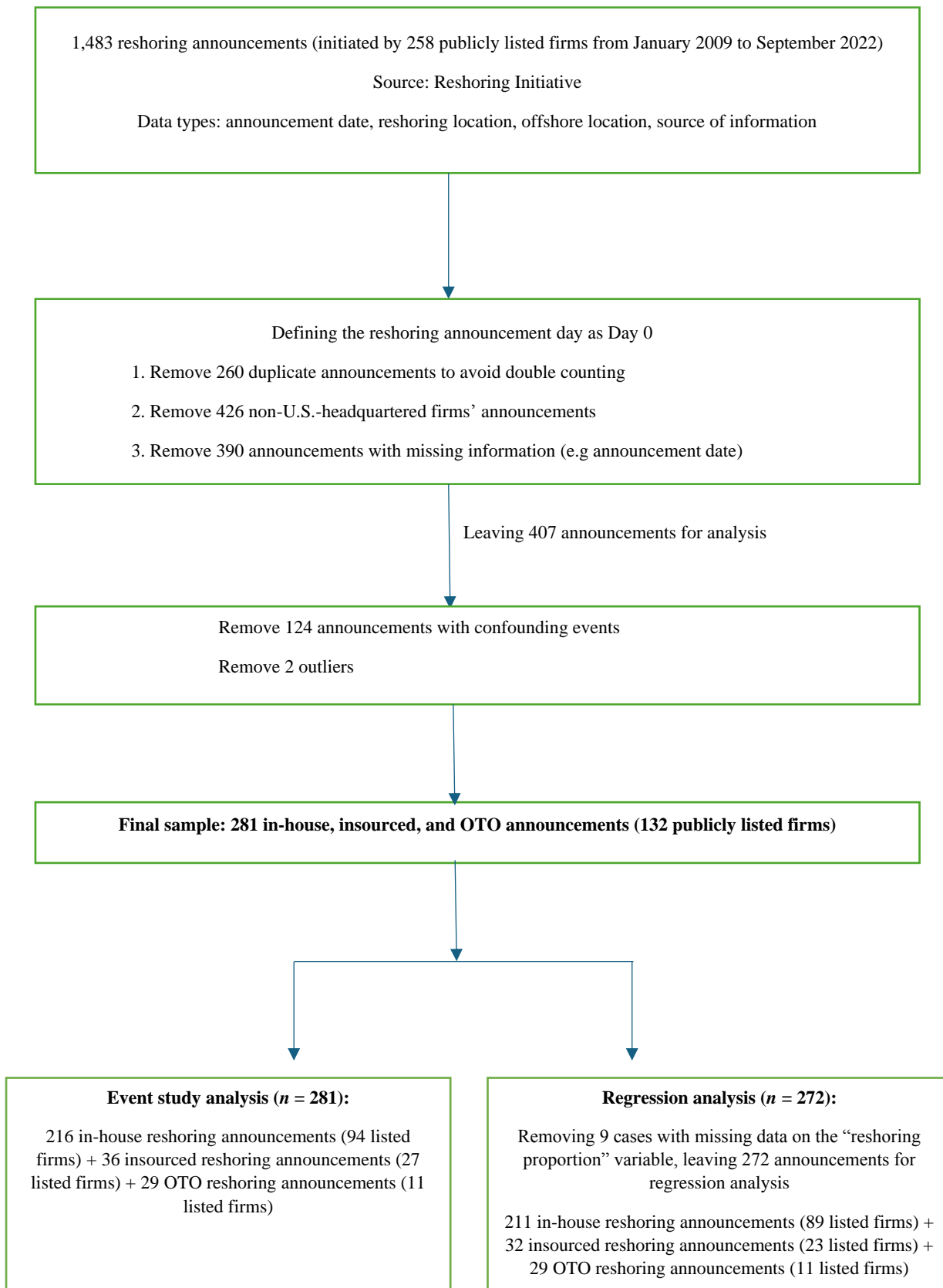


Appendix

Figure A.1. Number of Reshoring Announcements



Appendix A.4a. Procedure for Classifying of Reshoring Types

First, we recruited two external coders to code the 281 reshoring announcements independently. They were provided with the study purpose, classification definitions with coding training, detailed examples and guidelines, and a codebook, as shown in Appendix A.4. There were two rounds of coding. In round 1, the coders were asked to independently code all the reshoring announcements. There was approximately 72.24% agreement (203 out of 281 cases) on the coding results in the first round. Round 2 had 2 parts: in part 1, the coders were required to review the 78 (281–203) disagreement cases independently, following the same procedures as round 1, leading to agreement on 31 cases. In part 2, for the remaining 47 (78–31) cases, each coder was allowed to review the information (e.g. location, ownership) collected by their counterpart and discuss the remaining cases in detail. The main reason for disagreement was a lack of clear information or different interpretations of the announcements. After the second part of round 2, the coders achieved 100% agreement on the classification of the 281 reshoring announcements.

Appendix A.4b. Classifications of Reshoring Types

Introduction

Researchers followed the following steps to classify reshoring types from reshoring announcements. First, researchers read the original announcements and searched for additional supporting information (such as from annual reports and company websites). Researchers were then required to identify the location and ownership in offshore and reshoring locations onshore. Finally, researchers needed to determine the reshoring type following the subsequent definitions.

Definitions of Reshoring Types

Reshoring decisions can be classified according to four strategies:

1. *In-house-to-in-house reshoring* (hereafter *in-house reshoring*): the original offshored operations were performed **in-house**, and the reshored operations will also be performed **in-house** (Type 1).
2. *Outsourcing-to-in-house reshoring* (hereafter *insourced reshoring*): the original offshored operations were **outsourced** to foreign suppliers, but the reshored operations will be performed **in-house** (Type 2).
3. *In-house-to-outsourcing reshoring*: the original offshored operations were performed **in-house**, but the reshored operations will be **outsourced** to domestic suppliers (Type 3).
4. *OTO reshoring*: the original offshored operations were **outsourced**, and the reshored operations will also be outsourced (Type 4).

Examples for each reshoring type are as follows:

1. Type (1) In-house reshoring

On October 29, 2014, General Motors (GM) released the headline “GM to move production of Volt part to US” on AP News (AP News 2014). The article identifies the offshore location in Mexico and the reshoring location in Detroit, saying that General Motors “moved the Chevrolet Volt’s electric drive unit from **Mexico to a Detroit factory.**” The article also stated that GM would have an in-house production facility in the United States: “moving the electric drive from Ramo Arzipe, Mexico to Warren Michigan transmission plants.” Because we could not identify the offshore location of Mexico’s operation belonging to General Motors, we searched Ramo Arzipe with the company name and found that the operation in Mexico is owned by General Motors.¹ Therefore, we indicate this case as Type (1) in-house reshoring.

2. Type (2) Insourced reshoring

Williams-Sonoma stated on June 4, 2019, “Williams-Sonoma will halve **China sourcing** in the next year” in *Supply Chain Dive* (Cosgrove 2019). In the article, the CEO from William-Sonoma advises that “Williams-Sonoma will halve the amount of goods it sources from China today by 2020 and . . . **[expand] its U.S. manufacturing operation** by hiring 500 additional workers for its Tupelo, **MS, factories.**” Here, the offshore location is China with outsourced ownership, and the reshoring location is Mississippi with in-house ownership. Consequently, we might suggest that this is a case of Type (2) insourced reshoring.

3. Type (3) In-house-to-outsourcing reshoring (hypothetical example)

Company A made a reshoring announcement on May 10, 2020. The company has a **production plant in China** for its furniture orders. However, due to Trump’s high tariff, Company A decided to reduce its dependence on Chinese manufacturing over the next few years and return to the United States. When it returned to the United States, it decided to **source from a supplier** with its production in **Colorado**. In this case, the offshore location is China and ownership is in-house, while the reshoring location is Colorado and ownership is outsourced. This could be considered Type (3) in-house-to-outsourcing reshoring.

4. Type (4) OTO reshoring

The November 3, 2016 article “Global Manufacturer Goes the Extra Mile to Reshore” in *Quality Magazine* (Quality Magazine 2016) stated that “Ametek, a global electronics manufacturer, decided to contact Engineering Specialties Inc. (ESI) after **outsourcing its metal stamping operations to Mexico.**” The offshore location is Mexico and Ametek was outsourcing the stamping operation at that facility. The article continues, “After continuing to experience problems with the new supplier in Mexico, Ametek decided to **reshore their manufacturing back to ESI . . . ESI** was able to meet all the client’s needs while also reshoring two jobs at its **Connecticut facility.**” When Ametek returned to

¹ <https://gmauthority.com/blog/gm/gm-facilities/gm-mexico-facilities/gm-ramos-arzipe-plant/>.

the United States, it contacted the company ESI for production, a supplier that had previously worked with Ametek before it offshored the production to Mexico. Therefore, we can conclude the reshoring location is in Connecticut and Ametek is outsourcing to a third-party supplier, ESI, in the United States. This is likely to be Type (4) OTO reshoring.

Coding Procedures:

Every sample requires two rounds of coding. In round 1, independent coders work on the dataset and code separately, following the subsequent procedures. In round 2, coders repeat the procedures in round 1, then both coders review the information collected by each other and discuss the information validity (Kuk 2006).

Round 1 Procedures:

Step 1: Read the reshoring announcement.

There are a total of 281 announcement links in the dataset. Please review the announcement and identify the offshore and reshoring location and ownership. If you can find all the information in the announcement, please specify the reshoring type based on the offshore and reshoring ownership, complete the following table, and retain the information. If you cannot determine the required information, please go to Step 2.

Step 2: Go specifically to the company websites.

Usually, the announcement is related to the reshoring decisions of the companies. Therefore, the independent coder can identify the reshoring location and ownership in the article. However, for some information, like offshore location or ownership, that cannot be found in the announcement, you can go to the company website to search for the “global operations” section and company news, which provide additional information. Please specify the reshoring type based on the offshore and reshoring ownership, complete the following table, and retain the information. If you cannot determine the required information, please go to Step 3.

Step 3: Search for information in annual reports

If you cannot find the information on the company website, you can check with the annual report 10K from the U.S. Securities and Exchange Commission website, sec.gov. Keywords such as “global operations,” “sourcing,” and “properties” can be used to search annual reports. Please specify the reshoring type based on the offshore and reshoring ownership, complete the following table, and retain the information. If you cannot determine the required information, please go to Step 4.

Step 4: Research from open internet sources

If you cannot find the information from the company website and annual report, you can search from open internet sources such as Yahoo News and Google. These search engines often archive information published in local magazines that might provide the required reshoring information. Please specify the reshoring type based on the offshore and reshoring ownership, complete the following table, and retain the information.

Round 2 Procedures:

Table A.5. Abnormal Returns Associated with All Reshoring, In-House, Insourced, and OTO Reshoring² (Market Model)

	Day	Day -1	Day 0	Day 1	Day 0 to 1
All announcements	<i>N</i>	281	281	281	281
	Mean abnormal returns	0.0003	0.0005	0.0005	0.0010
	<i>t</i> -statistic	0.3430	0.5440	0.5230	0.8960
	Median abnormal return	-0.0006	0.0002	0.0011	0.0015
	WSR Z-statistic	-0.2190	0.5040	0.8370	1.2750
	% positive abnormal returns	46.62%	50.89%	52.67%	53.03%
	Binomial sign test Z-statistic	-1.0740	0.3590	1.0200	1.0160
Type (1), In-house reshoring	<i>N</i>	215	216	216	216
	Mean abnormal returns	0.0002	0.0020	0.0008	0.0028
	<i>t</i> -statistic	0.2230	1.7900*	0.7140	2.1470*
	Median abnormal return	-0.0004	0.0008	0.0012	0.0029
	WSR Z-statistic	-0.0130	1.4990+	1.0810	2.2980*
	% positive abnormal returns	47.69%	52.78%	53.24%	56.02%
	Binomial sign test Z-statistic	-0.6120	0.8180	1.0250	1.7730*
Type (2), insourced reshoring	<i>N</i>	36	36	36	36
	Mean abnormal returns	-0.0006	-0.0082	-0.0015	-0.0097
	<i>t</i> -statistic	-0.1700	-3.0170**	-0.5290	-2.6350**
	Median abnormal return	-0.0002	-0.0053	0.0014	-0.0070
	WSR Z-statistic	-0.3460	-2.6450**	0.3930	-2.5450**
	% positive abnormal returns	44.44%	34.29%	55.56%	36.11%
	Binomial sign test Z-statistic	-0.5000	-1.6900*	0.5000	-1.5000+
Type (4), OTO reshoring	<i>N</i>	29	29	29	29
	Mean abnormal returns	0.0023	0.0006	0.0008	0.0014
	<i>t</i> -statistic	0.6600	0.2720	0.4080	0.7240
	Median abnormal return	-0.0017	0.0010	-0.0013	0.0005
	WSR Z-statistic	-0.1840	0.5730	-0.2050	0.6050
	% positive abnormal returns	41.38%	58.62%	44.83%	51.72%
	Binomial sign test Z-statistic	-0.7430	0.7430	-0.1890	0.0000

Notes: + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$

² We found a significant result for the *t* test and WSR test with respect to both in-house and insourced reshoring for Day 0 to Day 1 in the market model and four-factor model. In Tables A.5 and A.6, we also find that there are insignificant stock returns associated with all reshoring announcements in both the market model and four-factor model for Day 0 to Day 1. Then we divide our 281 reshoring announcements into three subsamples. Tables A.5 and A.6 report the market reaction to these three groups of reshoring announcements. In-house/insourced reshoring (in both the market model and four-factor model) shows significant abnormal stock price change for Day 0 and Day 0 to Day 1. The results are similar to what we found in the three-factor model.

Table A.6. Abnormal Returns Associated with All Reshoring, In-House, Insourced, and OTO Reshoring (Four-Factor Model)

	Day	Day -1	Day 0	Day 1	Day 0 to 1
All announcements	<i>N</i>	280	281	281	281
	Mean abnormal returns	0.0007	0.0005	0.0003	0.0007
	<i>t</i> -statistic	0.6530	0.4990	0.2920	0.7010
	Median abnormal return	-0.0004	0.0002	0.0006	0.0006
	WSR <i>Z</i> -statistic	-0.1120	0.3130	0.3230	0.7570
	% positive abnormal returns	48.57%	50.36%	50.53%	50.89%
	Binomial sign test <i>Z</i> -statistic	-0.3590	0.1190	0.1190	0.2390
Type (1), In-house reshoring	<i>N</i>	215	216	216	216
	Mean abnormal returns	0.0002	0.0017	0.0005	0.0022
	<i>t</i> -statistic	0.1850	1.521+	0.4450	1.74*
	Median abnormal return	-0.0004	0.0012	0.0000	0.0018
	WSR <i>Z</i> -statistic	-0.2550	1.264	0.5080	1.781*
	% positive abnormal returns	47.91%	52.56%	50.00%	54.17%
	Binomial sign test <i>Z</i> -statistic	-0.4790	0.6820	0.0000	1.1570
Type (2), insourced reshoring	<i>N</i>	36	36	36	36
	Mean abnormal returns	0.0010	-0.0070	-0.0009	-0.0079
	<i>t</i> -statistic	0.3050	-3.1550**	-0.3220	-2.9130**
	Median abnormal return	-0.0004	-0.0039	0.0010	-0.0067
	WSR <i>Z</i> -statistic	-0.0160	-2.5220**	0.0630	-2.7970**
	% positive abnormal returns	50.00%	36.11%	58.33%	33.33%
	Binomial sign test <i>Z</i> -statistic	0.0000	-1.5000+	0.8330	-1.8330*
Type (4), OTO reshoring	<i>N</i>	29	29	29	29
	Mean abnormal returns	0.0036	0.0008	0.0001	0.0010
	<i>t</i> -statistic	1.0330	0.4570	0.0660	0.4620
	Median abnormal return	0.0008	0.0011	-0.0007	-0.0001
	WSR <i>Z</i> -statistic	0.4870	0.6490	-0.6600	-0.3780
	% positive abnormal returns	51.72%	51.72%	44.83%	48.28%
	Binomial sign test <i>Z</i> -statistic	0.0000	0.0000	-0.3710	0.0000

Notes: + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$