

The effect of reshoring decision announcements on the market value of the firm

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Abstract

This work employs the event study methodology to examine the effect of announcements of manufacturing reshoring on the market value of the firm. Only weak support for a positive average ‘abnormal return’ is found, while the existence of government financial incentives, or whether the announcement reports a ‘set decision’, versus a mere ‘plan to’ reshore, are ineffectual attributes. Moderate support for a positive effect on market value is identified when the firm announces a simultaneous plant closure abroad. Further, for the same sample of firms, the market reaction to offshoring announcements is not statistically significantly different than reshoring.

Keywords: reshoring, event study, offshoring

Introduction

Despite the increasing relevance of manufacturing reshoring, most extant research has focussed on explaining *why* firms decide to repatriate manufacturing activities (e.g. Ancarani et al., 2015) with little attention paid on the impact of such decisions. Whether it is seen as a short-term ‘error correction’ mechanism (Kinkel and Maloca, 2009), or as a conscious strategic re-direction of the firm in response to changes in the local or global environment (Martínez-Mora and Merino, 2014), reshoring is assumed to be performance-enhancing for the firm. However, empirical evidence of this is currently very thin.

A recent study has started to address the gap by looking at the impact of reshoring decisions of public firms on their market value, a key performance indicator (Brandon-Jones et al. 2017). Using event study, Brandon-Jones et al. (2017) find a moderately positive and significant ‘abnormal’ return on the day of the announcement. The present study seeks to, firstly, corroborate the findings of Brandon-Jones’s et al. (2017), and secondly to extend them by identifying the types of reshoring announcements that are

relatively seen by investors as more value-creating. Thirdly, and for the same sample of firms, the effect of reshoring versus offshoring decisions is compared.

The paper begins with the theoretical background, where four hypotheses are developed based on theory and intuition. It follows with the methodology and results, and concludes with a short discussion of the findings.

Theoretical background

Manufacturing reshoring is a location decision that: (1) is a revision of a previous offshoring choice (i.e., a second-step choice), and (2) involves the relocation of production to the company's home (or nearby) country (Fratocchi et al., 2014).

An increasing number of scholars has started investigating reshoring (see Wiesman et al., 2017), adopting the following theoretical perspectives: International trade theory, strategic management theories and international business theories.

Firstly, international trade theory focuses on the relevance of differences in production costs and/or factor endowments between countries. Hence, reshoring should reflect changes in the availability and costs of factors between countries that modify their comparative advantages, and restore the attractiveness of production in the home country.

From a strategic management point of view, authors have drawn from Transaction Cost Theory (TCT) and the Resource Based View (RBTV) to provide theoretical motivations for reshoring. From a TCT perspective, reshoring could be driven by the higher coordination and control related costs of global supply chains (Kinkel & Maloca, 2009). From an RBV perspective, returning manufacturing back home could reflect the firm's inability to develop distinctive resources abroad, or to properly exploit the host country's resources.

In the international business context, the two most popular frameworks are Internalization theory and Dunning's eclectic paradigm. Both were originally developed with the aim to explain the international expansion of the firm and have been applied to the firm's international reconfiguration (including reshoring). Internalization theory sees direct control (i.e., internalization) over scarce, firm-specific, knowledge-based resources and capabilities as the most efficient way for a firm to off-shore its activities. Based on this framework, reshoring decisions can originate from changes in the fundamental parameters of the global economy (Casson, 2013). The eclectic paradigm of international production proposes that location-advantage is just one of three broad factors affecting international production (Dunning, 1980), together with ownership- and internalization-advantage. Hence, reshoring can originate from changes in location-specific advantages (Ellram et al., 2013), or from the deterioration over time of ownership and internalization advantages on which the initial off-shoring decision was based.

Hypotheses development

Recent studies have identified various motivations for companies to bring production and supply bases closer to their headquarters (see Ancarani et al., 2015; Ketokivi et al., 2017). These strategic decisions require the consideration of multiple financial, quantitative and qualitative parameters, which in turn determine benefits and costs that may result either in positive or negative incremental cash flows (Brandon-Jones et al., 2017).

According to the shareholder value maximization hypothesis, the stock market reacts positively to corporate announcements of strategic investment decisions (Woolridge and Snow, 1990), since they increase the firm's market value by enhancing its ability to generate future cash flows. However, strategic investment decisions (like reshoring) are major commitments of current resources, involving a current resource outflow and an uncertain payback. Therefore, since any significant corporate investment decreases

current earnings and increases uncertainty regarding the firm's future performance, it may imply a negative reaction by investors.

From a neo-institutional perspective, reshoring helps a firm signal legitimacy to major customers. It can be interpreted as a proof of a firm's 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 demand for organisations to produce at home and to use country-specific production factors and resources, such pressure could be a powerful driver for a positive reaction of investors to reshoring announcements. However, if the only benefit from reshoring is the ability to signal, and all other components of operational performance remain unchanged after the relocation, investors may perceive as more salient the costs involved in the process of moving facilities to the domestic location, employing personnel with higher wages, closing existent facilities abroad, and rebuilding the supply chain. Hence, reshoring may result in a negative reaction by the investors who may fear a loss of profitability. Accordingly, competing hypotheses are offered regarding the average effect of reshoring on market value:

Hypothesis 1a: On average, reshoring announcements will be associated with a positive 'abnormal return' for the firm, or in other words, reshoring is 'value-creating'.

Hypothesis 1b: On average, reshoring will be associated with a negative 'abnormal return' for the firm, or in other words, reshoring is 'value-destroying'.

Furthermore, firms often announce that they 'plan to' reshore. Alternatively, firms may announce a set decision to reshore, with the details (e.g. timescale, value, jobs to be created) clearly determined and revealed. From an institutional theory point of view, a 'plan' to reshore may be seen merely as a symbolic implementation, sufficient to provide the organisation with legitimacy in the eyes of the market. However, it does not signal the same level of commitment as a 'set decision' to reshore. The latter may also be thought of as the outcome of a rational strategic process (e.g. involving cost-benefit analysis), with all relevant parameters accounted for. It is thus reasonable to expect that:

Hypothesis 2: Announcements of 'decisions' to reshore will, on average, be seen more positively by the market compared to announcements of 'plans' to reshore.

Commonly, manufacturers agree with government or local authorities on tax breaks and subsidies to motivate a local capacity expansion instead of a move overseas, or to relocate production capacity to the home country (reshoring). When these monetary incentives are in place and reported publicly, investors may consider it easier for the focal firm to generate the promised future cash flows associated with the decision. Therefore:

Hypothesis 3: Announcements that report monetary incentives and benefits for the firm will, on average, be associated with a higher abnormal return compared to announcements that do not.

When a firm brings manufacturing back to the home country, it is possible to cease 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 to the reshoring decision. Thus:

Hypothesis 4: Announcements that report an overseas plant closure will be associated, on average, with higher abnormal returns than those that do not.

Moreover, there are several interdependent motivations of reshoring (Fratocchi et al., 2016). These motivations generally fall into four categories: 'market seeking', 'resource seeking', 'efficiency seeking' and 'strategic advantage seeking' (Ancarani et al., 2015). There is no theoretical reason to hypothesize a differential market reaction to reshoring announcements based on the reported motivation, but it is an issue that we herein explore. Finally, a key question is whether reshoring is seen by the market as value-creating,

compared to offshoring. Therefore, for the same sample of firms, we compare the market value effect of reshoring decisions to that of offshoring decisions.

Methodology

We employ an event study methodology (Brown & Warner, 1985; Hendricks et al., 2015). 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 assessment of the investors of the impact of the event on the firm’s market 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.

To estimate the expected return we use the ‘market model’ (see Brown & Warner, 1985) which accounts for market-wide movements. 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 study, 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 main value-weighted market index (e.g. S&P 500 for New York stock exchange, FTSE 100 for London). Price data were 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 $\hat{\alpha}_i$, $\hat{\beta}_i$ using ordinary least squares (OLS) regression over 200 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 mean 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 mean cumulative abnormal return across the sample firms over an event window is the sum of the mean abnormal returns of Eq. (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. We calculate AR s for the four days preceding and following the announcement, and the longest event window CAR we consider is from Day -4 to Day $+4$. This allows us to capture any effects due to possible

information leakage prior to the announcement, or of asynchronous trading and delayed investor reaction.

Dataset

A sequence of steps was followed to construct the announcements dataset:

- Out of the Uni-CLUB MoRe dataset of reshoring decisions (see Ancarani et al., 2015), the sub-set of those decisions taken by public firms was extracted.

- In order to measure the market reaction, i.e., the belief of the investors as to whether the reshoring decision is ‘good’ or ‘bad’ news for the cash-flow generation potential of the firm, the exact date of the announcement was required. Hence, we carefully and extensively used Dow Jones Factiva and Google to identify the first date that the company announced its intention to reshore, reported by major news services (e.g. Dow Jones, Wall Street Journal, Reuters, etc.). We acquired time stamps of the news pieces to account for time zone differences, and to determine if the stock market was closed (after 4:00 pm), in which case the following day was considered as Day 0. Several observations from the Uni-CLUB MoRe dataset were dropped because the exact announcement date could not be identified. This resulted in a sample of 46 announcements by 39 firms. Out of these 39 firms, 27 are American, 6 German, 1 British, 1 Swedish, 1 Swiss, 1 Italian, 1 Japanese and 1 French. Only 11 of our reshoring ‘events’ (firm–announcement date) overlap with the sample of Brandon-Jones et al. (2017), who were unwilling to share their remaining observations.

- For each reshoring event, several variables were captured. These included home country, host country, industry, value of the investment in \$US (where available), whether the decision was subsidised by the government, and whether the reshoring decision was associated with an overseas plant closure. We also captured the reported motivation for reshoring, based on the categorisation developed in Ancarani et al. (2015). Moreover, we distinguished between announcements of ‘plans’ to reshore, and announcements of confirmed ‘decisions’. Finally, we differentiated between ‘direct’ and what for brevity we call here ‘indirect’ reshoring. The first refers to a physical move of offshore production capacity back to the home country (‘back-reshoring’). 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. This is consistent with the Reshoring initiative website (www.reshorennow.org), which refers to such decisions as ‘kept-from-offshoring’. 14 announcements were deemed to fall into this category, with the remaining 32 reporting a ‘direct’ reshoring decision or plan.

- For each reshoring instance, we looked for a comparable (in terms of size) offshoring decision of the same firm. We recorded the date of the announcement and the value of the investment associated with it (where available). For 5 reshoring instances, a respective offshoring announcement could not be identified, leading to only 41 offshoring decisions by 35 firms.

Data analysis

To test H1, we examine whether the mean abnormal returns for days -4 through +4, and mean cumulative abnormal returns over various event windows, are statistically significantly different to zero, using two parametric and two non-parametric tests. Specifically, 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). To test H2 to H4, we re-run the analysis for the relevant sub-groups and compare the results.

Sub-group analysis is also used to explore whether the market reacts differently to announcements reporting different reshoring motivations. We also use an OLS regression (with company dummies as regressors 'imitating' a fixed-effects model) to see whether reshoring is seen more positively or negatively compared to offshoring.

Results

Table 1 (pp. 8-9) presents (selected) event study results. To keep the table tidy, only AARs and CAARs and their respective statistical tests are reported.

Panel A includes the results of the analysis for the entire sample of reshoring announcements. The only statistically significant reaction is a negative mean abnormal return of -0.25% two days after the announcement. We suspected that this may be an outcome of the aggregation of 'indirect' and 'direct' reshoring announcements, hence reran the analysis separately for the two types. These results are in Panels B and C. For direct reshoring, there appears to be a belated market reaction, firstly somewhat negative on Day 2, and then positive for Days 3 and 4 after the announcement. For indirect reshoring, the (positive and statistically significant) market reaction is exclusively on Day 1 (AAR=0.58%). Interestingly, indirect reshoring also shows significantly positive CAARs. Together, these results provide (weak) support for H1a.

Panels D and E report the analysis after splitting the sample into reshoring 'plans' versus confirmed 'decisions', attempting to test H2. The results are inconclusive: 'plans' to reshore generate a significantly positive AAR (0.57%) on the day of the announcement (which however disappears on Day 2), while for 'decisions' to reshore, the Patell test statistic is positive and significant on Day 1 (AAR = 0.29%).

Panel F contains the results for the sub-group of the 18 announcements that reported a state or government subsidy (including tax breaks). The results are virtually identical for the remaining 28 (not included in Table 1), suggesting that the existence of a subsidy does not produce differential market reaction. This means that H3 is not supported.

The results in Panel H pertain to the sub-sample of 40 announcements that did not report an overseas plant closure. Only the generalised sign test is statistically significant on two days (at the 10% level), suggesting that the market does not recognise these announcements as informative of the firms' cash flow generation potential. In contrast, Panel G suggests that the market reaction to announcements involving a plant closure overseas varies considerably for different days: there is a positive and significant CAR on Day 2, which reverses its sign on Day 0 and becomes positive and significant again 3 and 4 days after the announcement. However, because some CAARs are significantly positive, one could claim that the analysis provides (weak) support for H4.

Offshoring announcements are analysed in Panel I. Although, in general, CAARs are lower than for reshoring announcements, it is difficult to say if offshoring is seen less favourably by the market. Thus, we ran a regression with CAARs (one at a time) as the dependent variable, and reshoring/offshoring as an indicator variable and firm-specific dummy variables as regressors. In no model the coefficient of the reshoring dummy was significantly different to zero, hence the results are not presented here.

Finally, Panel J repeats the analysis for the sub-sample of 11 firm-date pairs that are included in Bandon-Jones's et al. (2017) sample. This gives negative and significant AARs and CAARs, which contrasts the findings of the original paper. This discrepancy could be due to the missing (unknown to us) 26 firm-date pairs.

Not reported here is the analysis after splitting the sample based on the reported motivation. It turns out that 'efficiency seeking' reshoring decisions generate negative CAARs, while 'resource seeking' ones are seen positively by investors. The first result could be due to signalling to the market that the firm has inefficiencies, while the second

may be because investors see possible cost and quality improvements through access to superior resources (e.g. skilled labour) in the home country.

Discussion and conclusions

This study attempted to determine whether the market sees companies' announcements of manufacturing reshoring as value-creating or value-destroying. In this way, it tried to corroborate the results of Brandon-Jones et al. (2017). Based on analysis for different sub-groups, it also tried to test three additional hypotheses that arose intuitively from existing knowledge, asserting differential market reaction for different types of reshoring announcements. Our analysis suggests that the picture is much less clear and straightforward than the one presented in Brandon-Jones et al (2017). As a matter of fact, restricting the analysis to the sub-set of common firm–date pairs (11 observations), the effect of reshoring appears to be negative. This means that a full replication of their work is required. Nevertheless, our analysis suggests that announcements of both 'direct' and 'indirect' reshoring generate a small but significantly positive abnormal return on the days after the announcement, providing weak support for H1a.

Furthermore, whether reshoring is associated with a government or state subsidy, does not seem to be relevant information for investors (against H3), while it is impossible to tell whether 'plans' or fixed 'decisions' to reshore are seen more positively (H2). Regarding H4, and keeping in mind the very small subset of announcements associated with an overseas plant closure, we found partial support that the market recognises a higher cash flow generation potential for the firm due to lower overheads and transactions costs overseas.

Lastly, although offshoring is (on average) seen somewhat less favourably by the market, the difference in AARs and CAARs for the two types of manufacturing location / sourcing decisions is not different to zero at any reasonable level of statistical significant.

Limitations and further research

The small sample size is a considerable limitation, leading to largely inconclusive results. The results are extremely sensitive to different grouping criteria, and may change drastically even if one single observation is re-grouped (e.g. if a 'plan' to reshore is recoded as fixed 'decision'). Hence, all results presented herein should be treated with caution. This is also the reason why the (unreliable) results of a cross-sectional regression (with abnormal returns as the response variable, and the variables of interest and firm-specific controls as regressors) to test H2 to H4 are not reported here. Nevertheless, the research team is currently working on extending this work in several directions. Firstly, it is worth examining whether offshoring decisions reversed promptly have 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. Secondly, because larger firms normally have relatively more suppliers and plants, a re-shoring decision relates to proportionally less of their production volume or purchased units, compared to smaller firms. This means that re-shoring by a small firm has more 'weight' on their cash flow generation potential which may be acknowledged by the market and hence lead to a relatively higher abnormal return. Thirdly, one could examine which reshoring governance mode is the most value-creating.

	Abnormal Returns for individual days									Cumulative Abnormal Returns						
	-4	-3	-2	-1	0	+1	+2	+3	+4	[-4, +4]	[-2, +2]	[-1, +1]	[-1, +4]	[-1, +2]	[0, +2]	[0, +4]
Panel A: All reshoring announcements (N=46)																
Mean	.0009	-.0017	.003	.0038	-.0003	.0012	-.0025	.0031	.0024	.0099	.0052	.0047	.0076	.0021	-.0016	.0038
Patell																
St'dised cross-sectional							**									
Rank							*									
Generalised sign							*									
Panel B: 'Direct' reshoring announcements (N=32)																
Mean	-.0012	-.0008	.004	.0036	-.002	-.0008	-.0028	.0084	.0048	.0132	.002	.0008	.0113	-.0019	-.0056	.0076
Patell								**								
St'dised cross-sectional								*								
Rank									*							
Generalised sign							*		**							
Panel C: 'Indirect' reshoring announcements (N=14)																
Mean	.006	-.0038	.0008	.004	.0036	.0058	-.0019	-.0089	-.0032	.0024	.0124	.0135	-.0005	.0115	.0074	-.0046
Patell						**						**		*	*	
St'dised cross-sectional						**						*				
Rank						**						*				
Generalised sign						**										
Panel D: 'Plans' to reshore (N=20)																
Mean	-.0006	-.0072	.0045	-.0012	.0057	-.001	-.004	-.0009	.0016	-.0031	.004	.0034	.0001	-.0005	.0006	.0013
Patell																*
St'dised cross-sectional					**		**									
Rank					**		*									
Generalised sign					**		*									
Panel E: 'Decisions' to reshore (N=26)																
Mean	.0021	.0024	.0018	.0076	-.0049	.0029	-.0014	.0062	.0029	.0199	.006	.0056	.0134	.0042	-.0034	.0057
Patell						*										
St'dised cross-sectional																
Rank																
Generalised sign																

Note: N denotes number of observations. *, **, *** indicate statistical significance at the 10%, 5%, and 1% level. All tests are two-tailed.

Table 1 – Selected event study results (*cont'd below*)

	Abnormal Returns for individual days									Cumulative Abnormal Returns						
	-4	-3	-2	-1	0	+1	+2	+3	+4	[-4, +4]	[-2, +2]	[-1, +1]	[-1, +4]	[-1, +2]	[0, +2]	[0, +4]
Panel F: Reshoring announcements reporting subsidiaries (N=18)																
Mean	.0033	-.0007	-.0011	-.0003	-.0017	.0005	-.0021	.007	.0026	.0073	-.0048	-.0015	.006	-.0036	-.0033	.0063
Patell														*		
St'dised cross-sectional																
Rank																
Generalised sign			*			**					*					
Panel G: Reshoring announcement reporting an overseas plant closure (N=6)																
Mean	-.001	-.0066	.0203	.0176	-.0096	-.0009	-.0082	.0182	.0118	.0415	.019	.0069	.0289	-.0012	-.0188	.0112
Patell			***					**	**	**	***		**			
St'dised cross-sectional			*		***		*								**	
Rank			*		*				*							
Generalised sign				*	**				*	*			*			
Panel H: Reshoring announcements not reporting an overseas plant closure (N=40)																
Mean	.0012	-.001	.0004	.0017	.0011	.0015	-.0017	.0008	.0009	.0051	.0031	.0043	.0044	.0026	.0009	.0027
Patell																
St'dised cross-sectional																
Rank																
Generalised sign		**				**										
Panel I: Offshoring announcements (N=41)																
Mean	-.0007	.0001	.0007	-.0046	-.0006	.0027	-.0015	-.0043	.0013	-.0069	-.00337	-.0025	-.0071	-.0041	.0004	-.0025
Patell										***			*			
St'dised cross-sectional										*						
Rank																
Generalised sign						*				*			**			
Panel J: Announcements included in Brandon-Jones et al. (2017) (N=11)																
Mean	.0047	-.0047	-.0029	-.0088	-.0019	-.0001	-.0055	.0033	.0009	-.015	-.0193	-.0109	-.0121	-.0164	-.0075	-.0032
Patell				***						**	***	***	***	***		
St'dised cross-sectional		***					**								*	
Rank		*					*									
Generalised sign		*				*		*							*	

Note: N denotes number of observations. *, **, *** indicate statistical significance at the 10%, 5%, and 1% level. All tests are two-tailed.

Table 1 (cont'd) – Selected event study results

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