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When does the manufacturing reshoring strategy create value?

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ABSTRACT

Reshoring has gained a lot of attention recently by academics and practitioners alike, and is promising to become even more relevant in the aftermath of the COVID-19 pandemic. Building on earlier research on the effects of reshoring announcements on the short-term market value of the firm, this work employs an event-study methodology and aims to understand under which circumstances the market perceives reshoring as potentially more (or less) value-creating. The analysis of a sample of 64 reshoring instances from 2005 to 2019, announced by 54 firms from eight developed economies, suggests that investors are more confident in the firm's future cash-flow potential when: a) it invests in productive activities at home, *instead of overseas*, *i.e.* 'kept-from-offshoring' (as opposed to actual relocations of activities, *i.e.* 'back-reshoring'); b) the reshoring instance is communicated as a 'plan' (rather than a fixed 'decision'); c) no state- or government-induced financial incentives are involved; d) the motivations are primarily 'cost-efficiency seeking' (rather than 'customer perceived value seeking').

1. Introduction

The COVID-19 pandemic has had – and will continue to have – several implications, not only for public health but also for the economy (Strange, 2020). As the pandemic evolved, global value chains (and particularly global supply chains – Gereffi and Lee, 2012) acted as the main transmission channel of economic contagion (Coveri et al., 2020), exposing the vulnerabilities of such structures, and highlighting the western world's (probably excessive) reliance on China for manufactured goods. Therefore, a growing number of academics (Enderwick and Buckley, 2020; Strange, 2020; Verbeke, 2020), international institutions (Betti and Hong, 2020; UNCTAD, 2020a, b) and practitioners (Rice, 2020), suggest that COVID-19 might act as a "trigger" that will make companies redesign their production footprint (Barbieri et al., 2020a, b; Gereffi, 2020; Kano and Oh, 2020; Verbeke, 2020).

In this respect, four alternative scenarios have been proposed in the latest World Investment Report (UNCTAD, 2020a): diversification, replication, reshoring and regionalization. The last two trajectories imply the shortening of firms' production footprint as well as the

relocation of manufacturing activities either at the home country or at the home region. At the same time, an increasing number of national governments are enacting industrial policy to support firms' relocation strategies, not only at the home country but also at the home region, like in the case of Japan (Elia et al., 2021). Finally, Elia et al. (2021) point out that while digital technologies can potentially foster all four trajectories, the other megatrends proposed by UNCTAD (2020b) – namely, policy and economic governance and sustainability – can be mostly accommodated through the *reshoring* and *regionalization* trajectories.

Reshoring specifically (Kinkel and Maloca, 2009; Kinkel, 2014; Fratocchi et al., 2014), is becoming an increasingly popular theme in both Supply Chain Management and International Business research, emphasizing that "distance matters" (Ghauri et al., 2021), and that there is a need to carefully investigate the potential impact of reshoring on the firms' performance using multiple theoretical lenses (McIvor and Bals, 2021). Extant research has almost exclusively focused on explaining *why* firms reshore. More specifically, a vast array of motivations has been identified (see, for instance, Barbieri et al., 2018; Fratocchi et al., 2016; Srai and Ané, 2016), while the relocation decision has been considered

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either as a deliberate strategy, or as a reaction to an offshoring failure (Bals et al., 2016). This dual view of reshoring combines two different interpretations of the phenomenon that are prevalent in the literature, i.e., it can be a deliberate response to exogenous or endogenous changes (Di Mauro et al., 2018; Fratocchi et al., 2015; Gylling et al., 2015; Martínez-Mora and Merino, 2014), or a mere correction of a prior misjudged managerial decision (Gray et al., 2013; Kinkel and Maloca, 2009).

Reshoring is widely assumed to be performance-enhancing for the firm and beneficial for the home country (De Backer et al., 2016; Ernst & Young, 2015; Sirkin et al., 2012). However, despite the extensive research carried out, the empirical investigation of the impact of reshoring on firms' performance is still at its nascency. The only notable exceptions are a few studies concentrated in the Nordic countries that have identified significant associations between reshoring and some dimensions of operational performance, such as quality and flexibility (Johansson and Olhager, 2018; Stentoft et al., 2018). Lack of knowledge on the profitability of reshoring initiatives for firms is a critical research gap that needs to be addressed, to properly assess the opportunities reshoring offers.

Our work is triggered by the study of Brandon-Jones et al. (2017), who tried to measure the impact of reshoring decisions on shareholder wealth. By employing the event-study methodology (Brown and Warner, 1985; Hendricks et al., 2014), Brandon-Jones et al. (2017) find a positive and significant 'abnormal' return on the day of the announcement, based on which they conclude that "... a positive shareholder wealth effect resulting from reshoring decisions suggests that so-called 'high-cost' regions are sometimes more economically advantageous than 'low-cost' locations" (p.59). However, if one included in the analysis the days immediately before and after the announcement (where the market reaction was negative), the conclusion that "the benefits associated with reshoring tend to outweigh the costs" (p.59) is not fully supported; further investigation is needed by considering those factors that lead to higher or lower market returns to individual reshoring instances.

The present study seeks to extend the study of Brandon-Jones and colleagues, using a larger sample of reshoring instances and aiming to explain the cross-sectional variation in the market reaction to the reshoring announcements, arguing that investors react to the *specific details* of an announced event, rather than the announcement of the event itself (e.g., Chan et al., 1995; Ghosh et al., 1995). We consider a sample of 64 events by 54 firms from eight developed home-countries retrieved from the UnivAQ Manufacturing Reshoring Dataset (Fratocchi and Di Stefano, 2020) and the European Reshoring Monitor (Eurofound, 2019).

Specifically, we examine whether it makes a difference if reshoring is announced as a 'plan' or as an already decided project with all details firmly defined (for brevity, a 'decision'), whether government-induced financial incentives are reported (e.g., subsidies, tax breaks), and whether reshoring is associated with an overseas plant closure. We also compare the market reaction to different types of reshoring motivations, as envisaged in the content of the announcements. Finally, by adopting a high-level view of the reshoring phenomenon, we compare the effect of cases of physical repatriations of productive activities (i.e., 'back-reshoring'), versus productive investments at home as a deliberate alternative strategy to offshoring (i.e., 'kept-from-offshoring' – see Reshoring Initiative, 2020).

The analysis provides some evidence that reshoring announcements have a moderately positive, short-term effect on shareholder wealth, but this is driven primarily by: 'kept-from-offshoring' announcements (as opposed to 'back-reshoring' ones) that are presented as 'plans' (rather than fixed 'decisions'), implemented without government or state financial incentives. Overseas plant closures are not seen positively, while the market prefers a rationale that seeks cost efficiencies, or both cost efficiencies *and* to increase customer perceived value (Fratocchi et al., 2016), suggesting that a multi-faceted rationale might be considered more convincing.

Our investigation suggests that the value-creation potential of reshoring instances depends on the information revealed in the announcement, or in other words, on properties and characteristics of the reshoring event. Actors should pay close attention to the specific parameters of the reshoring initiatives, because it is these details that drive differential market response.

The paper is structured as follows. Sections 2 and 3 present the theoretical background that frames our exploratory study. Section 4 details the data collection and analysis procedures. Section 5 is devoted to the results, while their discussion follows in Section 6. This work concludes with the limitations and suggestions for further research.

2. Theoretical background

Various studies have argued that reshoring is "more than just a geographical shift of operations. It is also a reconfiguration of systems" (Mugurusi and de Boer, 2014: p. 275). This means that as a strategic decision, reshoring requires the consideration of multiple financial, quantitative and qualitative parameters, which in turn determine benefits and costs that may result in positive or negative incremental cash flows for the firm (Brandon-Jones et al., 2017). The strategic reorganisation of business can transfer critical resources from one location to another. Ghosh et al. (1995) suggest that the impact of such decisions can be investigated by examining the stock price reaction around the day of the relevant announcement, since the response of the market can be considered a key measure of the relative effect on the value of the firm. In this and next section, we draw from various theoretical perspectives to discuss whether reshoring, in general, and various features of the reshoring event, in particular, will lead to positive or negative stock-market returns for the company.

Different theories suggest contrasting impacts of strategic decisions like reshoring, on the market value of a company. According to the shareholder value maximization hypothesis, the stock market should react positively to corporate announcements of strategic investment decisions (Woolridge and Snow, 1990) since they are supposed to enhance its ability to generate future cash flows. However, such decisions are major commitments of current resources, involving a resource outflow and an uncertain payback. Hence, since any significant corporate investment decreases current earnings and increases uncertainty regarding the future performance of the firm, reshoring may imply a negative reaction by investors.

From a neo-institutional perspective (DiMaggio and Powell, 1983; Meyer and Rowan, 1977), reshoring might help the firm signal legitimacy to its most important customers (Staw and Epstein, 2000; Suchman, 1995). It can be seen as a proof of its commitment to quality (besides the contribution to the home country welfare and employment) and thus may improve the firm's sales performance. Thus, given the increasing institutional pressure (from governments and customers alike) for organisations to produce at home and to use country-specific production factors and resources (Grappi et al., 2015), such demand could be an influential driver for a positive reaction by investors. However, if the only gain from reshoring is the ability to signal, and all the other operational performance determinants remain unchanged after the relocation, investors may perceive as more salient the risk of the relocation (Cohen et al., 2018) mainly due to the costs involved in the process of moving facilities to the domestic location, and to the employment of personnel with higher wages. In addition, existing overseas facilities may need to be closed, the contract with offshore suppliers may need to be terminated and the supply chain redesigned.

To sum up, reshoring is a complex strategic initiative and, based on literature, the impact of these decisions is not clearly predictable, and will depend on what aspects of the decision are perceived as more relevant by the investors. In fact, empirical literature suggests that some relocation decisions result in negative market reaction, while, for others, reaction is positive (Ghosh et al., 1995). We claim that a possible explanation is that the market reacts to the relocation considering the

specific information conveyed in the reshoring announcement, rather than, solely, to the reshoring event itself (Ghosh et al., 1995).

This study takes an exploratory approach focusing on the announcements' content, and investigates the characteristics and specificities that might drive the overall effect towards explaining the cross-sectional variation in stock returns (Hendricks and Singhal, 1996, 2003). Our exploratory approach is further justified by the fact that the literature is replete with contrasting arguments and evidence regarding the direction (positive or negative) of the impact of the examined characteristics, on the market value of the firm. These aspects are analysed in what follows.

3. Impact of the announcements' content

3.1. The strength of the commitment to reshore: 'plan' versus 'decision'

The first aspect we aim at analysing is whether the announcement conveys the idea that the firm 'plans' to reshore in the near future, or that it has committed to a 'decision' to reshore. In the former case ('plan' to reshore), information such as timescales, production volumes, amount of investment and jobs to be created, might not be included (or be presented as speculative) in the announcement. Hence, important and effectual details remain unclear when the news of a 'plan' to reshore break into the market, suggesting that investors will speculate about them and what these could mean for the company's cash flow potential. In addition, 'plans' to relocate production may never materialise. A recent example is Nissan's plan to move production out of the UK in the case of a no-deal Brexit (Automotive News Europe, 2019); after a deal was agreed between the UK and EU, Nissan's plan was cancelled (BBC News, 2021). On the contrary, in a 'decision' to reshore there are comprehensive details in the news, providing a more solid ground for investors to evaluate potential implications. This distinction should make the two types of announcements qualitatively different, because, while a 'plan' implies that the firm is starting a process of investments that will eventually lead to the reshoring of all or part of its production, a 'decision' implies that everything is fixed, and that the results of the relocation are going to be realised by the announced deadline.

We contend that such a distinction resembles the difference between announcements of long-term versus short-term investment plans. The impact of these two types of announcements have been analysed with contrasting findings in the literature. According to 'the myopic stock market approach' (Woolridge, 1988), when the market has a strong preference for short-term cash inflows from capital spending, news of strategic investment programmes with uncertain long-term payoffs may be associated with negative capital market reactions. However, this approach is not confirmed by the analysis made by Burton et al. (1999), who found no difference in investors' reaction to long-term versus short-term investment announcements. This last result would suggest that, if our analogy is valid, the market reaction to reshoring 'plans' and 'decisions' will not differ. However, from an institutional theory point of view (Staw and Epstein, 2000), a 'plan' to reshore may be seen merely as a symbolic implementation, sufficient to provide the organisation with legitimacy in the eyes of investors. Therefore, the announcement of a 'plan' to reshore does not signal the same level of commitment as a 'decision' to reshore, since the latter may be thought of as the outcome of a rational strategic process (e.g., involving cost-benefit analysis), with all relevant parameters accounted for, and thus more appropriate for improving firm's profitability.

3.2. Incentives to reshore

Commonly, manufacturers agree with the government or local authorities on tax breaks and subsidies, to motivate either a local capacity expansion instead of an overseas move, or a repatriation of offshore production. Since the reshoring is a relatively recent trend, investors do not have historical data and evidence about the benefits that firms may

derive. However, a positive connection between subsidisation and productivity can be envisaged when subsidies help enhance the technological advancement of the recipient firms, and when they facilitate the achievement of economies of scale (Bergström, 2000). On the other hand, since subsidies give an incentive to change the mix of capital and labour, they could lead to over-investment in capital and technical inefficiencies in production (Beason and Weinstein, 1996; Lee, 1996). Furthermore, subsidies may induce firms to further resource investment in subsidy-seeking activities instead of other more productive activities, therefore compromising long-term firm value for short-term profits.

While in this respect reshoring could be seen as potentially unprofitable, according to the paradigm that investors are more likely to reward short-term achievement (Woolridge, 1988), when these monetary incentives are in place and reported publicly in the announcement, investors may consider it easier for the firm to generate the promised cash flows associated with the decision in the short-term, disregarding whether the long-term results could be threatened.

3.3. Ceasing production abroad

When a firm brings manufacturing back to the home country, sometimes it ceases production in the offshore location. This may signal to the market that the operating costs of the company will fall, increasing the likelihood of realising the cash flows associated with the reshoring move. If the perceived benefits from reshoring exceed the costs, and the market has all the relevant information about the overheads and other costs that the company will cut due to the facility closure, investor reaction could be expected to be positive (Chan et al., 1995). However, the rational expectations hypothesis (Fama, 1976) predicts no stock market reaction to relocation decisions, because they are considered periodic investments/divestments for the firm to maintain its competitive fitness (Burton et al., 1999). This would imply that a plant closure is a normal divestment decision that should not lead to any abnormal return. Further, share prices may even decline if investors perceive uncertainty and risk as salient, not fully understanding how the closure will affect the firm's value (Blackwell et al., 1990; Brickley and Van Drunen, 1990; Gombola and Tsetsekos, 1992) and future operational performance (Bhabra et al., 2002). In addition, a negative excess return can be expected if the divestment is perceived as a decrease in planned capital expenditure abroad (McConnell and Muscarella, 1985), without an equivalent capacity increase in the home country. Finally, an offshore plant closure may be perceived by the market as the acceptance of a previous managerial mistake, leading to a downward adjustment of the firm's value, to reflect the implications of managerial ineptness for the firm's prospects.

3.4. Reshoring motivations

Reshoring motivations have been extensively analysed in the literature (Barbieri et al., 2018). This has led to the identification of numerous motivations grouped into homogeneous categories, such as cost-, quality- and risk-related (e.g., Ancarani et al., 2015; Bals et al., 2016; Ellram et al., 2013; Foerstl et al., 2016) or based on the strategic priorities of the firms (Ancarani et al., 2019, 2021). Fratocchi et al. (2016) developed a theory-driven classification that categorizes reshoring motivations according to two aspects: the company's strategic goal (i.e., increasing customer perceived value versus improving cost-efficiency), and the predominant level of analysis that drives the decision (i.e., internal to the company versus stemming from the external environment).

Literature examining the stock market reaction to announcements of headquarter relocations has also analysed the effect of motivations (Manning et al., 1999). Ghosh et al. (1995) found a positive reaction to announcements reporting reasons aiming at cost savings, and a negative reaction to relocations motivated by management self-interest. Chan et al. (1995), looking at relocations of either headquarters or production

plants, also found that market reaction is tied directly to the motive for the relocation and the implied prospects for the firm. Namely, decisions that are motivated by business expansion or cost savings lead to positive returns, while capacity reduction motivations are perceived negatively by investors (Bhabra et al., 2002).

When it comes to reshoring announcements, it is common for the firm to clearly report *why* it has arrived at such a decision. For simplicity, here we deploy the first dimension of the two-dimensional classification of Fratocchi et al. (2016), i.e., the company's strategic goal: 'cost-efficiency' versus 'customer perceived value'. The former type resembles the cost savings intentions as in Chan et al. (1995). The 'customer perceived value' motivations relate to either unsolved challenges overseas (e.g., quality, delivery delays), or to the need to refocus the core business to improve the perception of the customers regarding the firm's value and the quality of its products. Following this line of reasoning, reshoring driven by motivations to improve customer perceived value could be seen either as a solution to a problem, or as a strategy to exploit a future opportunity, or both. In all cases, investors may see long-term challenges that could be addressed through reshoring, which however could increase uncertainty regarding future profits (Ciabuschi et al., 2019), and demand an immediate cash outflow. In addition, announcements for customer perceived value motivations may be interpreted as a capacity reduction for the firm, i.e., reducing its offshore production without an equivalent or larger investment in resources at home.

4. Methodology

4.1. Event-study methodology

Since there are conflicting theoretical arguments that support both a positive and a negative impact on market value, an exploratory approach is justified. We thus employ the event-study methodology (Brown and Warner, 1985; Tao et al., 2017), without formal, *a priori* hypotheses.

An underlying assumption of the methodology is that markets are informationally efficient, and immediately after an 'event' is announced to the public, the share price of the involved firm(s) will adjust to reflect the market's assessment of the impact of the event on the firm's value. The difference between the actual stock return observed on (or around) the day of the event, and an expected (theoretical) return, is referred to as 'abnormal return'. It represents an estimate of the effect of the event on the stock price. Abnormal returns can be positive, negative, or zero, depending on whether the market believes that the event will increase, decrease, or have no effect on, the firm's cash flow generation potential.

Following a stream of literature in international business investigating the stock-market implications of diverse company decisions (e.g. Du and Boateng, 2015; Tao et al., 2017), to estimate the expected return we use the 'market model' (see Brown and Warner, 1985). The market model is considered superior to the more simplistic 'mean-adjusted' and 'market-adjusted' models, because it accounts for movements in the returns of both the firm, and the market in which the firm's stock is being traded (see: Ding et al., 2018; MacKinlay, 1997). It postulates that the return on stock i on day t (R_{it}) is linearly related to the return on a market portfolio on day t (R_{mt}):

$$R_{it} = \alpha_i + \beta_i \cdot R_{mt} + \varepsilon_{it} \quad (1)$$

In this multi-country event-study (see Campbell et al., 2010), R_{it} is the daily return on the stock price of the firm in its main (home) market (e.g., New York for General Motors, London for GlaxoSmithKline), and R_{mt} is the return on the main value-weighted market index (e.g., S&P 500 for New York stock exchange, FTSE 100 for London). All price data are downloaded from Thomson Reuters Datastream. α_i is the intercept of the relationship, β_i is a measure of the stock's responsiveness to market-wide movements, and ε_{it} is an error term that captures the effect of firm-specific information. For each reshoring instance in the sample,

we compute the expected return of the relevant firm by estimating $\hat{\alpha}_i$, and $\hat{\beta}_i$ using ordinary least squares (OLS) regression over 250 trading days, ending 10 days before the reshoring announcement (the 'estimation window'). The abnormal return on stock i on a day t (AR_{it}) is thus:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i \cdot R_{mt}) \quad (2)$$

Commonly, researchers calculate the average abnormal return for day t (AAR_t) across the sample of firms, by averaging with respect to the total number of announcements N , and test for its statistical significance using various generic or event-study specific test statistics. It is also common to create 'cumulative abnormal returns' (CAR) for stock i over an 'event window' $[t_1, t_2]$, by summing the daily abnormal returns from t_1 to t_2 . Correspondingly, the average cumulative abnormal return across the sample firms over an event window is the sum of the mean abnormal returns of Equation (2):

$$CAAR[t_1, t_2] = \sum_{t=t_1}^{t_2} \overline{AR}_t \quad (3)$$

The day of the announcement is denoted as Day 0. In this study, we calculate ARs from the day preceding the announcement (Day -1), to two days after the announcement (Day 2), and the longest CAR we consider is three days (from Day -1 to Day 1). The justification for the choice of this event window is as follows. Firstly, it is a methodological convention to include Day -1 in the event window, to capture any market reaction due to information leakage, or to the expectation of an imminent firm announcement (Hendricks et al., 1995). Indeed, reshoring announcements should not be considered completely unanticipated events (like natural disasters, for instance), and we found instances of news pieces in the popular press informing their readers about an imminent announcement of large firms' major investment decisions (e.g., Intel). Day 1 is also conventionally considered, to account for asynchronous trading and delayed investor reaction. In our case, major reshoring decisions could be expected to create a stir in the market that extends beyond the day of the announcement, as specific details of the deal become clearer with time. In addition, in our sample there are examples of decisions that led to a subsequent reaction by policy makers, or rumors in the press, which may have further affected the view of the market regarding the company's cash flow generation prospects (e.g., Ford's decision to revoke investment in Mexico and instead expand in Michigan – The Washington Post, 2017). As such, we also report ARs for Day 2.

4.2. Data collection

A sequence of defined steps was followed to construct the dataset of reshoring announcements. Firstly, we scanned: a) the UnivAQ Manufacturing Reshoring Dataset (Fratocchi and Di Stefano, 2020) which extended the Uni-CLUB MoRe reshoring dataset – already adopted in previous research (Ancarani et al., 2015; Wan et al., 2019); and, b) the European Reshoring Monitor (Eurofound, 2019) – already adopted, among others, by Ancarani et al. (2019) and Barbieri et al. (2019). Overall, these datasets contain information on more than 1400 manufacturing reshoring decisions, gathered from several sources, for example: historical archives of relevant national and international business newspapers and magazines (e.g., Wall Street Journal, The Economist, Bloomberg Businessweek); white papers by major consulting companies (e.g., Boston Consulting Group, McKinsey, Accenture); and the only public database currently available for US companies (Reshoring Initiative, 2020). For each observation, the recorded information includes: the name of the company involved; company size; industry; country of origin; year in which reshoring was implemented; "abandoned" host country; and declared motivations. Of all these reshoring instances, we extracted those that were taken by public firms, listed in the stock market of a developed economy.

In order to measure the market reaction, i.e., the belief of the

investors as to whether the reshoring decision is seen as 'good' or 'bad' news for the cash-flow generation potential of the firm, we required the exact date of the first announcement, *i.e.*, the day the company's intention to reshore became public knowledge. Hence, as a second step, two of the authors independently conducted targeted searches using

Dow Jones's Factiva, Lexis Nexis and Google, to establish the exact date on which the identified companies *first* announced their decision or plan to reshore, as reported in major news service outlets (e.g., Dow Jones, Wall Street Journal, Reuters, BBC etc.). We acquired time stamps of the news pieces to account for time zone differences, and to determine if the

Table 1
Reshoring announcements included in the analysis.

Company name	Announcement date	Home country	Host country ^a	Industry (SIC code)	Reshoring type ^b
Acco Brands	January 12, 2016	USA	Philippines	32	Back-R
Acco Brands	April 12, 2014	USA	China	32	K-F-O
Adidas	October 20, 2015	Germany	China	15	Back-R
AGCO	January 27, 2011	USA	France	28	Back-R
Apple	December 06, 2012	USA	China	26	Back-R
Armstrong W.I.	October 10, 2013	USA	China	22	Back-R
BASF	May 02, 2012	Germany	USA	20	Back-R
BillerudKorsnas AB	June 08, 2016	Sweden	Finland	17	Back-R
Biotage AB	June 09, 2009	Sweden	USA	26	Back-R
Black Diamond Eq.	February 12, 2015	USA	N/A	14	K-F-O
Briggs & Stratton	October 30, 2017	USA	Japan	27	Back-R
CNH Industrial	November 20, 2015	Italy	Germany	28	Back-R
Campbell Soup	January 24, 2018	USA	Canada	10	Back-R
Carlisle Companies	November 29, 2012	USA	China	28	Back-R
Caterpillar	July 28, 2015	USA	Mexico	28	Back-R
Continental	September 23, 2008	Germany	France	29	Back-R
Daikin Industries	October 24, 2013	Japan	China	27	Back-R
Fiat Chrysler	January 09, 2017	USA	N/A	29	K-F-O
Ford	January 03, 2017	USA	Mexico	29	K-F-O
Ford	December 06, 2011	USA	Mexico	29	Back-R
Ford	February 20, 2013	USA	Spain	29	Back-R
General Electric	May 12, 2011	USA	N/A	27	K-F-O
General Electric	October 18, 2010	USA	China	27	Back-R
General Motors	August 27, 2014	USA	Mexico	29	Back-R
General Motors	December 19, 2012	USA	Canada	29	Back-R
Getinge AB	January 05, 2010	Sweden	Denmark	32	Back-R
GlaxoSmithKline	March 22, 2012	UK	Singapore	21	K-F-O
HanesBrands	January 23, 2015	USA	Honduras	14	Back-R
Hasbro	February 27, 2017	USA	China	32	K-F-O
Henkel	January 03, 2007	Germany	Spain	20	Back-R
Honda	January 14, 2015	Japan	Vietnam	30	Back-R
Honda	September 26, 2017	Japan	China	30	Back-R
Honda	February 18, 2019	Japan	UK	30	Back-R
Innovaderma	October 24, 2016	UK	Australia	21	Back-R
Insulet	February 16, 2017	USA	China	32	K-F-O
Intel	October 19, 2010	USA	N/A	26	K-F-O
Jarden Corps	October 07, 2011	USA	China	31	Back-R
Lilly	April 02, 2013	USA	N/A	21	K-F-O
Motorola (Google)	May 30, 2013	USA	China	26	K-F-O
Nissan	February 04, 2019	Japan	UK	30	K-F-O
Oracle	February 19, 2013	USA	Mexico	26	Back-R
PV Enterprise	December 05, 2008	Sweden	Poland	28	Back-R
Panasonic	January 05, 2015	Japan	China	26	Back-R
Peugeot Scooters	January 26, 2016	France	China	30	Back-R
Polyone	August 18, 2015	USA	Canada	22	Back-R
Qualitrol (Fortive)	April 24, 2018	USA	Canada	26	Back-R
Ralph Lauren	June 14, 2012	USA	China	14	K-F-O
Renault	May 31, 2010	France	Spain	29	Back-R
Renault	March 20, 2009	France	Slovenia	29	Back-R
Reno Di Medici	October 31, 2017	Italy	Germany	17	Back-R
RF Micro Devices	March 19, 2013	USA	UK	26	Back-R
RF Micro Devices	May 14, 2013	USA	China	26	Back-R
Roche	May 11, 2007	Switzerland	USA	21	Back-R
Sharp	January 06, 2015	Japan	China	26	K-F-O
S. Black & Decker	November 12, 2013	USA	Mexico	28	Back-R
Starbucks	March 21, 2012	USA	China	11	K-F-O
Stille AB	June 26, 2017	Sweden	USA	32	Back-R
Sun Microsystems	December 11, 2008	USA	UK	26	Back-R
Sunpower	April 22, 2010	USA	N/A	26	K-F-O
Volkswagen	March 10, 2005	Germany	Poland	29	Back-R
Wal-mart	October 01, 2015	USA	Germany	47	Back-R
Watts Water	March 27, 2012	USA	China	25	Back-R
Whirlpool	March 14, 2014	USA	China	27	Back-R
Whirlpool	December 19, 2013	USA	Mexico	27	Back-R

^a In some 'kept-from-offshoring' instances, firms did not explicitly specify a single foreign location that was dropped in favour of the home country (despite clearly stating that alternative foreign locations were considered before the plan was made or the decision was taken). We mark these instances as 'N/A'.

^b Back-R: Back-reshoring, K-F-R: Kept-from-offshoring

company's home stock market was closed (commonly after 4:00 p.m.), in which case the following day was considered the event date (Day 0). Several of the 150+ observations identified in the first step had to be dropped because the *exact* date of the announcement could not be determined. Others were disregarded because the reshoring decision was just one part of the company's announcement on the identified date. For example, some firms announced their intention to reshore while reporting major financial problems to their shareholders, or as part of (and in response to) a negative annual earnings press release. In other cases, the repatriation of a manufacturing activity was just one component of a major supply chain re-design decision, involving additional production relocations. In all these instances, reshoring itself is *not* a clearly distinct event, and one cannot assume that the reaction of the market on the day was due to the reshoring news. In other words, the effect of reshoring *per se* on the firm's market value would be impossible to disentangle.

After a first round of searches by the two researchers, the first author repeated the same process, settling the few disputes (e.g., date misalignment, inclusion/exclusion of announcements) along the way. This strict screening process resulted in a final sample of 64 announcements by 54 firms from eight developed home-countries. Details of the final sample of announcements are included in Table 1. The inclusion of non-US firms, and the different distribution of announcements over time, suggests that our dataset of reshoring instances (*i.e.*, company-date pairs) overlaps only partly with the sample of Brandon-Jones et al. (2017).

The third main step involved the extraction and coding of information from each announcement. This included home country, host country, industry, value of the investment converted to USD (where available), whether the decision was subsidized by the government, and whether the reshoring decision was associated with an overseas plant closure. Moreover, we differentiated between 'back-reshoring', and what the Reshoring Initiative website (Reshoring Initiative, 2020) calls 'kept-from-offshoring'. The first denotes the physical transfer of offshore production capacity back to the home country (Fratocchi et al., 2014). The second refers to an *explicit* strategic decision to increase production capacity at home (e.g., a new plant, capacity expansion of an existing plant), *instead of* doing this abroad, after careful evaluation of the offshore and domestic alternatives. This distinction agrees with a broader conceptualization of reshoring (see Cohen et al., 2018), that encompasses investments in the home country that adjust the firm's balance between onshore and offshore manufacturing. After carefully examining the language used to report each reshoring event, we deemed 17 announcements to fall into this category, with the remaining 47 reporting a back-reshoring event.

Furthermore, the first and second authors independently went through 37 announcements to classify them as 'plans' or 'decisions' to reshore. In the publicized announcements, the authors looked for sentences denoting the level of commitment of the firm to the reshoring endeavour (e.g., "intends to" versus "has decided to") and on whether specific details were revealed. Such details included the level of monetary investment, the number of jobs to be created, and the timeline of the move. The authors also kept an eye on who made the announcement: For example, some reshoring instances were announced by named, high-level company managers; others came from anonymous "company sources"; while others were revealed by government and state officials. Furthermore, the authors consulted more than one media sources reporting the reshoring instance, to ensure that the classification of each announcement is not biased by the mode of reporting of a single source. Lastly, we tracked the evolution of the reshoring event over time; for example, we tried to establish whether it had not been reversed in subsequent months, and whether the specifics (e.g., value, jobs, timeline) were close enough to the original estimates. Although classifying some announcements as one or the other type was a close call, the two authors' judgements agreed in 86% of the cases, and the few disagreements were consensually settled. Subsequently, the first author coded

the remaining announcements. Four 'plans' are contrasted with four 'decisions' in Table 2.

It was straightforward to classify the announcements based on the reported motivation, following the grouping developed in Fratocchi et al. (2016). Accordingly, two of the authors split the announcements into three groups: those reporting *only* 'cost-efficiency' motivations, those reporting *only* 'customer perceived value' ones, and those reporting *both*.

4.3. Data analysis

At first, we examine whether the abnormal returns for days -1 through 2, and cumulative abnormal returns over event windows $[-1, 1]$, $[-1, 0]$ and $[0, 1]$, are statistically significantly different to zero. To increase our confidence in the results, given also the small number of observations in the analysis, we use a variety of event-study tests, as is customary in the literature (see Ding et al., 2018). Specifically, and in order to maintain comparability with the study of Brandon-Jones et al. (2017), we use the Patell test (Patell, 1976), the standardised cross-sectional test (Boehmer et al., 1991), the Corrado rank test (Corrado, 1989) and the generalised sign test (Cowan, 1992). We then split the sample on the basis of the factor of interest, re-run the analysis for the relevant subgroups and compare the results. We also test whether the mean and median ARs and CARs are statistically significantly different between mutually exclusive groups, using independent samples t-tests and median regressions, respectively. Re-running the event-study analysis for sub-categories of announcements is common in the literature employing this methodology (see Jacobs et al., 2010; Jacobs and Singhal, 2017). However, even though this approach permits the deployment of appropriate event-study specific tests (as we do here), it suffers from the limitation of not simultaneously accounting for the role of (all) other relevant firm- or announcement-specific variables in explaining the cross-sectional variation in abnormal returns. Hence, following a host of event-study applications in the literature, as well as methodological guidelines (see Ding et al., 2018), as a robustness check we run a multiple regression with all factors of interest included as covariates.

5. Results

5.1. Event-study results

Table 3 presents the event-study results for the entire sample (Panel A), and for the 'Back-reshoring' and 'kept-from-offshoring' announcement sub-samples separately (Panels B and C respectively). The analysis for the entire sample results in a moderately positive (mean = 0.51%, median = 0.49%) and statistically significant AR on Day 0. Panels B and C suggest that this is primarily driven by the 'kept-from-offshoring' announcements. Notably though, the market seems to react to the two types of announcements in a diametrically different manner on Day 1: a large (mean = 1.1%, median = 0.82%) and strongly significant AR is observed for 'kept-from-offshoring', while a negative and significant average AR (-0.61%) is found for 'back-reshoring'. The main CAR of interest ($[-1, 1]$) also reflects this. The differences are so large that both mean and median ARs of the two groups are statistically significantly different to each other for Day 1 and the $[-1, 1]$ window. These results suggest that as more information about the reshoring announcement becomes potentially available (on Day 1), the confidence of investors in the firm increases for 'kept-from-offshoring' announcements and decreases for 'back-reshoring' ones. As such, 'kept-from-offshoring' is perceived as more value-creating.

After splitting the sample into 'decisions' and 'plans' and re-running the event-study (Table 4 – Panels A and B), we find that there is no significant reaction to reshoring 'decisions'. In contrast, the market reacts positively on the day reshoring 'plans' are announced (mean = 1.04%, median = 0.75%), and all test-statistics are strongly significant.

Table 2
Indicative examples of ‘plans’ and ‘decisions’ to reshore.

Decision	Plan
<p>“<u>General Motors Co.</u> on Wednesday said it would invest as much as \$185 million to build small engines at its Spring Hill, Tenn., factory and move production of its Cadillac SRX crossover vehicle to the facility from Mexico, capping a multiyear shift by the auto maker to bring more work back into its unionized U.S. factories. Production of the about \$40,000 SRX, now assembled at the Detroit auto maker’s Ramos Arizpe, Mexico, factory, will move to the former Saturn division facility in late 2015 with the launch of the second generation SRX. The car should arrive in showrooms in early 2016 ” (WSJ, 2014)</p>	<p>“<u>CNH Industrial N.V.</u> plans to close its grader production facility in Berlin, Germany and relocate it to its manufacturing facility in Lecce, Italy. As part of the on-going CNH Industrial N.V. Efficiency Program, the Company intends to undertake a production transfer of its grader product line from within its construction equipment portfolio. The transfer concerns European manufacturing of graders, wheeled machines for levelling ground, currently produced in Berlin, Germany. The Company plans to relocate these operations to Lecce, Italy, where it operates an existing construction machinery plant ...” (CNH Industrial Newsroom, 2015)</p>
<p>“Drug-maker <u>GlaxoSmithKline</u> has said it will invest £500m in manufacturing in the UK and create up to 1000 jobs. It will build a new factory in Ulverston, Cumbria. Expected to open in 2020, it will be its first new facility in the UK for 40 years. Glaxo said it was “one of the largest commitments to the UK life-sciences sector in recent years”. The firm said its decision was influenced by tax cuts confirmed in this week’s Budget. Glaxo said £100m of its investment would go to its Irvine and Montrose manufacturing sites in Scotland ...” [...] The new Ulverston plant will cost about £350m. Glaxo will start building in 2014-2015 and take at least six years to finish it (BBC News, 2012a)</p>	<p>“<u>Sharp Corp.</u> is considering expanding production in Japan of home appliances such as television sets and refrigerators as the yen has weakened against other major currencies, President Kozo Takahashi said Tuesday. At present, the Japanese electronics maker manufactures 60-inch and larger TVs at its plant in the eastern Japan prefecture of Tochigi, while it makes smaller TVs at plants in China and Malaysia. [...] “Instead of shutting down overseas production, the company intends to cope with the situation by expanding the line-up of domestic production models without major capital spending,” Takahashi told reporters.” (Jiji Press, 2015)</p>
<p>“<u>Caterpillar Inc.</u> today announced it will begin independently designing and manufacturing its vocational truck product family at its plant in Victoria, Texas. [...] “To continue to provide the best solution for our customers, we will bring the design and manufacturing of this product into Caterpillar, and the production specifically to Victoria.” [...] To date, Caterpillar has worked with Navistar for the products’ design and build, which are currently manufactured in Escobedo, Mexico. The transition process will begin immediately, with production expected to begin in the first half of next year. Caterpillar Victoria will continue to produce excavators, and the addition of the vocational truck production is expected to add around 200 new jobs at the facility.” (Caterpillar, 2015)</p>	<p>“<u>Panasonic Corp.</u> plans to transfer most of its home appliance production back to Japan starting in spring due to a weaker yen and a jump in labour costs abroad, according to the company. Top-loading washing machines, almost all of which are currently produced in China, will be the first product Panasonic will resume manufacturing in Japan - at a factory in Fukuroi, Shizuoka Prefecture. The manufacturing of microwave ovens, almost all of which are now produced in China, and air conditioners for household use, also produced in that country, are to be subsequently brought back to Kobe and Kusatsu, Shiga Prefecture, respectively. Panasonic said it plans to expand employment with the increase of domestic production. The company also plans to hold down its capital investment to several billion yen by using empty spaces at its domestic plants.” (The Nation Thailand, 2015)</p>
<p>“<u>Oracle</u> announced on Tuesday that it will expand its production of data center servers and storage systems in Hillsboro, Oregon, rather than moving those jobs overseas. “Oracle is pleased to announce plans to grow our manufacturing presence in Oregon,” said Luke Kowalski, Oracle vice president. “By moving production of our industry-leading systems and servers from Mexico to Oracle’s Hillsboro facility we’ll be able to meet customer demand while bringing new technology jobs to the state of Oregon.” The move will create 130 new jobs as well as preserve 300 existing positions. The company said it will use \$1.4 million in loans from the state of Oregon.” (Industry Week, 2013)</p>	<p>“<u>Daikin Industries Ltd.</u> plans to transfer part of production of home-use air conditioners from China to Japan amid the yen’s weakness, company officials said Thursday. In fiscal 2013 to next March, Daikin plans to produce a total of 1.68 million home-use air conditioners for the Japanese market. The Japanese company initially planned to manufacture 880,000 units at its factory in Kusatsu, Shiga Prefecture, western Japan, and 800,000 units at a plant run by Chinese partner Gree Electric Appliances Inc. in Zhuhai, Guangdong Province.” (Jiji Press, 2013)</p>

Panels C and D report the results after splitting the sample into those announcements that reported a government or state monetary incentive (e.g., subsidy, tax cut) and those that did not. Interestingly, the market reacts only to reshoring plans/decisions where a monetary incentive is not included; the AAR and median AR for this sub-group is .65% and 0.55% respectively, and all test-statistics are significant.

In the next sub-sample analysis, since a facility closure can only take

place as part of a ‘back-reshoring’ event, we exclude the 17 ‘kept-from-offshoring’ announcements. The results (Panel E) are inconclusive. This could be due to the small sub-sample size (only 11 ‘back-reshoring’ instances involved an overseas facility closure), or simply because this factor does not play any role in the market’s judgement. Nevertheless, the statistically significant difference between the median ARs of the two sub-groups on Day 0, might tentatively suggest that a facility closure

Table 3

Full sample analysis and split by reshoring type.

	ARs for individual days				Cumulative ARs		
	Day -1	Day 0	Day 1	Day 2	[-1, 1]	[0, 1]	[-1, 0]
Panel A: All reshoring announcements (N=64)							
Mean	-.2%	.51%	-.15%	-.34%	.15%	.36%	.31%
Median	-.05%	.49%	-.003%	-.05%	.39%	.35%	.23%
Patell	-1.55	2.53**	-.27	-1.46	.05	2.33**	.22
St'dised cross-sectional	-1.3	2.07**	-.25	-1.98**	.03	1.61	.14
Corrado rank	-.11	1.94*	0.04	-1.48	1.03	1.4	1.25
Generalised sign	-.33	1.66*	.16	-.33	.79	.91	1.3
Panel B: Back reshoring announcements (N=47)							
Mean	-.22%	.42%	-.61%	-.31%	-.43%	-.18%	.2%
Median	-.04%	.42%	-.37%	-.01%	-.05%	-.08%	.17%
Patell	-1.52	1.71*	-2.06**	-1.01	-1.52	.25	-.32
St'dised cross-sectional	-1.16	1.29	-2.12**	-1.35	-.85	.18	-.19
Corrado rank	.28	1.03	-1.6	-1.01	-.24	-.39	.88
Generalised sign	-.27	.89	-1.14	.3	-.13	-.56	.75
Panel C: Kept-from-offshoring announcements (N=17)							
Mean	-.15%	.75%	1.1%***	-.4%	1.72%**	1.8%***	.6%
Median	-.09%	.63%	.82%***	-.1%	1.26%	1.6%**	.47%
Patell	-.47	2.05**	2.89***	-1.16	2.65***	4.1***	.97
St'dised cross-sectional	-.58	2.39**	2.95***	-1.61	2.05**	3.27***	.95
Corrado rank	-.66	1.95*	2.71***	-1.11	2.29**	3.28***	.92
Generalised sign	-.2	1.73*	2.22**	-1.17	1.73*	2.71***	1.25

Note: N denotes number of observations. *, **, *** indicate $p < 0.1$, $p < 0.05$ and $p < 0.01$ respectively. All tests are two-tailed. Stars on the mean (median) of a subgroup indicate that its mean (median) is significantly larger than the other subgroup, tested with independent samples *t*-test assuming unequal variances (median regression with robust standard errors).

as part of a repatriation of productive activities is not good news.

Table 5 presents the results after splitting the sample based on what type(s) of motivations were reported. The reaction to reshoring instances for cost efficiency motivations *only*, is positive and significant on the day of the announcement ($AAR = 0.57\%$, median $AR = 0.58\%$), while investors appear unmoved by reshoring for customer perceived value reasons. However, the largest in magnitude ARs and $CAR_{[-1,1]}$ follow announcements reporting *both* types of motivations. Pairwise comparisons of medians on days 0 and 1, also suggest that a dual rationale might appear more convincing to the market.

5.2. Sensitivity of baseline results and multiple regression

For robustness, we experimented with alternative estimation windows (150 and 200 days), but the base-line results are insensitive to the choice. Although inferior to the 'market model', we also employed the 'mean-adjusted' and 'market-adjusted' models to calculate abnormal returns. According to the former, the abnormal return is the difference between the observed return on the day of the event, and the firm's average stock return over the estimation window. The latter assumes that each firm in a given market has similar characteristics to that market (i.e., $\hat{\alpha}_i = 0$, $\hat{\beta}_i = 1$ in equation (2)), and therefore, the abnormal return is the difference between the observed stock return and the return to the market portfolio. No substantively different results were obtained from this analysis.

As a further (strict) robustness check we ran various linear regression models with ARs on Days 0 and 1 (and $CAR_{[-1, 1]}$) as the response variable, and dummy variables representing the characteristics of interest as regressors. We also controlled for the origin of the company (American or not), for whether the monetary value of the investment was revealed, and in alternative model specifications, for the natural logarithm of the reported monetary value, if reported (in USD). The results are presented in Table 6 and should be treated with caution due to the small sample size. Overall, the models provide only weak support to some of our main findings: 'kept-from-offshoring' announcements and 'plans' to reshore are generally seen as relatively more positively. As a side note, we also observe that announcements by US firms are seen relatively more favourably, which may be because reshoring has largely been a US

phenomenon, to date, and investors have 'learnt' to recognise such announcements as positive for the cash flow generation potential of firms.

6. Discussion

The present study aimed to assess whether, on average, the market sees reshoring as value-creating or value-destroying, and through exploiting the information content of the announcements, to reveal under which circumstances investors respond differently.

6.1. The market's reaction to 'back-reshoring' and 'kept-from-offshoring' announcements

Despite the different sample to Brandon-Jones et al. (2017), the two studies are largely in agreement regarding the effect of back-reshoring on shareholder wealth. Namely, there is a slightly positive and significant¹ abnormal return on the day of the announcement, and a negative and insignificant 3-day cumulative abnormal return. A combined look at the results of the two studies, suggests that there is no convincing evidence that repatriation of a firm's production, *on average*, increases its market value. The small samples on which both studies are based do not allow a confident assessment, but we believe that this seemingly 'neutral' market reaction is due to the heterogeneity of reshoring events. This heterogeneity manifests itself through the information on specific features and properties of the reshoring event, and it was the main focus of this study.

Therefore, we suggest that companies should not see back-reshoring as a strategy that will *invariably* increase shareholder wealth. Similarly, when trying to convince manufacturers to repatriate offshore production, policymakers from developed economies should refrain from using claims of a subsequent increase in shareholder wealth as bargaining means.

On the other hand, 'kept-from-offshoring' announcements generate a large and positive abnormal return. In fact, on Day 1 and over the [-1, 1] event window, mean and median abnormal returns for 'kept-from-

¹ But in our case, only according to one test (Patell).

Table 4

Sub-sample analysis based on the orientation of the announcement (decision V. plan), the existence of financial incentives, and facility closure.

	ARs for individual days				Cumulative ARs		
	Day -1	Day 0	Day 1	Day 2	[-1, 1]	[0, 1]	[-1, 0]
Panel A: 'Decisions' to reshore (N=41)							
Mean	-.37%	.21%	-.47%	-.31%	-.63%	-.25%	-.16%
Median	-.11%	.42%	-.08%	-.02%	-.25%	-.05%	.1%
Patell	-1.67*	.6	-1.32	-1.05	-2**	-.33	-1.24
St'dised cross-sectional	-1.36	.51	-1.25	-1.72*	-1.24	-.24	-.83
Corrado rank	-.52	.4	-.72	-1.3	-.5	-.22	-.1
Generalised sign	-1.26	.60	-.33	-.01	-.01	-.33	.29
Panel B: 'Plans' to reshore (N=23)							
Mean	.09%	1.04%	.41%**	-.38%	1.6%**	1.46%**	1.18%*
Median	.09%	.75%	.16%	-.2%	.82%	.61%	.61%
Patell	-.35	3.41***	1.31	-1.03	2.78***	4.34***	2.03**
St'dised cross-sectional	-.3	2.84***	1.27	-1.1	1.6	3.02***	1.38
Corrado rank	.53	2.88***	1.09	-.82	2.61***	2.8***	2.45**
Generalised sign	1.12	1.96**	.71	-.54	1.36	1.96**	1.78*
Panel C: Reshoring announcements reporting financial incentives (N=16)							
Mean	-.53%	.1%	.21%	-.71%	-.2%	.31%	-.42%
Median	-.06%	.04%	.23%	-.77%	.45%	.53%	.09%
Patell	-1.7*	-.7	.42	-1.91*	-1.96*	-.41	-2.2**
St'dised cross-sectional	-1.18	-.58	.59	-2.8***	-.1	-.27	-1.14
Corrado rank	-.64	-.03	.86	-2.22**	.09	.58	-.48
Generalised sign	-.91	.08	1.58	-1.41	.58	1.08	.08
Panel D: Reshoring announcements not reporting financial incentives (N=48)							
Mean	-.09%	.65%	-.27%	-.21%	.27%	.37%	.56%
Median	-.02%	.55%	-.28%	.01%*	.35%	.06%	.33%
Patell	-.8	3.32***	-.55	-.59	1.19	2.93***	1.52
St'dised cross-sectional	-.73	2.79***	-.47	-.8	.74	2.06**	1.16
Corrado rank	.25	2.29**	-.46	-.38	1.12	1.26	1.74*
Generalised sign	.13	1.86*	-.73	.42	.57	.42	1.44
Panel E: Back-reshoring announcements reporting a facility closure (N=12)							
Mean	.09%	-.06%	-.1%	-.56%	-.97%	-.1%	.02%
Median	-.14%	-.62%	-.58%	.03%	-.64%	-.48%	-.06%
Patell	.25	-.03	-.61	-.95	-.12	-.47	.22
St'dised cross-sectional	.32	-.03	-.76	-1.2	-.1	-.42	.21
Corrado rank	.05	-.7	-1.01	-.85	-.96	-1.21	-.46
Generalised sign	-.57	-1.14	-1.14	.58	-1.14	-1.14	-.57
Panel F: Back-reshoring announcements not reporting a facility closure (N=35)							
Mean	-.33%	.6%	-.48%	-.23%	-.23%	.11%	.26%
Median	-.02%	.58%*	-.37%	-.02%	.3%	-.01%	.19%
Patell	-1.91*	2**	-2**	-.61	-1.69*	.57	-.51
St'dised cross-sectional	-1.32	1.41	-1.97**	-.82	-.86	.37	-.28
Corrado rank	.28	1.55	-1.29	-.71	.24	.18	1.26
Generalised sign	.01	1.7*	-.65	.01	.52	.01	1.21

Note: N denotes number of observations. *, **, *** indicate $p < 0.1$, $p < 0.05$ and $p < 0.01$ respectively. All tests are two-tailed. Stars on the mean (median) of a subgroup indicate that its mean (median) is significantly larger than the other subgroup, tested with independent samples *t*-test assuming unequal variances (median regression with robust standard errors).

offshoring' events are statistically significantly larger to 'back-reshoring'. We believe that this is because 'kept-from-offshoring' implies that the firm invests at home *instead of* abroad, and thus, by definition, comprises a net capacity expansion. Past research has found that the effect of strategic investments on market value is generally positive (Woolridge and Snow, 1990), especially when the investment comes with a capacity expansion (Hendricks et al., 1995). Meanwhile, 'back-reshoring' could involve plant closures, divestments, layoffs, and other elements that can be perceived by the market as a reduction in capacity, which could undermine its outlook in the eyes of investors (Bhabra et al., 2002).

Moreover, 'kept-from-offshoring' is less risky than 'back-reshoring', since it does not involve relocation of activities, personnel, and equipment. The company also does not have to worry about possible barriers that the host government might apply to prevent the former from exiting the country (Moore et al., 2018). Since investors might weigh such risks against the promise of future cash flows for the company, and such risks are universally absent in 'kept-from-offshoring' agreements, our result is not surprising.

6.2. The differential effect of 'plans' and 'decisions' to reshore

Somewhat counterintuitively, we found that announcements reporting fixed 'decisions' to reshore do not generate a significant market reaction. In contrast, 'plans' to reshore lead to a clearly positive and statistically significant return. We offer two possible explanations for this finding.

Firstly, it might be the case that a reshoring 'decision', although distinct from other financially relevant events, is part of a broader strategic investment (or restructuring) program of the firm. Thus, even though the individual reshoring 'decision', and the detailed financial (and other) information is news to the market, the overarching investment program might not be. This program might have been announced earlier, so it is possible that its expected impact on the value of the firm has already been assessed and discounted by the market by the time of the individual reshoring 'decision' announcement (Burton et al., 1999). The reshoring decision certainly includes fresh information regarding the materialization of one component of the program, but the market might not deem a further adjustment of the firm's share price justified.

Table 5
Sub-sample analysis based on type of motivations.

	ARs for individual days				Cumulative ARs		
	Day -1	Day 0	Day 1	Day 2	[-1, 1]	[0, 1]	[-1, 0]
Panel A: Reshoring announcements reporting only cost efficiency motivations (N=29)							
Mean	.12%	.57%	-.41%	-.29%	.28%	.16%	.71%
Median	.04%	.58%	-.37%	-.1%	.33%	.06%	.97%
Patell	.26	1.73*	-.88	-.92	.94	1.1	1.47
St'dised cross-sectional	.39	1.41	-1	-1.17	.61	.69	1.16
Corrado rank	.32	2.17**	-1.2	-.82	.65	.65	1.76*
Generalised sign	.59	1.7*	-.89	-.14	.41	.59	1.17
Panel B: Reshoring announcements reporting only customer perceived value motivations (N=15)							
Mean	-.68%	.07%	.12%	-.54%	-.48%	-.19%	-.61%
Median	-.15%	-.27%	-.08%	-.09%	-.48%	-.05%	-.55%
Patell	-1.96**	.26	-.59	.97	-1.43	-.68	-1.77*
St'dised cross-sectional	-1.17	-.24	-.58	-1.3	-.78	.48	-1.21
Corrado rank	-.81	-.08	.09	-1.15	-.48	-.002	-.64
Generalised sign	-.73	-.21	-.21	-.21	-.21	-.21	-.73
Panel C: Reshoring announcements reporting both types of motivations (N=20)							
Mean	-.32%	.76%	.01%	-.24%	.44%	.77%	.43%
Median	-.1%	.58%*	.43%**	-.009%	.45%	.47%	.17%
Patell	-1.1	1.74*	.04	-.53	.19	2.25**	.16
St'dised cross-sectional	-1.03	1.65*	.04	-.95	.1	1.77*	.09
Corrado rank	.12	.93	1.47	-.61	1.45	1.69*	.74
Generalised sign	-.68	1.11	1.55	-.23	1.11	1.11	1.55

Note: N denotes number of observations. *, **, *** indicate $p < 0.1$, $p < 0.05$ and $p < 0.01$ respectively. All tests are two-tailed. Dark-grey cells indicate statistically significant means/medians in pairwise comparisons.

Table 6
Multiple regression as a robustness check.

	Dependent variable					
	AR ₀	AR ₁	AR ₂	AR ₃	CAR _[-1,1]	CAR _[0,1]
Reshoring type ('back-reshoring' = 1)	-.09 (.5)	-1.24* (.59)	-1.21*** (.37)	-1.19** (.53)	-1.514 (.992)	-3.48*** (1.15)
Decision v. plan ('decision' = 1)	-.67 (.67)	-.55 (.58)	-.958* (.47)	.456 (.65)	-1.85 (1.12)	-.333 (1.712)
Incentives ('yes' = 1)	-.81 (.65)	-.86 (.55)	.143 (.31)	-.383 (.33)	-1.149 (1.188)	-2.1 (1.46)
Plant closure ('yes' = 1)	-1 (1.1)		-.683 (.69)		-1.67 (1.836)	
Motivation (reference: cost-efficiency only)	-.57 (.74)	.6 (.81)	.68 (.534)	-.567 (.77)	-.743 (1.3)	-2.65 (2.1)
Customer perceived value						
Both	-.08 (.63)	-.33 (.54)	-.1 (.48)	-.371 (.364)	-.599 (1)	-1.378 (1.099)
Monetary value revealed ('yes' = 1)	-.45 (.56)		-.316 (.373)		-1.1 (1)	
US firm ('yes' = 1)	.5 (.8)	-.7 (.6)	1.14** (.52)	1.47** (.653)	1.812 (1.17)	1.03 (1.74)
Monetary value (natural logarithm of USD)		-.04 (.11)		.23*** (.06)		.066 (.29)
N	64	27	64	27	64	27
R ²	0.08	0.32	0.33	0.54	0.17	0.45

Note: Standard errors in parentheses. N denotes number of observations. *, **, *** indicate $p < 0.1$, $p < 0.05$ and $p < 0.01$ respectively. All regressions use clustered (by firm) standard errors. When the natural logarithm of the monetary value of the investment is included in the regression, the dummies for revealed value and plant closure are dropped because of collinearity. ARs and CARs were expressed in percentages, so all coefficients denote percentage differences in ARs and CARs between each category and its reference level.

On the other hand, a 'plan' to reshore is a new venture and constitutes entirely new information for the market. Generally, this raises the expectation of investors for value creation (Sargent and Wallace, 1975).

A second explanation could be the following. Since a 'plan' does not make extensive reference to the details of the investment (since they may have not been fixed yet), it is unlikely to include elements that could be seen negatively by investors. This reinforces a positive reaction, maybe even in the expectation of further 'good' news in the future. In comparison, a 'decision' may include information about fixed parameters that may be deemed to have fallen short of the market's expectations (e.g., the value of the investment, the number of jobs to be created).

6.3. The role of state monetary incentives

Although CAARs around the days of reshoring announcements that reported a government/state financial incentive (e.g., tax cut, subsidy), are comparable to those announcements that did not, the positive and

significant Day 0 AR for the latter suggest that the market, even marginally, sees reshoring *without* financial incentives more favourably. This suggest that incentives, in themselves, are not attractive propositions for investors. This may be because the agreed tax cuts or subsidies are deemed unsubstantial (Brush et al., 1999; Tzelepis and Skuras, 2004; van Tongeren, 1998), or that they are perceived as the main factor driving the reshoring decision or plan (instead of, for example, a strategic and comprehensive cost-benefit analysis). It might suggest that managers are interested in short-term rent seeking, which could be seen as a risk for the firm's future cash flow generation potential (Bergström, 2000).

Although one should not take this finding as definite (mainly due to the small sub-samples) it casts some doubt about the effectiveness of financial incentives and can act as a starting point for further research.

6.4. The effect of plant closures

The analysis did not provide a clear picture regarding the effect of an

overseas facility closure. Despite the small sub-sample, it is likely that investors are indifferent to whether the company ceases operations abroad, as long as there is an (equivalent) investment in the home country (Chan et al., 1995), which is generally what a 'back-reshoring' announcement involves. This 'local' compensation for a 'global' reduction in operating capacity might justify the relatively neutral market reaction (Burton et al., 1999; McConnell and Muscarella, 1985).

6.5. Motivations for reshoring and the market value of the firm

The analysis provided some support to the assertion that 'customer perceived value' related motivations are not seen positively by the market. This is in line with the idea that a focus on value creation for customers is an uncertain endeavour that may take time to lead to extra profits, thus reducing the current attractiveness of the reshoring decision or plan in the eyes of short-sighted investors (Ellsworth, 1985). Moreover, as finance literature would suggest (e.g., Bhabra et al., 2002; Chan et al., 1995; Ghosh et al., 1995), we observed generally positive abnormal returns following reshoring instances for 'cost-efficiency' related motivations. This is because these could lead to cost savings and efficiency gains (thus, profits) in the short-to-medium term (Woolridge, 1988).

However, it is worth mentioning that, comparatively speaking, the market favored announcements that reported motivations spanning across *both* high-level categories. This might suggest that a strong, multi-faceted rationale, conveyed clearly to the market, is the most promising approach.

7. Implications

This study comprises a preliminary attempt towards addressing the clear gap in the existing knowledge regarding the effect of manufacturing reshoring. This issue is becoming increasingly relevant, since the COVID-19 pandemic is expected to trigger new waves of reshoring (Barbieri et al., 2020; UNCTAD, 2020b).

Our investigation provides evidence that the value-creation potential of reshoring instances depends on the information revealed in the announcement, or in other words, on properties and characteristics of the reshoring event. We find that explicitly choosing to invest at home instead of overseas (*i.e.*, 'kept-from-offshoring') is generally seen more positively by investors, compared to a physical relocation of an activity. Reshoring announcements presented as 'plans' lead to a more positive market reaction than fixed firm 'decisions', while the existence of a subsidy is not appreciated by investors. Overseas plant closures accompanying a 'back-reshoring' decision (or plan) does not appear to play a role. Finally, 'cost-efficiency seeking' motivations are more convincing than 'customer-perceived value' ones, but, most likely, a multi-layered rationale is the company's best bet for a positive abnormal return.

These results should *not* discourage firms and policy makers. However, they suggest that actors should pay close attention to the specific parameters of the reshoring moves, because it is these details that might drive differential market response. Here we have explored the role of a small number of attributes, of what is a very complex and heterogeneous firm strategy. Indeed, a reshoring move may be driven by a multitude of motivations, may involve host and destination countries with fundamentally different legislations and industrial policies, may be accompanied by layoffs, plant closures, subsidies, the formation (or dissolution) of relationships with suppliers and customers, and so on. We have provided some evidence that it is these sorts of information that are important to the market, and that can explain the cross-sectional variation in market reaction to reshoring announcements.

8. Conclusions

8.1. Limitations and future research

The inescapable limitation of this work is the small sample size on which the analysis is based, due to the few manufacturing reshoring announcements by public firms to date. This is why we call for caution when interpreting the results. Beyond any doubt, an event-study using a large sample will more reliably and accurately measure the 'true' effect of reshoring on the firm's market value, and could allow the emergence of salient patterns as to which firm- and announcement-specific factors lead to a more positive (or negative) market reaction. An additional limitation is that the classification of announcements based on the strength of the commitment of the firm (*i.e.*, between 'plan' and 'decision'), and its underlying motivation (*i.e.*, between 'cost-efficiency' and 'customer-perceived value'), is ultimately subjective, since it relied on the authors' interpretations of textual evidence. The research team tried to ensure that the classification process was as reliable as possible (e.g., using multiple 'coders', consulting more than one media sources, 'tracking' the materialization of the announced endeavours), but some of our decisions were indeed a 'close call'.

Reshoring decisions are becoming more common, and supply chains are likely to become less global due to the current political climate in the US (aftermath of President Trump's policies) and the UK ('Brexit'), as well as because manufacturers will re-evaluate their global footprint in the post-pandemic world. As such, revisiting the shareholder wealth effects of reshoring is itself a research direction for the future. Moreover, the role of other announcement- or firm-specific variables could be explored. For example, it is worth investigating whether offshoring decisions reversed promptly lead to a larger, or smaller positive abnormal return, compared to those that take a long time to reverse. One could expect that a prompt reversal conveys an astute 'error-correction', reactive capability that may be acknowledged by the market. Furthermore, since larger firms have relatively more suppliers and plants, a reshoring decision relates to proportionally less of their production volume or purchased units, compared to smaller firms. This means that reshoring by a small firm has more 'weight' on their cash flow generation potential, which may be followed by a relatively more positive market reaction.

An additional implication of these results is that researchers should look beyond the firm level and adopt a longer-term horizon to discover and assess the impact of reshoring decisions. We expand on this in the following section.

8.2. Towards a holistic account of reshoring effects

We believe that future research should adopt a more encompassing view to examine the phenomenon. Specifically, we urge scholars to focus on other levels and units of analysis, in addition to the individual firm that decides to reshore. These may include the firm's industry, its supply chain(s), the local community and regional business eco-system, and even the entire country. Such a multi-level approach would require a medium-to-long term time horizon, since impacts pertaining these levels are unlikely to be realised when the announcement is made or immediately after. The development and application of a formal framework to holistically assess reshoring decisions, is a worthy future endeavour that can lead to more informed decision making by company executives and policy makers. It can also aid the systematic examination of the connection between competitiveness and industrial policy, and how the latter, by encouraging manufacturing activity at home, can facilitate interaction and cooperation between different agents in the system that can fuel innovative behaviour in manufacturing (Spring et al., 2017).

As a final note, we do not believe that reshoring is a flawed decision, neither for a company's global network design, nor for a country's industrial strategy. To the contrary, it is intuitive to us that from both

perspectives the pros will outweigh the cons. But for this to happen there is a need for a broader view of the reshoring phenomenon to uncover these positive and negative effects of each decision at different levels.

Author statement

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Declaration of competing interest

No author has any conflict of interest to disclose.

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