 2 × 2 matrix, we further dissect our sample to test four unique announcement contexts considering the headquarters of the firm making the announcement (U.S. vs. foreign country) and if the firm's capacity is stable or increasing at the time of the announcement. If there was evidence that capacity was stable (or decreasing), we identified this as a location shift. If there was evidence that capacity was increasing, we identified this as expansion. As such, our four categories (Table 1) include the following: 1) U.S. Reshoring (U.S. firms bringing jobs back to the U.S. from an overseas location), 2) FDI Relocation (foreign firms shifting jobs from their home country to the U.S.), 3) U.S. Expansion (U.S. firms adding jobs in the U.S.), and 4) FDI Expansion (foreign firms already operating in the U.S. adding jobs in the U.S.).

Table 1
Four categories of announcements.

Capacity	U.S. Firm	Foreign Firm
Stable (or decreasing)	(1) U.S. Reshoring	(2) FDI Relocation
Increasing	(3) U.S. Expansion	(4) FDI Expansion

Third, based on the eclectic theory of international production (Dunning, 1980, 1998) and signaling theory (Spence, 1974), we investigate the rationale provided by firms reshoring or relocating to offer insight into entry mode strategies that might be most promising to investors. Fourth, we use comparative hypotheses and measure the difference in cumulative abnormal stock market returns between U.S. and foreign location announcements. Finally, in a post-hoc analysis, we investigate contextual variables such as the reasons for moving capacity/jobs to the U.S., the industry of the firm, and the country where the firm was headquartered to provide additional insight into management decisions and the strategies investors find most promising. This information and our descriptive statistics help to create a profile of firms that are most likely to reshore or to relocate to the U.S., thereby offering government agencies and legislators insight into which firms to target. Our sample of announcements spans ten years (2010–2019) and includes 329 firms competing in 22 different manufacturing industries.

In this paper, our event study results show that investors reacted favorably when U.S. firms announced manufacturing location decisions. On the other hand, we did not find that investors responded favorably when foreign firms announced the U.S. as a manufacturing location. In addition, using the eclectic theory classifications, we found that investors responded more favorably to U.S. firms when they reshored for strategic seeking advantages and less favorably when they reshored for resource seeking advantages. In addition, investors responded more favorably when foreign firms relocated for efficiency seeking advantages and less favorably when they relocated for market seeking advantages. Finally, our post hoc analysis offers interesting motivational, governance, and country specific trends that investors find most promising.

The remainder of this paper is organized as follows: In section 2, we present our hypotheses. In section 3, we discuss our sample of announcements and the event study methodology. In section 4, we present our results. In section 5, we include a discussion of the contributions of our study, the limitations, and suggestions for future research.

2. Hypotheses

Significant research already exists to understand a company's manufacturing location decision (Ellram et al., 2013; MacCarthy and Atthirawong, 2003; Tate et al., 2014). The literature shows that firms make decisions to capture location advantages, yet because of the complexity associated with this decision, costs and the benefits are multifaceted (Fratocchi et al., 2016; Moore et al., 2018; Piatanesi and Arauzo-Carod, 2019; Zhai et al., 2016) and can change over time (Vestring et al., 2005).

Because relocating from low-cost countries to high-cost countries is a relatively new phenomenon, only a few studies detailing short-term outcomes are available. Brandon-Jones et al. (2017) identified the link between reshoring announcements and a positive stock market reaction. In addition, Grappi et al. (2020) found a positive link between reshoring activity and the market response (positive word of mouth, willingness to buy, and advocacy behavior). Furthermore, Johansson and Olhager (2018) found that cost factors, market proximity factors, and developing manufacturing competence positively contributed to better operational performance for Swedish manufacturers. Finally, Stentoft et al. (2016) did not find any relationship between offshoring or reshoring activities and cost performance or operational performance. Although these studies offer valuable contributions, they offer an incomplete view of the potential impact that locating in a high-cost country might have on firm profitability.

Manufacturing location decisions can affect the profitability and operating performance of a firm. Historically, low-cost manufacturing locations offered firms cost advantages. For example, in 2004, hourly compensation costs in China were only three percent of the U.S. labor

costs (Lett and Banister, 2006). In addition, adequate infrastructure and access to shipping ports provide firms the ability to ship manufactured product to developed countries for either further processing or consumption. More recently, however, operating offshore locations has proven to be more complex. For example, in many overseas countries, labor costs have risen some 200 percent, thereby increasing the unit cost of products; product lifecycles have become more compressed, resulting in more obsolete inventory at different points in the supply chain; and the risk of potential intellectual property theft and the cost of tariffs have resulted in overseas operating environments that are less attractive and more uncertain than the operating environments when the offshoring decision was made (Barbieri et al., 2018). At the same time, the U.S. manufacturing environment has remained relatively stable. Since the great recession (2007–2009), U.S. labor costs and hourly manufacturing rates have stabilized (Bureau of Labor Statistics, 2020), and manufacturing firms have increased the rate of capital investment in both manufacturing equipment and structures (United States Census Bureau, 2019). Over time, while the manufacturing costs in developing countries have increased, the manufacturing costs in the U.S. have increased at a much lower rate. As a result, the U.S. has increased in relative competitiveness as a manufacturing location destination, and firms have signaled their willingness to locate manufacturing in the U.S.

In signaling theory (Spence, 1974), investors rely on firms to communicate information to investors about the firms' strategic management decisions. Adequate communication allows for the reduction of information asymmetry in the firm/investor relationship and provides the opportunity for investors to calculate the future financial prospects of the firm. In our research context, the firm has made a management decision to locate manufacturing in the U.S. (signaler). The firm then releases that communication into the public domain, sending a signal to investors. The investor (receiver) observes and interprets that signal, and then sends a signal back to the firm by buying or selling the stock (Connelly et al., 2011). In the following sections, we describe the signal that firms are communicating to investors and how it is likely to be interpreted based on a grounded understanding of the eclectic theory of international production.

U.S. firms reentering the U.S. manufacturing market may benefit from past manufacturing experience and relocation to their home market. Research shows that even though manufacturers have offshored manufacturing in the past, 90 percent of these firms have kept core operations in countries where they were founded (Ghemawat, 2007). In addition, Mcgahan and Victer (2010) found a strong relationship between operating in one's home country and corporate profitability, i.e., domestic firms have specific advantages as a result of institutional experience and learning, resource acquisition, and more accommodative government policies. These factors could result in manufacturing efficiencies through economies of scale and strategic advantages in the firm's ability to respond to the market more quickly. As a result, following the research of Brandon-Jones et al. (2017), we hypothesize that reshoring announcements will result in a positive signal to investors and will result in positive abnormal stock returns. Similar to past event studies making incremental contributions (Baghersad and Zoebel, 2021; Schmidt et al., 2020), we present this hypothesis given our updated data set as well as to provide a baseline for subsequent comparative analysis.

H1. *When U.S. firms announce manufacturing reshoring from an overseas country back to the U.S. (U.S. Reshoring), the abnormal stock returns will be positive and significant.*

The U.S. market also can be attractive for foreign firms manufacturing products in another country. As a form of FDI, these manufacturers perceive advantages in the U.S. market to be greater than the advantages of the markets where they currently are manufacturing product. The U.S. historically has been an attractive manufacturing location for a number of reasons. First, Wan et al. (2019) found that the U.S. has offered more incentives and national policies to encourage manufacturing relocation than any other country. In addition, the 2021 Foreign Direct Investment Confidence Index report by Kearney (2021) found that investors have valued the U.S. as the number one location for manufacturing FDI for the 9th consecutive year, offering the following rationale for the findings: 1.) Low tax rates and ease of payments. 2.) Technological innovation, research and development, and efficiency of legal/regulatory processes. 3.) Transparency of government regulation and lack of corruption. These competitive factors provide a competitive environment that pulls manufacturing into the U.S. in the form of FDI.

Kogut and Chang (1996) defined the initial FDI investment in a country as platform investment. This initial investment can be costly but can offer a string of future strategic benefits such as a location in which to declare profits, a market in which to raise capital, and a new geography in which to concentrate power (Morck and Yeung, 1991; Ruigrok and Wagner, 2003). According to the U.S. Bureau of Economic Analysis, FDI in the U.S. increased from 0.76 trillion in 2010 to 1.79 trillion in 2019 (Bureau of Economic Analysis, 2019), which equates to an 8.96% compound annual growth rate since 2010. Given the distinctiveness of the U.S. market in offering a competitive manufacturing landscape, we hypothesize that FDI relocation will result in positive abnormal stock returns.

H2. *When foreign firms announce manufacturing relocation from an overseas country to the U.S. (FDI Relocation), the abnormal stock returns will be positive and significant.*

The dominant theoretical foundation to understand the motivation for companies moving manufacturing operations to the U.S. is the eclectic theory of international production (Dunning, 1980, 1998). Dunning (1980) originally proposed the idea that competitive advantage in a foreign market is based on both the ownership advantages and the location advantages as a result of manufacturing in one country relative to other countries. Yet, changing global manufacturing conditions in subsequent years prompted Dunning to update the theory to include a more detailed list of four variables that influence the location of value-added activities within a firm: 1.) efficiency seeking advantages, 2.) resource seeking advantages, 3.) market seeking advantages, and 4.) strategic seeking advantages (Dunning, 1998). These four eclectic categories subsequently have been deconstructed and mapped to specific reasons firms cite for locating manufacturing in certain geographies (Ellram et al., 2013). Each of these four categories is discussed in subsequent paragraphs.

Efficiency advantages focus on cost-related advantages throughout supply chain networks and lower aggregate costs (Dunning, 1998). These efficiency advantages could be a function of benefits accruing from industry clusters or close internal/external collaboration resulting in supply chain ecosystem synergies (Ellram et al., 2013). De Marchi et al. (2018) found that firms were able to benefit greatly from delivery efficiency and the presence of a cluster of local suppliers, which enhanced product innovation. Kinkel and Maloca (2009) found that less physical distance between engineering and production provides for more efficiency in being able to adapt to quality concerns. Finally, these ecosystem synergies offer the opportunity to manage and to mitigate supply chain interruption risk.

Reshoring or relocating closer to the customer limits the opportunity for supply chain interruption. Firms can avoid unexpected delays related to ocean shipping or product delays in customs. Finally, in many cases, foreign firms locating in the U.S. are duplicating elements of their supply chain network allowing for backup sources of supply (Grossman et al., 2021). As a result, we hypothesize that:

H1a. *When U.S. firms cite efficiency rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

H2a. *When foreign firms cite efficiency rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

Resource advantages ensure access to raw materials and infrastructure (Dunning, 1998). These advantages consist of cost effective access to and availability of resources used in the production process,

influencing both the total cost and the quality of the final output (Ellram et al., 2013). Ellram et al. (2013) classified quality within the resource seeking advantages category due to the strong relationship between inputs and outputs. Below we discuss the importance of access to raw materials, infrastructure, quality, and the connection to total cost.

Bunker (1994) stated that securing access to an affordable and secure supply of raw materials and components is critical for economic growth stability in modern day industrial capitalist economies. Comparing the U.S. to other countries, a 2014 report (European Commission, 2014) found that the U.S. is one of the most resource rich countries from a raw materials perspective, second only to China. As such, Ellram (1993) found that an ability to extract and process many or all of the raw materials needed for the finished good in a single location or a few locations enables the manufacturing firm to optimize the total cost of ownership of the product.

In addition, infrastructure, as defined by transport-related facilities such as water, telecommunications, energy generation, and distribution, provides key final consumption items to households. Furthermore, significant literature exists to demonstrate the positive relationship between infrastructure investment and economic development (Kandilov and Renkow, 2010; Sanchez-Robles, 1998). Even though the U.S. has been criticized for ranking 13th on the infrastructure ranking list of countries (Schwab, 2019), Duncan (2021) suggested that the ranking can be deceiving given the already advanced level of U.S. development (GDP) and the low U.S. population density requiring more distributed investment.

Finally, in assessing the motivation of firms moving from low-cost to high-cost countries, Fratocchi et al. (2016) found that firms most frequently cited poor quality in low-cost countries as the primary motivator. These quality issues are a function of difficulty monitoring quality (Horn et al., 2013) as well as higher defect and customer warranty rates (Ancarani et al., 2015).

As a result, when manufacturers announce a shift to a U.S. manufacturing location using the resource seeking rationale, such an announcement likely will send a positive signal to investors. Hence, we propose:

H1b. *When U.S. firms cite resource rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

H2b. *When foreign firms cite resource rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

Marketing advantages concern availability of local suppliers and access to domestic markets to sell products (Dunning, 1998). These advantages also include access to local employees and the ability to respond quickly to the market with shorter lead-times and lower freight costs (Ellram et al., 2013). Furthermore, when Dunning revised his eclectic theory in 1980, he found that the size of the market was one of the most influential factors in the manufacturing location decision.

Research exists illustrating that merely the prospect of increased business is positive for firms (Diamantopoulos et al., 2011; Yang et al., 2014). For example, Diamantopoulos et al. (2011) found that customers' purchasing intentions were higher for products manufactured in western countries. Furthermore, Yang et al. (2014) found that new sales contracts are associated with positive abnormal stock returns. In addition, the Organization for Economic Co-operation and Development ((OECD 2011)) found that the size and growth of the regional market and the presence of local suppliers played a role in where companies locate manufacturing facilities. Locating within close proximity to the customer allows organizations to develop market-specific strategies enabling them to increase their market share (Martin and Towill, 2002).

In addition, market seeking advantages also are a function of a quicker market response, shorter lead-times, and lower freight costs (Ellram et al., 2013). These advantages allow firms to respond more quickly to market opportunities and to reduce transportation costs from the point of manufacturing to the customer's location. As a result, market seeking advantages enable an organization both to increase revenue and to decrease cost, which signals future financial performance and enhancing shareholder wealth. Hence, we hypothesize:

H1c. *When U.S. firms cite market rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

H2c. *When foreign firms cite market rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

Finally, strategic asset advantages focus on intangible advantages such as local tacit knowledge and unrealized synergies (Dunning, 1998). As early as 1969, Skinner (1969) identified the important link that manufacturing can play in corporate strategy. Firms with strategic manufacturing advantages are able to identify and to implement strategic manufacturing capabilities and initiatives into their manufacturing processes (Minarro-Viseras et al., 2005). Strategic manufacturing alignment could consist of knowledge of the local market paired with an agile production process to deliver quickly on changing customer order patterns. Ellram et al. (2013) found that both government trade policies and strategic access to the country map to Dunning's (1998) eclectic classification of strategic seeking advantages. More recently, both literature and popular press have shifted away from traditional factors influencing manufacturing location decisions to favor decisions based on value creation (Buckley and Hashai, 2009). Using an event study methodology, Jacobs and Singhal (2014) found that investors responded positively to announcements involving product development restructuring, which requires a deliberate cross functional effort to "realign, refocus, reorganize, or streamline a firm's product development activities" (p. 728). Furthermore, Attaran (2017) found that firms utilizing 3-D printing technology were able to deliver more quickly to their customers and to reduce inventory expense. As a result, organizations that undertake reshoring due to strategic reasons should see a similar positive abnormal stock return post announcement. Hence, we hypothesize:

H1d. *When U.S. firms cite strategic rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

H2d. *When foreign firms cite strategic rationale as the reason for reshoring, the abnormal stock market returns will be positive and significant.*

Similarly, we hypothesize that any expansion opportunity in the U.S. will send a positive signal to investors. Hendricks et al. (1995) found that capacity expansion announcements resulted in positive abnormal stock returns. In addition, buffer capacity also has been found to provide a valuable cushion in the event that a firm experiences a supply chain disruption or an unexpected surge in demand (Hendricks et al., 2009). However, there are conflicting views in the literature. For example, Pagell et al. (2019) found that changes in capital structure and increases in debt could result in consequences that negatively affect a firm's long-term financial performance. In addition, expanding manufacturing operations is capital-intensive and a strategic investment that adds operating cost to a firm. Ultimately, because a firm's stock price reflects the present value of future earnings based upon all available public information, we hypothesize that expansion announcements by U.S. firms and foreign firms in the U.S. will result in positive and significant abnormal stock market returns.

H3. *When U.S. firms announce a manufacturing expansion in the U.S. (U.S. Expansion), the abnormal stock market returns will be positive and significant.*

H4. *When foreign firms announce a manufacturing expansion to existing operations in the U.S. (FDI Expansion), the abnormal stock market returns will be positive and significant.*

Past research has shown that there are advantages created by characteristics of operating in one's home country (Dunning, 1980; Porter, 1990). More specifically, Porter (1990) defined these advantages as resource advantages, demand driven advantages, and industry advantages. A firm operating in its home market will have a greater ability to create value-added alliances with key supply chain partners and to make

innovative changes based on more immediate customer feedback resulting in an increased ability to create a competitive advantage. Furthermore, Wright (1936) suggested that past experience has been shown to reduce uncertainty, and Zhao et al. (2004) added that past experience is a predictor of success as firms operate in new markets (Zhao et al., 2004). As a result, from a transaction cost economics (TCE) perspective, a firm's experience operating in different geographies enables that firm to have greater control over supply chain partners in monitoring and reducing transaction costs.

Compared to foreign firms relocating to the U.S. for the first time, firms reshoring to the U.S. may be able to leverage past U.S. manufacturing experience to rekindle relationships with old suppliers, or may have idle machine and/or facility capacity that still could be of value. These resources could enable U.S. companies to ramp up operations more quickly than foreign firms with no U.S. manufacturing experience. Dow and Larimo (2009) found that experience must be measured at the country level, and question whether international experience in one's own country is valuable when entering a different country. Kinkel and Maloca (2009) added that companies ramping up operations abroad significantly underestimate the amount of time that it takes to manufacture quality product reliably at high levels of productivity, finding that it took companies approximately 2.5 times longer than what they had expected. As such, investors may anticipate a shorter manufacturing learning curve and may expect a faster route to profitability for U.S. companies reshoring operations. Consequently, we hypothesize:

H5. *The manufacturing reshoring announcements of U.S. firms (U.S. Reshoring) will result in more positive abnormal stock market returns compared to the abnormal stock market returns resulting from FDI relocation announcements by foreign firms (FDI Relocation).*

H6. *The manufacturing expansion announcements of U.S. firms (U.S. Expansion) will result in more positive abnormal stock market returns compared to the abnormal stock market returns resulting from manufacturing expansion announcements by foreign firms (FDI Expansion).*

3. Sample of announcements and event study methodology

We prepared our spreadsheet of announcements using the database from the Reshoring Initiative. The Reshoring Initiative is a not-for-profit organization with the mission of providing resources to help companies accurately assess the cost of manufacturing product overseas. In that mission, the organization collects primary and secondary data to understand manufacturing location decisions and cost trends (Reshoring Initiative, 2021). A research team of librarians collected the data that we used in this study. The librarians assembled a database of observations for which public and private companies selected the U.S. as the manufacturing location. Each observation includes an announcement that is publicly available in the form of a press release, a website announcement, or a news article. For example, an article included in the sample, entitled "Whirlpool Shifts Some Production to the U.S. from Mexico" (Hagerty, 2013), was published in the Wall Street Journal, and detailed the reshoring of 80–100 manufacturing jobs from Monterrey, Mexico to Clyde, Ohio.

For each entry in our spreadsheet, we verified that the link to the article with the announcement worked. If that link was broken, we found another article on the same date with the relevant announcement. Therefore, we included only announcements with supporting articles containing the announcements. After we had narrowed down our list of announcements and articles, we read each article searching for key words. For announcements by U.S. firms, we searched for key words such as "bringing jobs back to the U.S.," "reshoring to the U.S.," "relocating jobs to the U.S.," etc., to classify an announcement as "U.S. Reshoring." In addition, we searched for keywords such as "new facility in the U.S.," "expansion in the U.S.," "adding jobs in the U.S.," and similar phrases to classify an announcement as "U.S. Expansion." For both types of announcements, we also searched for similar phrases for which a particular area (state or city) of the U.S. was mentioned. For announcements by foreign firms, we searched for keywords such as "debut in the U.S.," "new facility in the U.S.," "first facility in the U.S.," or similar phrases to classify an announcement as "FDI Relocation." We also searched for keywords such as "expansion in the U.S.," "adding jobs in the U.S.," and similar phrases to classify an announcement as "FDI Expansion." Again, for both types of announcements, we searched for similar phrases for which a particular area (state or city) of the U.S. was mentioned. As a boundary condition of this study, our sample was limited to publicly traded companies. For our U.S. firm samples, we used Yahoo Finance (https://finance.yahoo.com/) to search for the company ticker. Any company with a ticker was included in our sample, and companies without a valid ticker were eliminated. In addition, we used a similar process to retrieve the International Security Identification Number (ISIN) for foreign companies. Similarly, all observations without a valid ISIN were removed from the FDI samples.

We had 329 observations in our sample, with 100 observations (32 U.S. Reshoring and 68 U.S. Expansion) traded on the U.S. stock exchange and 229 observations (35 FDI Relocation and 194 FDI Expansion) traded on foreign stock exchanges. Table 2 lists the number of observations in each of the four categories, broken down by year. Similar to other short-term event studies in operations and supply chain management (e.g., Hendricks and Singhal, 2003; Jacobs, 2014), the distribution of our sample is more skewed to the present time, with more observations found in the more recent years. This may be an indicator that the U.S. is increasing as a manufacturing destination, or may signal a higher likelihood that announcements that are more formal are surfacing in the public domain.

We conducted this research using a short-term event study. Originating in the finance discipline, the central premise of the event study methodology relies on the efficient market hypothesis that the market value of each publicly traded equity will reflect the information that is widely available (Fama, 1970). Over time, the event study methodology has been used increasingly in operations and supply chain management research to understand how the release of information pertaining to supply chain related events and strategies has been perceived by equity holders (Ding et al., 2018). Past studies within operations and supply chain management (OSCM) have investigated events resulting in an increase in market value from quality management awards (Hendricks and Singhal, 1997), the implementation of environmental strategies (Jacobs, 2014), the appointment of operations and supply chain management executives (Hendricks et al., 2015), and the announcement of supply chain finance initiatives (Lam et al., 2019), as well as events that result in a negative stock market value such as the announcement of supply chain disruptions (Hendricks and Singhal, 2003) and the impact of product recall announcements (Ni et al., 2014). Furthermore, researchers also have studied the comparative impact of announcements on both U.S. and foreign markets (Filbeck et al., 2016; Kumar et al., 2015) and have consolidated samples among countries (Jacobs and Singhal, 2017; Klöckner et al., 2021) and compared the abnormal stock

Table 2
Number of observations by category by year.

Year	(1) U.S. Reshoring	(2) FDI Relocation	(3) U.S. Expansion	(4) FDI Expansion	Total
2010			1		1
2011	2		2	3	7
2012	2	1	4	10	17
2013	5	4	5	4	18
2014	7	3	5	18	33
2015	4	5	3	20	32
2016	3	6	3	23	35
2017	2	8	10	33	53
2018	4	5	19	71	99
2019	3	3	16	12	34
Total	32	35	68	194	329

market returns of samples across countries (Bose and Leung, 2019).

For an event study to be valid, there are three criteria that must be satisfied: 1) the markets are efficient, 2) the event was unanticipated, and 3) there were not any other confounding events within the event window. First, the premise of market efficiency dictates that the prices of equities will adjust quickly based on all publicly available information. Our study relies on the efficiency market hypothesis. While Ding et al. (2018) offers evidence to suggest that emerging stock markets may not respond quickly and accurately to all publicly available information, 93.89% of our international sample (215 observations) uses stock market data from developed countries. Only 6.11% of our sample (14 observations) rely on stock market data from foreign firms considered to be from emerging markets (China, South Africa, and Mexico).

Second, the event must be unanticipated. If the event had been announced previously or there was evidence that the event would occur, the price of the equity already may have adjusted to the news. Both relocation and expansion announcements are decisions that an organization would want to keep private until the final decision is made. In situations of reshoring or relocation, these decisions often result in the loss of jobs, dismantled local partnerships, and a loss of local and national tax revenue. Allowing the public advanced notice of this decision could result in prolonged difficult operating conditions prior to the move. Similarly, detail regarding the location of expansion announcements also should be kept secret to ensure that cities, states, and national governments compete for the expansion opportunity by offering the best package of incentives.

Third, there cannot be any other events within the event window that could result in an abnormal increase or decrease during the event window. We performed a series of steps to identify any event that may have an impact on the event window. For each firm in our sample, we went out to the firm's website and viewed the press releases. We looked for any news announcement that could materially impact the earnings. Per Ding et al. (2018), these announcements include: earnings announcements, information about dividends or stock splits, executive hiring or firings, mergers or acquisitions, changes in forecast earnings, or labor issues. We also took another step and more thoroughly investigated the observations with abnormal returns that fell significantly outside of our distribution as these observations were likely more susceptible to confounding events. Because we used a short event window, we only had to remove two observations with confounding events that may have influenced the abnormal stock market return. In this study, we followed best practices by testing our hypotheses using a short event study window (0, 1), thereby aligning with 82 percent of past event studies that have used a combination of (-1, 0, 1) as the event study window (Ding et al., 2018). For robustness purposes, we also report the returns using a longer window (-2, 2) similarly to assess the sensitivity of our results.

This study used the four-step approach outlined in the following paragraphs to obtain data for the dependent variable, the cumulative abnormal return (CAR). For the first step, the relationship between the sample's estimated stock return and the market was calculated as:

$$rit = \alpha i + \beta iRtm + \varepsilon it \tag{1}$$

where *rit* is the return of the particular investment *i* at time *t*. The *rit* term takes into account both market return characteristics and firm specific return characteristics. Furthermore, αi is the intercept for the investment, *Rm* is the average return of the market index on day *t*, and β is the slope of the return for the individual investment (*i*). Thus, $\beta iRtm$ refers to the part of the individual investment return attributed to the market and εit is the error term, which captures the firm-specific investment return that cannot be explained by the movement in the market. For the second step, the abnormal return for each stock for the window of the event is calculated as:

$$Ait = rit - (\hat{\alpha}i + \hat{\beta}iRtm) \tag{2}$$

where *Ait* is the abnormal return for the particular investment *i* at time *t*. This is calculated by taking the return of a particular investment (*rit*) less the difference of the baseline market return ($\hat{\alpha}i + \hat{\imath}iRtm$). Similar to past supply chain event studies, the value that was used to calculate the market return (*Rtm*) was based on a dominant market index in the country where the security is publicly traded (Jacobs and Singhal, 2017). The market model controls for systematic risk of the individual security and controls for overall market movements to capture the investment return that is attributed directly to the event (McWilliams and Siegel, 1997). Controlling for systematic risk of the individual security, the difference between the change in the return of the sample and the change in the return of a market index is the variable of interest (Brown and Warner, 1980). For example, for a U.S. traded investment, the Standard and Poor's (S&P) 500 was used as the market index. Finally, for the third step, we calculated the mean cumulative abnormal return using the abnormal returns over the sample of *N* announcements for day t resulting in the mean cumulative abnormal return A for day *t*.

$$\overline{A_t} = \sum_{i=1}^{N} \frac{A_{it}}{N} \tag{3}$$

We then used t-tests to determine the statistical significance of the mean cumulative abnormal return (CAR). The CAR for a given time period [t1, t2] is:

$$CAR[t_1, t_2] = \sum_{t=t_1}^{t_2} \overline{A_t} \tag{4}$$

Following best practices in OSCM event studies, we used a 210-day estimation window with a 15-day gap between the estimation period and the occurrence of the event (Ding et al., 2018). The event window used was (0, 1) where Day 0 is the day when the event was announced and Day 1 is the next trading day. If the article was time stamped and the time of publication was after the market close, then the next trading day was considered as Day 0. We collected the data using the Wharton Research Data Services Package (WRDS, 2021), and used the U.S. Daily Event Study Tool for our U.S. sample and the International Event Study Tool (Compustat Global) (https://wrds-www.wharton.upenn.edu/pages/analytics/) for our foreign sample.

4. Results

4.1. Hypotheses H1, H2, H3, and H4

Table 3 presents the event study results related to Hypotheses H1 – H4. Including in this table are the CARs (means and medians) and the t-statistic values. We performed four independent sample t-tests, and found that the U.S. Reshoring sample and the U.S. Expansion sample had CARs that were both positive and significantly different than zero—at the 0.05 level for U.S. Reshoring and at the 0.001 level for U.S. Expansion, thus confirming H1 and H3. Alternatively, we found that the FDI Relocation sample had negative mean and median returns, and the FDI Expansion sample returns were only slightly positive. Both of these t-tests revealed that the CARs were not significantly different from zero; therefore, H2 and H4 were not supported.

Table 3
Cumulative abnormal stock returns for H1-H4.

Category	*n*	Mean	Median	t-Statistic
U.S. Reshoring	32	1.28%	0.62%	***(H1)* 1.989****
FDI Relocation	35	−0.14%	−0.04%	*(H2)* −0.443
U.S. Expansion	68	0.97%	0.59%	***(H3)* 2.818*****
FDI Expansion	194	0.22%	0.12%	*(H4)* 1.190
Total	329			

*Significant at $p < .10$, **Significant at $p < .05$, ***Significant at $p < .001$.

4.2. Hypotheses H1a-H1d and H2a-H2d

Next, we investigated the manufacturing environment with more granularity by taking into consideration the reason(s) for reshoring/relocating. We coded each announcement into categories according to the reason(s) that the company listed for reshoring manufacturing from an overseas location to the U.S. by analyzing the text within each article. Using the eclectic theory of international production, we then consolidated the reasons into the four categories that motivate the internationalization of a firm (Dunning, 1980, 1998). Furthermore, Ellram et al. (2013) found these same factors also motivated the reshoring decision and used an exploratory factor analysis to classify these lower-level reshoring factors into one of the four upper-level eclectic theory categories. For the observations in our sample, we then classified each into the four eclectic categories. Some observations are included in more than one category if multiple reasons were given in the article as to why the company was reshoring or relocating.

The U.S. Reshoring data and the FDI Relocation data are reported in Table 4 and Table 5 showing the number of observations listed across each of the four eclectic categories, with the subfactors reported below each category. We isolated each category and reported the mean and the median cumulative abnormal return values across each category. For the U.S. Reshoring sample (Table 4), we found a range of mean CAR values from -.36% to 2.27% across the four categories: efficiency seeking: 2.27%, resource seeking: -0.36%, market seeking: 0.11%, and strategic seeking: 0.58%. We then performed four independent sample t-tests comparing each of the four sample means to zero. We found the mean CAR associated with the strategic seeking category to be positive (mean = 0.58%) and significantly different from zero at the 0.05 level. Conversely, we found the mean CAR associated with the resource seeking category to be negative (mean = −0.36%) and significantly different from zero at the 0.10 level. The efficiency seeking and the market seeking category mean CARs were not significantly different from zero. Given our small category sample sizes, we also reported median CAR values across the four categories and performed a nonparametric Wilcoxon signed rank test to determine if the median value in each sample was significantly different from zero. Similar to the *t*-test, the strategic median CAR was significantly more positive from 0 (at the 0.05 level) and the resource median CAR was significantly more negative from 0 (at the 0.05 level). Finally, we also performed a generalized sign test to determine if the distribution of positive or negative CARs in each category was significant. Again, we found that the number of strategic category CARs contained a significant percentage of negative returns (at the 0.05 level) and the resource category CARs contained a significant percentage of positive CARs (at the 0.05 level).

For the FDI Relocation sample (Table 5), we also found a range of cumulative abnormal return values (from −0.36% to 1.09%) across the four categories: efficiency seeking: mean = 1.09%, resource seeking: mean = −0.17%, market seeking: mean = −0.36%, and strategic seeking: mean = −0.14%. As we did with the U.S. Reshoring sample, we then performed four independent sample t-tests comparing each of the sample means to zero. We found the efficiency seeking category (mean = 1.09%) to be positive and significantly different from zero at the 0.001 level and the market seeking category (mean = −0.36%) to be negative and significantly different from zero at the 0.05 level. The resource seeking category (mean = −0.17%) and the strategic seeking category (mean = −0.14%) means were not significantly different from zero. For robustness purposed we also reported median CAR values across the four categories and performed a nonparametric Wilcoxon signed rank test to determine if the median value in each sample was significantly different from zero. Similar to the *t*-test, the efficiency median CAR was significantly more positive from 0 (at the 0.01 level) and the market median CAR was significantly more negative from 0 (at the 0.10 level). Finally, we also performed a generalized sign test to determine if the distribution of positive or negative CARs among each sample was significant. Again, we found that the number of efficiency category CARs contained a significant percentage of positive returns (at the 0.01 level), but the number of negative market category CARs was not statistically significant from 0.

As a post hoc analysis, we also mapped each of the top industries in each of our samples to the eclectic factors given that the reasons that motivate particular firms may vary across industries. Tables 11 and 12 of the appendix show that the reason(s) US firms reshore varies by industry. The top-rated reasons shift from resource advantages in the transportation equipment industry to market related factors for the electronic and industrial machinery. For FDI firms, market factors appear to be a more pronounced reason for relocation as this is the top reason for 3 of the 4 top industries.

Given the range of CARs across categories, we also performed a regression analysis by regressing the dependent variable (CAR) using the 0,1 window corresponding to each of the lower level reasons (dummy variables) for reshoring or relocating (U.S. Reshoring and FDI Relocation) samples. Each of the reasons that firms listed for reshoring or relocating (independent variables) and the regression results are reported in Tables 13 and 14 of the Appendix. The only dummy variable reason that was statistically significant for the U.S. Reshoring sample was the tariff category (Table 13). When companies announced reshoring resulting due to increased tariffs, the CAR was significantly more positive than the rest of the reshoring sample (at the 0.05 level) with a mean CAR value of 2.89 percent. Of the categories that had at least five observations in the FDI Relocation sample (Table 14), the firms listing that they we relocating to capture higher productivity ($n = 5$, mean = 0.81%) and lead time advantages ($n = 6$, mean = 0.82%) had a significantly higher CAR than the rest of the sample.

4.3. Hypotheses H5 – H6

Table 6 shows the results of our two comparative hypotheses using two-sample t-tests for differences in means. The vertical and horizontal categories are aligned in each cell to show the samples that we compared

Table 4
U.S. Reshoring eclectic classification.

U.S. Reshoring	*(H1a)* Efficiency	*(H1b)* Resource	*(H1c)* Market	*(H1d)* Strategic
Number of Observations	9	9	17	14
	Supply Chain Interruption Risk	Total Cost	Freight Cost	IP Risk
	Ecosystem Synergies	Quality	Automation	Tariffs
			Proximity to Customers	Government Incentives
			Skilled Workers	
			Lead Time	
			Customer Responsiveness	
Mean	2.27%	−0.36%	0.11%	0.58%
t-test (t-statistic)	1.17	−1.81*	0.64	−1.78**
Median	0.03%	−1.16%	0.30%	2.17%
Wilcoxon Signed Rank Test (z-statistic)	0.77	−1.84*	0.81	2.42**
Generalized Sign Test (z-statistic)	1.00	−1.67**	0.94	2.14**

*Significant at $p < .10$, **Significant at $p < .05$, ***Significant at $p < .001$.

Table 5
FDI relocation eclectic classification.

FDI Relocation	*(H2a)* Efficiency	*(H2b)* Resource	*(H2c)* Market	*(H2d)* Strategic
Number of Observations	22	14	66	28
	Supply Chain Interruption Risk	Total Cost	Freight Cost	IP Risk
	Manufacturing/Engineering Collaboration	Quality	Automation	Tariffs
		Rising Wages	Proximity to Customers	Government Incentives
		Available Capacity	Skilled Workers	Impact on brand
		Access to Raw Materials	Lead Time	Image
		Energy Costs	Customer Responsiveness	Customization Flexibility
			Higher productivity	
			Automation	
Mean	1.09%	−0.17%	−0.36%	−0.14%
t-test (t-statistic)	3.99***	0.48	−2.39**	0.68
Median	0.88%	0.18%	−0.07%	0.18%
Wilcoxon Signed Rank Test (z-statistic)	3.29***	0.64	−1.822*	1.05
Generalized Sign Test (z-statistic)	2.45***	0.62	−0.88	1.07

*Significant at $p < .10$, **Significant at $p < .05$, ***Significant at $p < .001$.

Table 6
Comparative hypotheses: H5-H6.

	U.S. Reshoring ($n = 32$)	U.S. Expansion ($n = 68$)
FDI Relocation ($n = 35$) (*t*-test)	*H5* (t-statistic) 2.240**	
Wilcoxon Rank Sum (Mann-Whitney) Test	*z-statistic -2.015***	
FDI Expansion ($n = 194$) (*t*-test)		*H6* (t-statistic) 1.833**
Wilcoxon Sum (Mann-Whitney) Rank Test		*z-statistic -2.003***
Robustness Tests		
FDI Relocation Developed Countries ($n = 21$)	*t-statistic* 1.905***	
Wilcoxon Sum (Mann-Whitney) Rank Test	*z-statistic -2.012***	
FDI Expansion Developed Countries ($n = 176$)		*t-statistic* 1.912**
Wilcoxon Sum (Mann-Whitney) Rank Test		*z-statistic -2.381****
Japan ($n = 62$)		*t-statistic 3.119****
Wilcoxon Sum (Mann-Whitney) Rank Test		*z-statistic -1.963***
Germany ($n = 27$)		*t-statistic -0.075*
Wilcoxon Sum (Mann-Whitney) Rank Test		*z-statistic -0.652*
South Korea ($n = 15$)		*t-statistic 3.373 ****
Wilcoxon Sum (Mann-Whitney) Rank Test		*z-statistic -2.679****

*Significant at $p < .10$, **Significant at $p < .05$, ***Significant at $p < .001$.

and the corresponding t-value.

Our first *t*-test showed that the CARs of the U.S. Reshoring sample were significantly more positive than the CARs of the FDI Relocation sample ($p < .05$). Our second *t*-test results revealed that the CARs of the U.S. Expansion sample were significantly more positive than the CARS of the FDI Expansion sample ($p < .05$). We also performed a nonparametric Wilcoxon rank sum test to investigate the median differences between our samples. The Wilcoxon rank sum test also revealed that our U.S. Reshoring median CAR was significantly more positive than the FDI Relocation CAR (at the 0.05 level) and our U.S. Expansion median CAR was significantly more positive than our FDI Expansion median CAR (at the 0.05 level). Our mean and median parametric and nonparametric tests revealed similar levels of significance resulting in more confidence that our results were not significantly affected by outliers. The results of these tests confirm H5 and H6.

Finally, because our international sample contained equities from multiple different countries and traded on multiple different stock markets, we performed several comparisons using the observations from the countries with the largest number of observations (Japan, $n = 67$, Germany, $n = 27$, and South Korea, $n = 18$) as an additional robustness test. The t-tests and the Wilcoxon rank sum tests revealed significant differences between the U.S. Expansion sample and the Japan Expansion sample at the 0.05 level and South Korea Expansion sample at the 0.01 level. Yet, we did not find a significant mean or median difference between the U.S. Expansion sample and Germany Expansion sample.

For robustness purposes, the results of the abnormal stock returns are summarized for all four samples over a five-day window in Table 7. Similar to Brandon-Jones et al. (2017), we calculated the percent of individual equities with positive abnormal returns and reported four tests of significance including the Patell test (Patell, 1976), the standardized cross-sectional test (Boehmer et al., 1991), the Corrado rank test (Corrado, 1989), and the generalized sign test (Cowan, 1992). The results show that the mean abnormal return was slightly higher than the median abnormal return around Day 0 and Day 1, indicating that the data were skewed slightly to the right. Across the five-day event window, we had significant values only for Sample 1 (U.S. Reshoring) and Sample 3 (U.S. Expansion) occurring on Day 0 and Day 1.

For Samples 1 and 3, the test statistics revealed significance at the 0.05 level for all four tests (Patell test, standardized cross-sectional test, rank test, and generalized sign rank test); and for Day 1, the test statistics revealed significance at the 0.10 level for three of the tests (Patell test, standardized cross-sectional test, and rank test). The generalized sign test was not significant. These results indicate that reactions to location decisions tended to occur around the day of the announcement and one day after, aligning with other events studies in OSCM (Brandon-Jones et al., 2017; Hendricks and Singhal, 2003; Jacobs, 2014). The results of the robustness check and past research confirmed our selection of a two-day event window (0, 1) in which to test our hypotheses.

4.4. Post hoc analysis

We provide a summary of the 229 FDI observations (FDI Relocation and FDI Expansion) distributed among 24 countries in Table 8. The companies were coded for countries based on both the location of the headquarters and being publicly traded on that country's primary stock exchange. For example, if the company was headquartered in Germany and traded on the German stock exchange (DAX), we captured the German stock market reaction. As a post hoc analysis, we performed a regression analysis by regressing the cumulative abnormal stock market return (0, 1 window) on the dummy variables for each country. Of the 24 countries, we found that the announcements for German equities resulted in a significantly more positive CAR than the rest of the sample ($p = .05$). Conversely, the CAR for South Korea resulted in significantly more negative abnormal returns than the rest of the sample ($p = .10$).

In addition, because the majority of our FDI observations were from developed countries n = 197/229 (86 percent) compared to developed countries n = 32/229 (14 percent), we excluded the 32 observations

Table 7
Abnormal stock market returns by timeframe.

Market Model	Sample	Day −2	Day −1	Day 0	Day 1	Day 2
Mean Abnormal Return	1	0.12%	0.17%	1.16%	1.04%	−0.31%
	2	0.01%	0.01%	0.11%	−0.64%	0.11%
	3	0.03%	0.05%	0.71%	0.54%	0.56%
	4	−0.04%	−0.06%	0.14%	0.42%	-.014%
Median Abnormal Return	1	0.11%	0.01%	1.01%	.81%	−0.11%
	2	0.04%	0.14%	−0.01%	−0.10%	−0.11%
	3	0.21%	0.11%	0.69%	0.61%	0.23%
	4	0.31%	0.41%	0.12%	0.41%	0.14%
Patell Test	1	-.24	.57	**1.71****	**2.28***	−2.445
	2	-.32	-.11	-.12	1.11	−1.83
	3	-.12	-.11	**1.61****	**.51***	−1.66
	4	-.54	.01	.44	.93	−1.44
Standardized Cross-Sectional Test	1	.52	.482	**2.48*****	**2.73***	−1.05
	2	.44	.381	.54	.25	−1.21
	3	.64	.441	**1.88****	**-.44***	−1.03
	4	.58	.689	2.11	.95	1.29
Rank Test	1	.46	.79	2.80**	**-.782***	-.715
	2	.49	.84	-.11	.044	.72
	3	.19	.53	**1.11****	**. 93***	.12
	4	.19	-.11	.84	.11	.71
Generalized Sign test	1	.738	-.410	**1.41****	−1.39	−1.066
	2	.32	.92	-.32	-.59	−1.38
	3	.11	.31	2.48**	−1.95	−1.11
	4	.10	-.99	-.55	1.44	−1.11
% Positive Abnormal Stock Returns	1	53.02%	46.98%	68.99%	54.97%	45.64%
	2	41.22%	51.99%	61.33%	61.44%	49.22%
	3	56.99%	42.44%	64.16%	39.17%	54.66%
	4	61.22%	41.38%	61.44%	48.33%	49.55%

Sample 1 = U.S. Reshoring, Sample 2 = FDI Relocation, Sample 3 = U.S. Expansion, Sample 4 = FDI Expansion.
*Significant at $p < .10$, **Significant at $p < .05$, ***Significant at $p < .001$.

Table 8
Foreign direct investment samples (relocation & expansion).

Country	Number of Relocation Observations	Number of Expansion Observations	Total Observations	Mean Abnormal Return
Australia		4	4	0.80%
Austria		4	4	0.32%
Belgium	1		1	−0.88%
China	9	2	11	0.37%
Denmark	1	3	4	0.38%
Finland	1	1	2	1.10%
France	2	15	17	0.07%
Germany	**1**	**27**	**28**	1.13%**
Great Britain	1	12	13	0.91%
Hong Kong		3	3	1.67%
India	6	12	18	−0.91%
Ireland		1	1	0.81%
Italy	2	1	3	0.34%
Japan	5	62	67	0.25%
Mexico		1	1	−0.63%
Netherlands		4	4	−0.25%
Norway		1	1	0.54%
Singapore	1	1	2	−1.16%
South Africa		2	2	1.13%
South Korea	**3**	**15**	**18**	−0.37%**
Spain	1	1	2	0.12%
Sweden		8	8	0.75%
Switzerland	1	13	14	−0.10%
Taiwan		1	1	1.06%
Total	35	194	229	

*Significant at $p < .10$, **Significant at $p < .05$, ***Significant at $p < .001$.

from the developing countries as a robustness check to test our results. We did not find any of the four segmented FDI samples (FDI relocation developed countries, FDI expansion developed countries, FDI relocation developing countries, and FDI expansion developing countries) to be associated with significant CARs, confirming our findings for H2 and H4. In addition, we continue to find a significant positive CAR difference between the US reshoring sample and the FDI relocation sample (developed countries) as well as a significant positive CAR difference between the US expansion sample and the FDI expansion sample (developed countries) confirming H5 and H6.

5. Discussion

Our event study results offer interesting insight into manufacturing location decisions, and our work adds to the literature and practice in several ways. Our first area of contribution lies in our unique research context and design. While other studies have focused exclusively on reshoring or FDI, our study incorporates relocation (reshoring) and expansion for U.S. and foreign firms. In answering our first research question of whether investors respond favorably to the announcements of manufacturing firms to locate operations in the U.S., we found that investors responded favorably only to the announcements of U.S. firms, not foreign firms.

Although reshoring and FDI relocation to the U.S. appear to offer similar advantages, the investor reaction proves to be different. It is no surprise that investors reacted positively to the U.S. Reshoring announcements (mean CAR = 1.28%, median CAR = 0.62%), but to our surprise, investors were not as optimistic about FDI Relocation to the U.S. (mean CAR = −0.14%, median CAR = −0.04%). Similarly, investors also reacted positively to the U.S. Expansion announcements (mean CAR = 0.97%, median CAR = 0.59%), but we did not find a positive response to the FDI Expansion announcements (mean CAR = 0.22%, median CAR = 0.12%). More detail is provided later in the discussion as we pair these results with the results from H5 and H6.

Our second contribution lies in our ability to dissect our overall sample to answer our second research question: What factors result in more or less investor optimism? While most event studies tend to be exploratory, our approach used theory as a guide to develop the hypotheses to unpack these factors. Using the eclectic theory of international production (Dunning 1980, 1998), we divided our total sample

into four theoretical categories to gain a better understanding of what motivates a firm's location decision, and then we measured the investor reaction to each classification category. An initial observation was that U.S. firms simply cite fewer reasons for reshoring compared to foreign firms relocating. Within the article, U.S firms offer an average of 1.53 reasons for reshoring (49 reasons offered/$n = 32$), while foreign firms offered an average of 3.71 reasons for relocating (130 reasons offered/$n = 35$). The specific reason for this was unclear, but fewer reasons listed offer a simpler and clearer vision to shareholders.

For U.S. firms, we found that investors responded most favorably to the announcements of firms that used strategic rationale in their reshoring announcements (mean CAR = 0.58%, median CAR = 2.17%). In addition, investors responded least favorably to the announcements of U.S. firms that used resource seeking rationale as the reason for reshoring (mean CAR = 0.36%, median CAR = 1.16%). To explain this result, we collected additional data for all of the U.S. Reshoring firms in our sample to understand the reason for the original offshoring decision. We were able to find evidence and motivation for the original offshoring decision for 23 of the 32 observations in our sample. Our findings align with the literature, with evidence that 21 of the 23 firms offshored to reduce operations cost, and we found that only 2 of the 23 firms referenced market expansion in the articles as a reason for offshoring. As an additional step, we also calculated the time between when the offshoring article was published and when the reshoring article was published, using the article dates. We found that the mean number of years between the initial offshoring announcement and the reshoring announcement was 11.35 years, with a median time of 10.00 years. Considering that 91.3% of the firms in our sample originally offshored manufacturing operations to reduce operation cost, it appears that investors are anticipating that a shift to a longer-term strategic focus may yield more long-term profitability. Similarly, investors also appear to react negatively to reshoring announcements where firms reshore using same reasoning that was used for offshoring the offshoring decision (resource seeking advantages).

After we coded and classified each of the FDI Relocation observations into the four eclectic categories and calculated the respective abnormal stock market returns, we found that the cumulative abnormal returns associated with the efficiency seeking category were positive and significant (mean CAR = 1.09%, median CAR = 0.88%), and the cumulative abnormal returns associated with the market seeking category were negative and significant (mean CAR = −0.36, median CAR = −0.07). This is interesting because these results differ so drastically from the results of the U.S. Reshoring sample. We believe that the reason for the positive abnormal returns associated with efficiency seeking announcements is due to FDI investor optimism regarding a firm's ability to mitigate risk. Foreign firms relocating to the U.S. for the first time likely are diversifying their manufacturing footprint across countries and geographies. For example, Mak and Shen (2012) found that facility diversification resulted in operations that are less prone to disruption. Furthermore, the reason that investors may react negatively to announcements associated with market seeking rationale could be due to investors being more aware (or investors perceiving that foreign firms are more aware), competent, and optimistic about investments with which they are more familiar. For example, Graham et al. (2009) found that investors are averse to investment domains in which they have less exposure or competence.

Our study contributes to an understanding of what motivates investor behavior by illustrating how investors respond to a firm's messaging about their perceived location advantage(s). Although investor optimism regarding U.S. reshoring appears to be motivated by strategic promise, investors appear to be less optimistic about efficiency seeking advantages. Similarly, although our findings reveal that optimism in FDI relocation to the U.S. appears to be rooted in efficiency seeking advantages, FDI investors also appear to be less optimistic about relocation to the U.S. for market seeking advantages.

Our post hoc analysis offers interesting insight into individual factors motivating reshoring. We found that the only individual U.S. Reshoring variable to be significant was tariffs as a reason for reshoring. When tariffs was listed as a reason for reshoring, the CARs were significantly different (more positive at the 0.05 level) from the rest of the sample with mean CAR = 2.89% and median CAR = 1.92%. In addition, the only individual FDI Relocation variable that was significantly different (more positive at the 0.05 level) from the rest of the sample was reshoring due to lead-time with mean CAR = 0.82% and median CAR = 0.95%. Because tariff avoidance maps to the eclectic category of strategic seeking advantages, it was not surprising to also find tariffs to be also associated with statistically significant CARs. Our country-level post hoc analysis found German returns (mean = 1.10%, median = 0.97%) to be significantly more positive than the rest of the sample (at the $p = .05$ level), and South Korean returns (mean = -.53%, median: = -.67%) to be significantly more negative (at the $p = .10$ level) than the rest of the sample. Given the small samples of individual countries, it is difficult to draw any definitive conclusions about these findings, and we recommend investigating country-level differences as an avenue of future research. Specifically, future research could build off the work of Kogut and Singh (1988) and Noorderhaven and Harzing (2009) to investigate how cultural distance or cultural biases may play a role.

Our last finding indicates the optimism for manufacturing in one's home country, and answers our third research question finding that investors do react more favorably to announcements of U.S. manufacturing firms compared to announcements of foreign manufacturing firms locating in the U.S. The findings of H1-H4, paired with the confirmation of H5 and H6, show that investors are more optimistic about the announcements of U.S. firms reshoring and expanding compared to FDI Relocation and FDI Expansion. Building upon the work of Wan et al. (2019), we further illustrate the peculiarities of location-based decisions and the positive impact of locating in one's home country. We add to this research by theoretically determining the impact that these decisions have on investors and ultimately the stock price of the firm. To our surprise, investors did not respond favorably to FDI Relocation announcements or to FDI Expansion announcements.

We believe that there may be more investor optimism for firms locating in their home countries for a number of reasons. First, in situations of FDI Relocation, these firms do not have any experience manufacturing in the U.S. market. Larsen et al. (2013) found that when U.S. and European firms offshored manufacturing and services, their costs were 6.68% higher than expected, given the complexity of operating in an offshore environment. Second, past research found that announcements of firms offshoring to low cost countries in order to capture lower direct manufacturing costs (i.e. lower labor costs) have been associated with positive CARs (Chan et al., 1995; Prezas et al., 2010). Alternatively, firms offshoring to high cost countries typically rely on different cost reductions related to more complex supply chain synergies, which investors may find more difficult to achieve. Similarly, other researchers have found unexpected offshoring costs associated with selecting vendors (Barthélemy, 2001), cultural friction (Overby, 2003), coordination (Dibbern et al., 2008), and control (Stringfellow et al., 2008). Because FDI investment in the U.S. is a form of offshoring for these foreign firms, investors may be anticipating these higher costs. Finally, as more global manufacturing firms consider reshoring or consider a more localized manufacturing configuration, investors may be less sanguine about long-term manufacturing investments outside of the firm's home country. Perhaps comparing the short-term and the long-term financial performance of each FDI firm to comparable U.S. firms may shed some light on why the FDI reaction is subdued and would be an interesting avenue for future research.

Finally, our post hoc analysis uncovered an interesting trend in a company's choice of manufacturing governance (in-house vs. outsourcing). We found a strong preference for utilizing an in-house governance configuration. This finding may be a result of supply chain simplicity when undertaking a significant location change, poor experiences with international suppliers, or few supply chain partners in the

U.S. This finding has interesting linkages to agency theory (Eisenhardt, 1989), and demonstrates an aversion to collaborate with suppliers as firms relocate or expand in the U.S. For U.S. suppliers looking to expand their businesses, there might be future opportunities to collaborate with firms that have relocated recently. Due to the limited number of firms that listed their governance configuration within their announcement, we recommend that these insights be studied using a larger sample.

This study offers several other useful managerial insights. First, managers (both U.S. and FDI) should be aware of the impact that location decisions have on the value of their firms. Our findings identified the conditions where location changes and the associated messaging have a positive impact and negative impact on shareholder returns. As such, firms could use this research to go beyond signaling theory and craft impression managed communications (Hooghiemstra, 2000) by emphasizing information or suppressing information that aligns with their short-term stock price objectives. For example, we recommend that U.S. firms emphasize the long-term strategic value of the reshoring initiative, and foreign firms emphasize anticipated efficiencies resulting from better managing and mitigating supply chain disruptions. Similarly, investors must be aware of the variables that are most important to the overall market to understand the upside and the downside risks associated with each location-based decision. Yet, we do caution managers and investors that the results of this study focus only on short-term returns, and an interesting extension to this study would be a more long-term analysis.

Finally, this study offers insight that may be useful for governments and legislators. There is an opportunity to capture a greater share of the global manufacturing market by offering firms the right incentives. The descriptive information provided in this study could serve as the basic building blocks to create profiles representing the firms that might be the most interested in reshoring/relocating to the U.S. Based on the data that we collected (Tables 9 and 10), mature U.S. firms, that offshored approximately 11 years ago, within the electronics (SIC 36) and the industrial equipment and machinery industries (SIC 35) might be interested in reshoring. Similarly, slightly smaller foreign firms (based on number of employees, assets, and net income) within the transportation equipment (SIC 37) and the chemical and allied products (SIC 28) industries might be interested in relocating to the U.S.

Our study does have limitations that need to be addressed. First, we used announcements as our data source. As we collected each article, we found that the articles included different amounts of information, the articles were written with different tones, some articles included information directly from the company's leadership, and reporters wrote other articles. Although we followed best practices for event studies in OSCM (Ding et al., 2018), we recommend that future research studies investigate article origin, article tone (sentiment), and quoted information within the announcement to determine whether any of these factors could play a role in influencing investor confidence.

Second, because we used an event study methodology, our sample consisted entirely of publicly traded companies. Reshoring and FDI studies using dependent variables beyond those of publicly traded firms could offer interesting insight to understand the motivations of privately held companies. Surveys also could be distributed to privately held firms, or longitudinal case studies could be executed, to capture the impact of reshoring and FDI for privately held manufacturing firms.

Finally, our data were collected during a transitional time for U.S. politics and global trade. Although our sample covers a 10-year time span, approximately two-thirds of the observations are from the last 4 years. It would be interesting to investigate whether findings in the future vary with the changing global economic and political environments. In addition, the data in our study were from a period prior to the COVID pandemic. Observations post pandemic may offer additional insight to supplement the results of this study.

Appendix

Table 9
Descriptive Statistics by Sample

U.S. Reshoring	Market Value	Total Assets	Sales	Net Income	Employees
	$ millions	$ millions	$ millions	$ millions	(000s)
Mean	49,215	64,921	20,699	3281	75.27
Median	9279	44,283	9715	1752	48.02
Std Dev	99,882	43,526	62,594	11,196	33.57
FDI Relocation	**Market Value**	**Total Assets**	**Sales**	**Net Income**	**Employees**
	$ millions	**$ millions**	**$ millions**	**$ millions**	**(000s)**
Mean	35,124	48,125	21,887	2919	25.65
Median	11,612	30,957	7248	1623	10.96
Std Dev	91,445	21,340	13,204	9818	36.89
U.S. Expansion	**Market Value**	**Total Assets**	**Sales**	**Net Income**	**Employees**
	$ millions	**$ millions**	**$ millions**	**$ millions**	**(000s)**
Mean	47,578	48,675	19,323	1816	39.65
Median	6061	2381	5249	225	12.90
Std Dev	52,767	22,533	45,783	5238	33.53
FDI Expansion	**Market Value**	**Total Assets**	**Sales**	**Net Income**	**Employees**
	$ millions	**$ millions**	**$ millions**	**$ millions**	**(000s)**
Mean	50,412	43,299	15,175	1244	32.25
Median	46,421	48,154	14,141	1147	6.44
Std Dev	15,214	13,131	25,376	8391	39.33

Table 10
Industry Representation by Sample

Two Digit SIC Code	U.S. Reshoring	% of total	FDI Relocation	% of total	U.S. Expansion	% of total	FDI Expansion	% of total
10 Metal, Mining	–	0%	2	6%	1	1%	4	2%
13 Oil & Gas Extraction	–	0%	–	0%	3	4%	4	2%
14 Nonmetallic Minerals, Except Fuels	–	0%	–	0%	1	1%	1	1%
16 Heavy Construction, Except Building	–	0%	–	0%	1	1%	4	2%
20 Food & Kindred Products	1	3%	2	6%	–	0%	6	3%
22 Textile Mill Products	1	3%	–	0%	1	1%	3	2%
23 Apparel & Other Textile Products	1	3%	–	0%	2	3%	2	1%
25 Furniture & Fixtures	–	0%	2	6%	1	1%	3	2%
26 Paper & Allied Products	–	0%	–	0%	3	4%	4	2%
27 Printing & Publishing	1	3%	1	3%	–	0%	1	1%
28 Chemical & Allied Products	4	13%	6	17%	9	13%	45	23%
29 Petroleum & Coal Products	–	0%	1	3%	2	3%	2	1%
30 Rubber & Miscellaneous Plastics Products	–	0%	4	11%	3	4%	12	6%
31 Leather & Leather Products	–	0%	–	0%	1	1%	1	1%
32 Stone, Clay, & Glass Products	–	0%	1	3%	1	1%	2	1%
33 Primary Metal Industries	3	9%	2	6%	5	7%	11	6%
34 Fabricated Metal Products	1	3%	2	6%	3	4%	2	1%
35 Industrial Machinery & Equipment	6	19%	2	6%	5	7%	21	11%
36 Electronic & Other Electric Equipment	7	22%	3	9%	17	25%	20	10%
37 Transportation Equipment	4	13%	6	17%	6	9%	34	18%
38 Instruments & Related Products	–	0%	–	0%	2	3%	11	6%
39 Miscellaneous Manufacturing Industries	3	9%	1	3%	1	1%	1	1%
Total	32	100%	35	100%	68	100%	194	100%

Table 11
U.S. Reshoring: Industry Mapped Eclectic Factor

Top 4 Industries	Efficiency	Resource	Market	Strategic	Total
28 Chemical & Allied Products	0	0	0	2	2
Percentage by Category	**0**	**0**	**0**	**100**	100%
35 Industrial Machinery & Equipment	5	3	5	3	16
Percentage by Category	**31%**	19%	**31%**	19%	100%
36 Electronic & Other Electric Equipment	3	1	5	4	13
Percentage by Category	23%	8%	**38%**	31%	100%
37 Transportation Equipment	1	5	3	2	11
Percentage by Category	9%	**45%**	27%	18%	100%

Table 12
FDI Relocation: Industry Mapped Eclectic Factor

Top 4 Industries	Efficiency	Resource	Market	Strategic	Total
28 Chemical & Allied Products	9	0	13	7	29
Percentage by Category	31%	0%	**45%**	24%	100%
35 Industrial Machinery & Equipment	2	0	7	2	11
Percentage by Category	18%	0%	**64%**	18%	100%
36 Electronic & Other Electric Equipment	2	2	5	1	10
Percentage by Category	20%	20%	**50%**	10%	100%
37 Transportation Equipment	14	6	8	14	42
Percentage by Category	**33%**	14%	19%	**33%**	100%

Table 13
Reasons for Reshoring (U.S. Reshoring Sample)

Reason Listed in Article	Number of Observations	Percent of Total Sample (32)	Significant	Coefficient	t-statistic	Mean Value
IP Risk	4	12.50%	NO	-.080	-.693	−1.09%
Tariffs	**10**	**31.25%**	**YES****	**.171**	**1.889**	**2.89**%
Total Cost	5	15.62%	NO	.011	.107	0.18%
Quality	8	25.00%	NO	-.017	-.143	−0.28%
Freight Cost	8	25.00%	NO	.010	.088	0.02%
Supply Chain Risk	5	15.62%	NO	.066	.547	0.33%
Automation	9	28.12%	NO	.008	.069	−0.41%
Ecosystem Synergies	4	12.50%	NO	-.031	-.338	−0.19%
Government Incentives	10	31.25%	NO	.009	.102	−0.06%
Proximity to Customers	9	28.12%	NO	-.032	-.351	−0.01%
Skilled Workers	5	15.62%	NO	.056	.633	0.25%

(*continued on next page*)

Table 13 (*continued*)

Reason Listed in Article	Number of Observations	Percent of Total Sample (32)	Significant	Coefficient	t-statistic	Mean Value
Lead Time	7	21.88%	NO	.017	.186	0.37%
Customer Responsiveness	6	18.75%	NO	-.006	-.058	−0.14%

*Significant at p < .10, **Significant at p < .05, ***Significant at p < .001.

Table 14
Reasons for Relocating (Foreign Relocation Sample)

Reason Listed in Article	Number of Observations	Percent of Total Sample (35)	Significant	Coefficient	t-statistic	Mean Value
Proximity to Customer	14	40.00%	YES*	-.088	−1.409	−0.65%
Ecosystem Synergies	17	48.57%	NO	-.030	-.470	0.14%
Infrastructure	9	25.71%	NO	-.059	-.931	−0.03%
Impact on Brand	6	17.14%	NO	-.023	-.372	0.09%
Lead-time	**6**	**17.14%**	**YES****	**.113**	**1.811**	**0.82%**
Higher Productivity	**5**	**14.29%**	**YES***	**.096**	**1.534**	**0.81%**
Skilled Workers	15	42.86%	NO	.021	.339	0.27%

*Significant at p < .10, **Significant at p < .05, ***Significant at p < .001.

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