What do we know about manufacturing reshoring?

Abstract

Purpose – The aim of this paper is to analyze and classify research that has been conducted on manufacturing reshoring, i.e., the decision to bring back to the home country production activities earlier offshored, independently of the governance mode (insourcing vs. outsourcing). Consequently, the paper aims also at providing avenues for future research and to highlight the distinct value of studying manufacturing reshoring either *per se* or in combination with other constructs of the international business tradition.

Design/methodology/approach – A set of 57 carefully selected articles on manufacturing reshoring published in international journals or books indexed on Scopus in the last 10 years is systematically analyzed based on the "5Ws and 1H" (Who-What-Where-When-Why and How) set of questions.

Findings – Our work shows a certain convergence among authors regarding what reshoring is, what its key features and motivations are. In contrast, other related aspects, such as the decision making and implementation processes, are comparatively less understood.

Research limitations/implications – As manufacturing reshoring is a "recent" topic, for some of its aspects, only exploratory research is available to date, limiting our possibility to either characterize it in a more exhaustive way, or highlight well-established patterns.

Practical implications – The paper demonstrates that studying reshoring will indeed contribute to expanding our understanding of internationalization processes and strategies in general, and of production internationalization specifically. While past studies have argued that the learning derived from international experience would permit firms to overcome their unfamiliarity with new business environments, reshoring might show that this outcome is not necessarily certain. Rather, firms might not be able to overcome obstacles due to internationalization or they might realize that attempting to do so is not desirable, e.g., due to excessive risk or changes in the firm's strategic priorities.

Originality/Value – Literature reviews proposed until now usually paid almost exclusive attention to motivations driving this phenomenon. This paper offers a broader and more comprehensive examination of the extant knowledge of manufacturing reshoring and identifies the main unresolved issues and knowledge gaps, which future research should investigate.

Key words: Reshoring, Offshoring, Internationalization, Manufacturing, Literature review

Paper type: Research paper

1. Introduction

Location decisions of manufacturing firms are among the most debated topics in the International Business (IB) and Supply Chain Management (SCM) fields, as recently showed by Jain *et al.* (2016). Boosted by opportunities created by increasing globalization, these decisions generally concern offshoring strategies, often coupled with outsourcing decisions (Liesch *et al.*, 2012). While the literature on offshoring has largely focused on the expansion patterns (e.g., Jahns *et al.*, 2006) and the characterization, antecedents and performance implications of the phenomenon (Schmeisser, 2013), it has also emphasized that the process is not irreversible (Antelo and Bru, 2010, Kotabe *et al.*, 2008). Challenges in the management of globally extended value chains and changes in the relative attractiveness of locations can lead firms to reconsider their offshored production location decisions.

In the last few years, both large multinational companies (MNCs) and numerous small enterprises operating in different industries have decided to (at least partially) reverse their previous manufacturing offshoring decisions and have brought their production activities back home, independently of the adopted governance mode (insourcing vs. outsourcing). This phenomenon has often been referred to as manufacturing reshoring, although other terms have been used as well (e.g., backshoring, back-reshoring, inshoring, back-sourcing and onshoring). In this paper, we prefer to use the term manufacturing reshoring since it is the most diffused among scholars and practitioners. However, we note that this term is often adopted to indicate different concepts[1].

Interest in manufacturing reshoring rose initially among practitioners; more recently it has gained momentum among scholars (Fratocchi *et al.*, 2015, Fratocchi *et al.*, 2016, Stentoft *et al.*, 2016a) and policy makers (De Backer *et al.*, 2016, Guenther, 2012, Livesey, 2012). In light of the rapidly increasing amount of publications on the topic, some attempts to summarize the extant literature were conducted. Such attempts may be divided into two main categories. The first is characterized by specific issues: for instance, Fratocchi *et al*. (2015, 2014a, 2014b) summarize the extant literature in terms of reshoring conceptualization, while Foerstl *et al*. (2016), Fratocchi *et al*. (2016), Srai and Ané (2016) and Stentoft *et al*. (2016a) focus exclusively on reshoring motivations. The second category contains systematic literature reviews having a wider approach, to address issues such as when, where and how reshoring strategies take place. To the best of our knowledge, the only reference, published in a Scopus indexed journal or book chapter, to conducting a systematic literature review is the recent work by Wiesmann *et al*. (2017). This study considers documents (22) that have been published until March 2015; while in 2016 two special issues on reshoring topics appeared in relevant academic journals (namely, Operations Management Research and International Journal of Physical Distribution and Logistics Management). Furthermore, Wiesmann *et al*. (2017) limit their data collection to references belonging to the Scopus research area "Business administration and management", while very relevant studies were also published in sources belonging to other areas, such as "Economic Econometrics Finance", "Engineering Industrial & Manufacturing Engineering", "Social Science" and "Decision Science". As a consequence, an up-to-date systematic literature review is timely and relevant. Accordingly, this paper offers a wider structured literature review (57 documents published from 2007 to April 2017) of the manufacturing reshoring phenomenon. It provides a state-of-the-art of what reshoring is, how it is characterized in terms of firms' elements (e.g., size, industry), countries (host/home), industries and time-related elements. We acknowledge a rise in interest on why (25 papers between 2015 and 2017 out of 44 in total) and how (7 papers between 2015 and 2017 out of 10 in total) reshoring is

[1] See section 2.

planned and implemented that was not present in earlier literature (Wiesmann *et al.*, 2017). From that, this paper aims to identify the main unresolved issues and knowledge gaps, which future research should investigate. Finally, the paper proposes a reflection on how research on reshoring can effectively contribute to the theoretical comprehension of the firm's internationalization process.

Similarly to previous literature reviews (e.g., Mugurusi and de Boer, 2013) on offshoring, we structure our work around the issues of the what-who-why-where-when and how of reshoring (i.e., "The 5W and 1H" of reshoring). In so doing, we take a firm-level outlook with specific attention given to the reshoring of manufacturing activities. Therefore, we exclude reshoring decisions implemented by service companies, since the two phenomena need a different approach (Albertoni *et al.*, 2017). It must be considered that the repatriation of manufacturing activities is generally more costly than that of services (for instance, a call center). Therefore, the level of exit barriers in manufacturing exceeds those in service industries, and decisions to reverse previously implemented manufacturing offshoring appear to be more complex and strategic. Besides, the renewed attention that the economic policies of several Western countries has devoted toward production and (re)industrialization might continue to stimulate further manufacturing reshoring initiatives over the coming years (European Parliament Resolution, 2014, The White House, 2012). Within manufacturing companies, we focus only on production activities, excluding the relocation of other value chain activities (e.g., R&D), in that we follow Benito *et al.*'s (2009) suggestion to choose specific value chain activities (rather than the whole chain) as the unit of analysis. It is worth noting that a similar approach was also found in the extant literature on offshoring, which refers to the following distinct units of analysis: "service firms" (Hahn *et al.*, 2011, Pisani and Ricart, 2016), "support functions" (Hutzschenreuter *et al.*, 2011), "administrative and technical services" (Manning *et al.*, 2011) and "new product development" (Boehe, 2010). Finally, we consider both insourced and outsourced manufacturing activities as being location decisions separate from the governance mode ones (Gray *et al.*, 2013).

Our work shows a certain convergence among authors regarding what reshoring is and what its key features are. It brings evidence that reshoring can be characterized as either a reaction to (internal and external) changes, or a correction of previous managerial mistakes. Interestingly, our analysis suggests that other related aspects, such as decision making and the implementation processes of reshoring, are comparatively less understood. We also found that several theoretical frameworks were adopted to investigate the reshoring phenomenon. Therefore, we suggest that it has become important to distinguish and frame the research on reshoring according to its theoretical purpose.

The remainder of the paper is organized as follows. Section 2 describes the methodology adopted to implement the literature review. Section 3 reviews the extant literature adopting the what-who-why-where-when and how approach. Section 4 discusses unresolved issues and ideas for future research. Section 5 includes the implications for practice and society. Finally, section 6 provides the main conclusions and limitations of our work.

2. Methodology

The main aim and contribution of this paper is to synthesize and systematize the extant literature on manufacturing reshoring. A systematic literature review is "a systematic, explicit, and reproducible design for identifying, evaluating, and interpreting the existing body of recorded documents" (Fink, 2005, p. 6). We adopted the Seuring and Gold (2012) process model for content analysis based on four main steps. The first step is "material collection"; in this regard, we focused our attention on indexed articles published in academic journals and chapters in

scientific books. Documents were identified by searching in the "Elsevier Scopus" database, which is recognized as one of the top business and management databases (Greenwood, 2011). We considered journal articles (including those "in press") and book chapters published until 2017 April 1. The search terms "reshoring", "re-shoring", "backshoring", "back-shoring", "back-reshoring" and "back-sourcing" were checked in the title, abstract and keywords. We found a total of 155 documents (including duplications) whose abstracts were read by two of the co-authors. After this, the following exclusion criteria were implemented: (a) duplications (20 documents); (b) articles published in "trade publications" (16), since a focus on peer-reviewed journals improves the quality of information included in the literature review (Wiesmann *et al.*, 2017); (c) documents written in languages other than English (1); (d) papers focusing on the reshoring of firm's activities differently from manufacturing ones (for instance, call centers; 20). For journal articles, we further restricted selection to the following Scopus categories: 1) Business management and accounting; 2) Decision science; 3) Economics econometrics and finance; 4) Engineering (only Industrial and Manufacturing); 5) Social science; 7) Arts and humanities. Therefore, we excluded other 41 articles, mostly related to architecture, building, construction and civil engineering issues. The final list of documents included in the systematic literature review consisted of 57 documents (53 journal articles and four book chapters) published from 2007 to 2017 (April 1st) (Figure 1). The meta-table in Appendix I contains details of the 57 papers analyzed in this study.

Figure 1 AROUND HERE

The second step of the Seuring and Gold (2012) process model concerns descriptive analysis, which is an assessment of the formal characteristics of the chosen documents. In this regard, the data summarized in Figure 1 show that the interest of scholars has considerably increased since 2013, confirming the doubt posed by Wiesmann et al. (2017) that reshoring is an actual trend in practice, gaining attention from scholars, practice and society. As for the journals, among the 55 peer-reviewed articles, we found almost half of the articles belong to operations management or SCM and, surprisingly, IB and business strategy journals were much less represented (Table 1).

TABLE 1 AROUND HERE

In terms of reference theories, the majority of sampled articles (29 out of 57) do not refer to any theoretical approach. This finding is similar to those found by Mugurusi and de Boer (2013) in the case of offshoring and outsourcing literature; therefore the reshoring research stream also seems to lack a solid theoretical foundation. However, 13 of the sampled articles and book chapters are based on no less than three theories. In this respect, it is interesting to note that half of them have been published since 2015. Reference theories span IB, organizational, strategic and marketing fields of studies, showing manufacturing reshoring is a complex phenomenon that should be investigated from different perspectives. Dunning's (1995) eclectic paradigm is the most referred to approach, followed by Transaction Cost Economics (TCE) and Resource Based Theory (RBT) (Table 2).

TABLE 2 AROUND HERE

In order to characterize the extant literature in terms of research methodologies, we adopted the Stentoft *et al.* (2016b) classification, adding the category "secondary data research", due to its relevance for research on the manufacturing reshoring phenomenon. While the majority of articles and book chapters are conceptual documents (23), empirical studies are well represented, adopting both quantitative and qualitative research tools (Table 3). When it comes to the approaches utilized in empirical studies, only a small amount of sampled articles and book chapters are based on quantitative methods (e.g., surveys and or secondary data research).

TABLE 3 AROUND HERE

The third step of our analysis was category selection, i.e., to define analytical categories to classify documents' contents. To critically review the selected literature, we adopted six questions considered useful to describe phenomena, namely what-who-when-where-why and how. Such a methodological approach had already been applied to investigate extant literature on offshoring (Mugurusi and de Boer, 2013) and outsourcing (Hätönen and Eriksson, 2009). With respect to reshoring the approach was suggested by Gray *et al*. (2013) and applied by Wiesmann *et al*. (2017); however, in the latter reference the question "Who" is not considered and the analysis of questions "When", "Where" and "How" were not deeply analyzed. Specifically, in our study, when applied to manufacturing reshoring, the questions examine the following issues:

a) What: This question stems from Gray *et al.*'s advice to define "what [reshoring] is and what it is not" (Gray *et al.*, 2013, p. 29), i.e., to define the phenomenon and to characterize it in terms of its essential features. The question first verifies the (eventual) convergence among scholars with regard to proposed reshoring concepts. It also focuses on the degree of "uniqueness and novelty" of reshoring relative to other comparable phenomena that have been previously addressed in the IB field (e.g., foreign divestment, de-internationalization).

b) Who: This question focuses on the characteristics of the firms implementing reshoring strategies. It aims to provide a more meaningful picture of the phenomenon by investigating whether firms' propensity to reshore depends on factors such as their size, industry and export intensity.

c) Why: This question refers to the motivations that induce companies to reshore production in their home countries. Firstly, it investigates the extent to which the motivations of reshoring have been properly identified. Secondly, it links them to the principal conceptualization of the reshoring phenomenon proposed in the literature.

d) How: This question essentially relates to the decision making and implementation phases of reshoring strategies, i.e., how managers make decisions to repatriate offshored activities and how they put these decisions into practice.

e) Where: This question is related to the geographical aspect and is evaluated at both the home and host country levels.

f) When: This question is mainly focused on the duration of the offshore experience and the (possible) impact of the occurrence of contingent factors, such as the global economic crisis.

The breakdown of sampled documents according topics addressed clearly shows the "How" question is comparatively less analyzed. This seems consistent with Mugurusi and de Boer's (2014) observation that TCE and RBT – two of the most adopted theories adopted to investigate the reshoring phenomenon (Table 2) – are useful to describe what a phenomenon is and why it happens; however, they do not support the knowledge of how it happens.

The final step of Seuring and Gold's (2012) process model for content analysis is regarding material evaluation. This activity was performed by reading, analyzing and coding all selected documents with the 5Ws and 1H questions in focus. The process reliability was improved by discussion within the research team (researcher triangulation) and by ensuring process documentation (2009).

3. The extant literature

3.1 The "What" of reshoring

A certain number of definitions of *"What"* reshoring is can be found in the literature (Table 4). We see also how authors sometimes use the same term (i.e., reshoring) to indicate different concepts. Generally, dissimilarities among the various definitions of reshoring can be found regarding the following aspects.

a) Country in which earlier offshored manufacturing activities are reshored: some authors (e.g., Bals *et al.*, 2016, Ellram *et al.*, 2013, Stentoft *et al.*, 2016c) referred to production activities being moved to both the home country and those "near the home country". To avoid any possible confusion, some authors suggested distinguishing between back-(re)shoring (Bals *et al.*, 2016, Foerstl *et al.*, 2016, Fratocchi *et al.*, 2014a, Fratocchi *et al.*, 2014b) – which is when the production transfer is directed toward the home country – and near-(re)shoring (Fratocchi *et al.*, 2014a, Fratocchi *et al.*, 2015) – if it is oriented toward countries close to the home country.

b) Types of relocated activities: while the majority of analyzed papers are focused on production activities, some of them broadly refer to Porter's value chain activities (Bals *et al.*, 2016, Tate and Bals, 2017, Zhai *et al.*, 2016), "activities or functions" (Gylling *et al.*, 2015) and "firms' foreign activities" (Stentoft *et al.*, 2016b, Stentoft *et al.*, 2016c). As pointed out earlier, Benito *et al.* (2009) suggest focusing on specific value chain activities, since strategic decisions (including location ones) may differ among them.

c) Governance structure adopted in the manufacturing offshoring and reshoring phases: some authors maintain that reshoring strategies imply contextual insourcing decisions (see, among others: Ellram, 2013, Lam and Khare, 2016, Uluskan *et al.*, 2016). Arlbjørn and Mikkelsen (2014) acknowledge that decisions about governance mode are conceptually independent of locational decisions, but they can be practically combined with the reshoring decision. More recently, Bals *et al.* (2016) state that reshoring and insourcing are "interconnected" decisions. In our opinion, the misleading interpretation regarding reshoring and insourcing originates from the diffused idea of commonalities among offshoring and outsourcing firm decisions (Mudambi and Venzin, 2010).

TABLE 4 around here

Some scholars suggest that while reshoring is essentially a manufacturing location decision, it can actually take different forms. Accordingly, they propose classifications to specify the characteristics of different reshoring forms. For instance, Gray *et al.* (2013) identified four alternate typologies of reshoring based on a combination of location decision (home vs. host country) and governance mode (insourcing vs. outsourcing). More recently, Bals *et al.* (2016) and Foerstl *et al.* (2016) enlarged this classification to include the cooperation alternative (e.g., joint ventures, strategic partnerships and long-term contracts) among the governance modes, thus identifying six alternatives, including the four proposed by Gray *et al.* (2013). Zhai *et al.* (2016) propose differentiating reshoring decisions according to the target markets for products manufactured offshore; more specifically, they consider the following alternatives: home market, host market and regions around the home market. Based on such a classification, the authors show that manufacturing reshoring decisions implemented by US companies are addressed almost exclusively to goods to be sold in the home market. Finally, Joubioux and Vanpoucke (2016), based on Bellego (2014), propose differentiating the reshoring phenomenon according to the strategic aims of such firm's decisions by identifying the following alternatives: a) "home re-shoring", in case of failure of earlier offshoring decision; b) "tactical reshoring", for short-term decisions based on availability of resource and capabilities; c) "development reshoring", if the firm's aim is to upgrade the proposed products.

The "What" question of reshoring also concerns the degree of "uniqueness and novelty" of the phenomenon. In this respect, Fratocchi *et al.* (2015, 2014a) differentiated the reshoring concept from other traditional (and to some extent comparable) phenomena previously investigated by IB scholars, namely foreign divestment (Belderbos, 2003, Benito, 1997) and de-internationalization (e.g., Benito and Welch, 1997, Ţurcan *et al.*, 2010). More specifically, it has been argued that reshoring decisions do not necessarily imply closing of plants abroad and/or the interruption of relationships with foreign suppliers. Assuming such a perspective, manufacturing reshoring may be interpreted as one of the possible evolutions of the "non-linear" (Vissak, 2010, Vissak and Francioni, 2013, Vissak *et al.*, 2012) internationalization process of production activities (Fratocchi *et al.*, 2015, Fratocchi *et al.*, 2014a, Fratocchi *et al.*, 2014b, Fratocchi *et al.*, 2015).

This conceptualization is consistent with the idea that reshoring is only one of the alternatives available to the company after offshoring (Joubioux and Vanpoucke, 2016, Murat, 2013). The preference toward reshoring instead of near-shoring, or further offshoring, depends on the careful evaluation of push factors (discouraging remaining in the host country, such as loss of flexibility) and pull factors (fostering reshoring, such as stronger IP protection). Based on such an analysis, the firm will implement a specific manufacturing reshoring typology (Bellego, 2014, Joubioux and Vanpoucke, 2016). More specifically, the "home reshoring" alternative is more coherent with a "mistake correction approach", while the "tactical" and "development" ones are consistent with a "strategic approach"; however, tactical reshoring is generally quite opportunistic and more likely to be re-evaluated in the short-term. To sum up, the idea is confirmed that foreign direct investments represent "a sequential series of complex decisions by management" (Aharoni and Brock, 2010, p. 13).

3.2 The "Who" of reshoring

The "Who" question inquires whether differences in manufacturing reshoring patterns are observed among different types of firms. Specifically, four main characteristics have been considered in the sampled articles and book chapters: firms' size; industry; export intensity; and earlier experience with reshoring strategies.

When it comes to size, the findings differ among different studies. While Kinkel (2014) and Kinkel and Maloca (2009) stated that manufacturing reshoring hardly occurs among small and medium enterprises (SMEs), Canham and Hamilton (2013) found a higher propensity for the production repatriation of such firms with respect to large ones. Finally, Fel and Griette (2017), found there is no significant difference among French reshoring firms regarding their size. It must be noted that all the four studies are focused on a single home country; therefore the findings may be influenced by the characteristics of these economies. Fratocchi *et al.* (2016), whose dataset spans multiple home countries, in fact showed that reshoring is only slightly more diffused among large firms. They also noted differences according to the home country location for SMEs; specifically, while SMEs headquartered in North America constituted the majority of sampled firms, Western European SMEs represented only one third of the total amount. Overall, preliminary evidence seems to suggest that reshoring happens for both large and small companies; however, Ancarani *et al.* (2015) found that SMEs generally repatriated their production activities earlier, compared to large ones. Moreover, Fel and Griette (2017) found SMEs generally are more satisfied to have implemented reshoring decisions than large companies. Finally, Gray *et al*. (2017) suggest reshoring decisions realized by SMEs should be accurately investigated since they seem to present differences when compared to those implemented by large companies.

With regard to industry, the literature has clearly shown that reshoring strategies have been implemented in a broad set of manufacturing sectors; as such, reshoring is potentially of interest to a very large number of companies. The scarcity of quantitative research prevents any conclusive outcome regarding how industry-specific characteristics may impact the firm's propensity to reshore. However, Kinkel (2014) found that German machinery and equipment manufacturers were generally more active in reshoring, compared to firms in other industries. Based on this finding, he speculated that high complexity, extreme product customization and small batch sizes led to a (comparatively) greater propensity to reshore, as was the case for machinery and equipment producers.

At a more general level, Fratocchi *et al.* (2015) noted that manufacturing reshoring decisions implemented by Western companies are more frequent in industries that have been investing more in contract manufacturing and offshoring over the last few decades, such as clothing and footwear, electronics, mechanical, and furniture and home furnishing (UNCTAD, 2013). Firms belonging to other industries (e.g., pharmaceuticals) showed a lower frequency of such strategic decisions. The authors explained this finding as being the relatively greater irreversibility of location choices due, for instance, to the high investments required by some industries. At the same time, they did not observe any difference in the reshoring frequency between labor- and capital-intensive industries.

With regard to export propensity, the only evidence is proposed by Kinkel (2012) who found that this element was significantly and positively related to the probability of production activities being reshored, at least after the beginning of the economic crisis. This finding could be at least partially explained by the firm's learning process being derived from its earlier internationalization experience (Johanson and Vahlne, 1977, Johanson and Vahlne, 1990).

Learning issues also seem to explain the positive impact of earlier experiences in implementing manufacturing reshoring strategies on the probability of further similar decisions (Kinkel, 2012). This finding is consistent with those of the offshoring literature (Jensen *et al.*, 2013, Lewin *et al.*, 2009, Maskell *et al.*, 2007, Tate *et al.*, 2009), inducing Bals *et al.* (2016) to suggest further investigating the impact of organizational learning on the reshoring propensity. Since this aspect is strictly interconnected with the implementation phase of the manufacturing reshoring decision, it will be discussed in depth in the How section.

3.3 The "Why" of reshoring

The "Why" of reshoring concerns the motivations that induce companies to reshore their production activities that were earlier offshored. This is a recent topic, as in the most updated literature review until 2015 scarce attention was given to why firms reshore (Wiesmann *et al.*, 2017). Recently, Benito (2015) indicated that motives remain a key issue for organizing our understanding of firms' internationalization processes, especially with regard to manufacturing location decisions. Therefore, it is not surprising that identification and analysis of the reasons "Why" firms decide to repatriate manufacturing activities are also among the most common topics in reshoring studies, and a vast and varied array of motivations have been identified by scholars (for up-to-date literature reviews, see Bals *et al.*, 2016, Fratocchi *et al.*, 2016, Stentoft *et al.*, 2016a).

Given the large number of motivations found in the extant literature, frameworks to classify and analyze them are clearly needed; with this in mind, two distinct approaches were developed. The majority of scholars proposed group motivations according to homogeneous categories, such as costs, quality, risks (e.g. Ellram *et al.*, 2013, Stentoft *et al.*, 2016a, Zhai *et al.*, 2016). A second approach was based on classification according to theory-driven criteria. For instance, Ellram *et al.* (2013) and Ancarani *et al.* (2015) adopt the dimensions of location advantages from the eclectic

paradigm (Dunning, 1998). However, both papers indicate that some motivations "cut across all of the categories of factors noted by Dunning" (Ellram *et al.*, 2013, p. 17). Furthermore, Dunning (1998) himself acknowledged that the motivations defining a specific "raison d'être" evolve over time. More recently, Bals *et al.* (2016) and Foerstl *et al.* (2016) proposed a joint classification of reshoring and insourcing motivations according to TCE and Organizational Buying Behavior (OBB) theories. At the same time, Fratocchi *et al.* (2016) developed a theory-driven classification framework, grounded in both IB and strategic management theories, which distinguishes reshoring motivations based on two variables: the company's strategic goal (i.e., increasing customer perceived value vs. improving cost-efficiency), and the predominant factors affecting the reshoring decision or "level of analysis" (internal to the company vs. relating to the external environment). Finally, Srai and Ané (2016) classified 46 relocation motivations according to seven "firm's reshoring strategies" developed according to four theoretical perspectives (Operations management, Strategic management, International business and Political economy). In so doing, they found that institutional factors (such as local incentives) may be a significant support to firms' decisions to relocate manufacturing activities to the home country, but only if combined with strategic and operation elements.

While the vast array of motivations identified in the literature suggest that reshoring decisions can originate for several reasons, some authors (e.g., Bals *et al.*, 2016) have argued they can be ultimately intended as either a deliberate strategy or a reaction to offshoring failure. This "dual view" of reshoring combines two different interpretations of reshoring proposed in the extant literature, i.e., either a mere correction of a prior misjudged decision (Gray *et al.*, 2013, Kinkel and Maloca, 2009) or a deliberate response to exogenous or endogenous changes (Fratocchi *et al.*, 2015, Gylling *et al.*, 2015, Martínez-Mora and Merino, 2014, Mugurusi and de Boer, 2013). Among the latter group, Grandinetti and Tabacco (2015) specifically referred to changes in a firm's business strategy consistent with the idea 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). In this respect, it must be noted that while manufacturing offshoring decisions are often motivated by cost elements (especially labor ones) (Schmeisser, 2013), reshoring strategies seem to be undertaken also on the basis of strategic elements, such as "made in effect" (Diamantopoulos *et al.*, 2011), co-location of R&D, engineering and production activities, responsiveness to customer demand.

Based on the earlier discussion, it seems useful to propose a classification of the large amount of manufacturing reshoring motivations found in the sampled literature. More specifically, we suggest categorizing drivers according to a three-step approach:

a) following the suggestion by Bals *et al.* (2016), we separate motivations belonging to the conceptualization of reshoring as a "managerial mistake" from those related to a strategic decision;

b) the latter category (strategic decision) was further divided according to the internal and external environment, following the suggestion of Fratocchi *et al.* (2016). As a consequence, six out of 57 drivers were referred to both the internal and external environment;

c) since the amount of internal and external motivations is still quite considerable, we further divided the two arrays according to motivations homogeneity, taking into account the categories proposed by Stentoft *et al.* (Stentoft *et al.*, 2016a) and Fratocchi *et al.* (2015).

The seven drivers belonging to the "managerial mistake" category (Table 5) were found in 20 (out of 57 analyzed) articles. Among them, the most relevant was "Miscalculation of actual cost and/or Adoption of new cost accounting methods", such as Total Cost of Ownership. Once more, this finding is interesting, since offshoring

decisions were often based on efficiency claims (Schmeisser, 2013). At the same time, it was slightly unexpected to find only three documents citing the "bandwagon" effect, i.e., reshoring as a correction of earlier offshoring decisions based on imitative approaches of competitors. This effect has frequently been at the base of offshoring decisions implemented by SMEs (Mariotti, 2009).

TABLE 5 around here

Drivers belonging to the "external environment" category were intensively discussed in the extant literature; therefore, they were found in 46 (out of 57) articles or book chapters (Table 6). The 31 motivations were classified into seven homogeneous categories, of which "Costs" was the most relevant in terms of both number of drivers and total citations. The three most cited single motivations were "Poor level quality of offshored manufactured products" (belonging to the "Customer related issues"), "Production and delivery time impact" ("Supply chain management" category) and "Reduction of labor cost gap between the host and home country" (Costs category). This seems to confirm the idea that manufacturing reshoring strategies have a complex nature and are not based only on efficiency issues.

TABLE 6 around here

Finally, the 27 reshoring drivers belonging to the "internal environment" category were addressed in 46 documents (out of 57) (Table 7). This finding, coupled with the frequency of "external environment" motivations, seemed to support the idea that reshoring is mainly the result of a firm's strategy, either proactive (i.e., based on internal elements) or reactive (as an adaptation to external forces). This is, at least partially, confirmed by the citation of drivers such as "Change in firm's business strategy (e.g., new business area, vertical integration)" and "Firm's aims in terms of environmental and social sustainability".

TABLE 7 around here

To sum up, reasons driving reshoring decisions are now reasonably well known, although the paucity of large-scale empirical investigations prevents any definitive conclusions being drawn about their actual and relative magnitude, as well as their relevance for companies. In any case, it must be taken into account that manufacturing offshoring and reshoring decisions are strictly interconnected (Joubioux and Vanpoucke, 2016). Therefore, motivations which earlier induced the company to transfer manufacturing activities to a specific host country will also influence the reshoring decision. Moreover, reshoring is only one of the alternatives available to the company after offshoring (Murat, 2013). Under a "non-linear internationalization" conceptualization of manufacturing reshoring (Fratocchi *et al.*, 2015), the preference toward repatriation instead of near-shoring or further offshoring depends on the careful evaluation of push factors (discouraging remaining in the host country) and pull factors (fostering reshoring). Based on such an evaluation, the firm may implement one of the three reshoring strategies proposed by Bellego (2014) cited earlier in the What section (home, tactical and development reshoring).

3.4 The "How" of reshoring

The decision making and implementation process of reshoring (i.e., "How" firms decide to reshore and "How" they put that into practice) is a key aspect for a comprehensive study of the phenomenon and in recent years we acknowledge a growing interest among scholars (8 papers between 2015 and 2017 out of 10 in total, see Table 4).

To manage the decision making process phase, both Mugurusi and de Boer (Mugurusi and de Boer, 2014) and Bals *et al.* (2016) propose models articulated in a set of actions. More specifically, Mugurusi and de Boer (2014)

suggest adopting a Viable System Model (VSM) approach (Beer, 1972), which conceptualizes the firm as "a dynamic adaptive system in search of ways to cope effectively with external forces that undermine its viability" (Mugurusi and de Boer, 2013, p. 275), i.e., the firm's ability to exist independently (Beer, 1984). In other words, reshoring "serves to increase the stability of the system" (Mugurusi and de Boer, 2014, p. 289). To reach such an objective, the firm has to follow a four-step process, the first of which is to design the *ex ante* VSM firm's map, which is the description of the five systems that form the company and their interconnections. Afterwards, reshoring motivations should be identified and analyzed and the *ex post* (i.e., after reshoring decision implementation) VSM firm's map designed. Based on such activities, managers may eventually take the decision to reshore and implement it. After this, they should carefully monitor the performance of the reshored manufacturing activities.

Bals *et al.* (2016) observe that despite the question of how to reconfigure supply chains being quite a relevant issue for both scholars and managers to understand, the decision making and implementation of reshoring and insourcing remain largely unexplored. They build on established sourcing decision making processes (Handley, 2012, McIvor, 2010) and offshoring implementation processes (Jensen *et al.*, 2013) to provide a conceptual framework for how reshoring (and/or insourcing) decisions should be taken and implemented.

Specifically, the decision making framework consists of five steps – spanning from the characterization of the current firm's boundary, capabilities, and performance, to the collection of alternatives, data analysis and solution development, and eventually to the shoring decision. As for the following implementation framework, it includes the three phases of disintegration at the former location, relocation to the new location, and reintegration to connect with other value-creation activities. Beyond the specification of the framework structure, Bals *et al.* (2016) highlight the key aspects and issues that must be properly understood to make each phase effective – and suggest further investigating their actual role in driving effective reshoring processes. For example, the type of reshoring decision (strategic choice vs. reaction to failure) can impact either the firm's assessment of its own capabilities, or the aims of reshoring (strategic long-term vs. risk mitigating short-term). Assessment of organizational readiness – i.e., the firm's ability to handle the outcomes of their decision – is crucial to the identification of alternatives, and their effective analysis. As for the implementation phase, Bals *et al.* (2016) suggest the importance of organizational learning from previous reshoring experience; likewise for offshoring decisions, "successful past implementation of such decisions provides a feedback loop into future decision making process" (Bals *et al.*, 2016, p. 11). This is consistent with earlier suggestions by Gray *et al.* (2013) who consider knowledge management as a critical element, especially in cases of outsourced reshoring decisions.

Recently, Gray *et al*. (Gray *et al.*, 2017) highlighted that through experiential learning in the internationalization process, SMEs can develop a more effective location decision making process. They propose a system dynamics modeling of such a process. Specifically, they investigate reshoring decisions of four SMEs, and discover that the initial offshoring choice is often taken on the basis of overly simplified systems, which only accounts for the lowest per-unit landed cost (LPLC heuristic). Not only does such a heuristic often fail to account for less obvious but still measurable landed costs (e.g., increased packaging), most of all, it completely ignores various important although not easily quantifiable performance dimensions (e.g., responsiveness to supply-demand mismatch). In their offshoring experience, these firms become increasingly aware of the relevance of these dimensions; accordingly, their heuristic can improve to include both a more reliable assessment of the per-unit landed cost ("cost loops"), and the "performance loops". This improved dynamic decision making model can lead the company to reshore decisions

under certain circumstances; more in general, the acquisition of offshoring experience should further refine the model and reduce the likelihood that SMEs will reverse the next location decisions.

Hartman *et al.* (2017) find that many of the reshoring decisions they analyzed were near-term reactions to one or more trigger events, and not part of a strategic production location plan where financial factors and process complexity factors should have been developed and evaluated. This seems to confirm the appropriateness of Bals *et al.*'s (2016) claim that the decision making process of reshoring is at risk of emphasizing too much the urgency of the choice, with detrimental impacts on procedural rationality. Hartman *et al.* (2017) then analyze how the relationship type between the focal firm and the outsourced manufacturer affects the focal firm's ability to access information on the process complexity factors which are essential for appropriate reshoring decisions, and eventually present four primary ways in which the focal firms obtain such information.

Relevance of knowledge management for the reshoring decision and implementation has also been stressed by Grandinetti and Tabacco (2015), particularly in the case of highly customized products. In fact, relationships among the reshoring firms and local suppliers mainly involve tacit knowledge, which in turns requires "a strong collaboration and frequent face-to-face interactions between the parties" (p. 154). An interesting example of such collaboration is proposed by Ashby (2016) with respect to a UK company operating in the technical sportswear industry. Aiming at establishing a local supply chain to reduce environmental impacts, the company studied supported a British supplier in implementing a ten year long project for re-establishing in the UK the breeding of a specific type of sheep in order to replace the import from Mongolian suppliers of cashmere.

3.5 The "Where" of reshoring

The "Where" question refers to the key geographical characteristics of manufacturing reshoring, i.e., the home and host countries. Both elements have been investigated on the basis of surveys focused on only a very few geographical areas.

To the best of our knowledge, the most complete analysis conducted to date is the "Innovation on Production" survey of German companies (Kinkel, 2012, Kinkel, 2014, Kinkel and Maloca, 2009). Because this study is performed every two years, it offers longitudinal trends in the reshoring behavior of German companies belonging to different sectors. Kinkel (2014), commenting on the results of the 15-year research on German reshoring practices, indicated that manufacturing reshoring is a relevant phenomenon. More specifically, approximately 400 to 700 German companies have implemented such decisions, although the share of companies relocating back to Germany earlier after having offshored production has been decreasing since the beginning of the new century.

Tate *et al.* (2014) used a survey-based approach to investigate the perceptions of US managers on the past and projected trends of factors influencing (re)location decisions. More recently, Zhai *et al.* (2016) observed that the reshoring strategies of US companies have not been heavily investigated, and that repatriation is generally concerning product lines to be sold in the national market. Canham and Hamilton (2013) conducted a survey regarding New Zealand SMEs operating in consumer and industrial goods; they found reshoring "occurs when lower labour costs become offset by impaired capabilities in flexibility/delivery; quality; and the value of the Made in New Zealand brand" (p. 277).

Finally, data regarding several countries at the worldwide level (Ancarani *et al.*, 2015, Fratocchi *et al.*, 2015, Fratocchi *et al.*, 2016, Fratocchi *et al.*, 2014a, Fratocchi *et al.*, 2014b) reveal that reshoring decisions are implemented

mainly from China and other Asian countries. For European firms, both Eastern and Western European locations have experienced back-reshoring trends, especially since 2006. Reshoring cases from Eastern European countries have been partially determined by the EU enlargements in 2004 and 2006, which smoothed their ownership, location and internalization advantages (Dunning, 1995).

3.6 The "When" of reshoring

The "When" question refers to the time-related aspects of reshoring. Up to now, only two studies have dealt with this issue by analyzing: (a) the duration of offshore manufacturing experience prior to reshoring (Ancarani *et al.*, 2015); and (b) the occurrence of reshoring after the global financial crisis in 2008-09 (Kinkel, 2012, Kinkel, 2014).

With regard to the duration aspect, Ancarani *et al.* (2015), by adopting a survival analysis approach, were able to investigate the determinants of time span in a sample of companies belonging to several countries, mainly in the EU and US. Their findings revealed that the duration seemed to be influenced by several of the elements that we analyzed in the previous sections, such as firm size, industry, reshoring mode relative to governance structure, motivations, and host country. For instance, SMEs tend to return earlier than large firms; electronics and automotive companies return earlier than those in other investigated industries. With regard to the reshoring mode and governance structures, companies implementing outsourcing offshoring strategies generally return earlier than those implementing captive offshoring strategies. Regarding the relationship between motivations and duration, quality concerns are generally associated with shorter offshore durations – similar results were found for the "made in" effect (Diamantopoulos *et al.*, 2011). Finally, while the average duration of offshoring ventures for US and European companies is comparable, Ancarani *et al.* (2015) found that offshore initiatives located in Asia had significantly lower survival rates with respect to those placed in Eastern Europe.

Regarding the eventual impact of the global financial crisis on the reshoring phenomenon, Kinkel (2012) found that, while offshoring decisions implemented by German companies decreased over the course of the global economic crisis, the companies that did relocate were generally stable. In contrast, Fratocchi *et al.* (2015) and Tate and Bals (2017) reported that reshoring has grown significantly in the last few years, boosted by the return of North American firms. Finally, Fel and Griette (2017) noted that the number of reshoring operations in France is also growing significantly.

4. Avenues for future research on reshoring

The structured literature review of reshoring we have conducted provides the reader with the state-of-the-art of manufacturing reshoring research. With this picture in mind, we now turn to some key unresolved issues aiming to compile avenues for a possible research agenda. To that end:

- First, consistently with the structure of our literature review, we identify the main open issues and research directions for the six questions (5Ws & 1H) analyzed. The state-of-the-art we developed provides essential support in recognizing the current gaps in the literature. Yet, to ensure further relevance to our claims of future research needs, we conducted a review of the research directions proposed in the reviewed papers (Table 8), and we classified them based on the six questions.

- Second, we suggest that some of the research questions, or a combination of them, allow the identification of a few prominent research priorities involving reshoring. Particularly, we propose four main priorities that, in our view, truly

represent the pillars of a research agenda on reshoring. The proposed linkages between the single research directions and the four priorities are included in Table 8.

TABLE 8 around here

4.1 The "5Ws & 1H" of reshoring: open issues and research directions

With regard to the "What" question, we do not completely share the idea of Wiesmann *et al*. (2017) that "a congruent definition has not yet been developed in academic spheres". We believe that a certain consensus has been reached regarding many of its distinctive features – although as noted, a few of them remain debated. Further research is needed to characterize better the "object" of reshoring in terms of characteristics of the manufacturing activities that are brought back (e.g., task complexity, degree of knowledge codifiability and types of required skills); however, the most relevant unresolved issue is in regard to the relationship between the offshoring and reshoring phenomena. In this respect, we share the idea of Joubioux and Vanpoucke (2016) that such decisions are strictly interconnected. Therefore, future studies should carefully analyze the similarities and differences between the two phenomena, especially in terms both of motivations and decision making processes. In this way, it will be possible to characterize and better explain how companies may optimize their global manufacturing footprints (Stentoft *et al.*, 2016a, Stentoft *et al.*, 2016c).

The "Why" of reshoring is definitely one of the most investigated questions in the literature. However, some technological aspects – such as the roles of disruptive manufacturing technologies (e.g., Foster, 2016), automation (among others, Arlbjørn and Mikkelsen, 2014, Bals *et al*, 2016, Stentoft *et al.*, 2016a) and additive manufacturing – seem still scarcely investigated. Manufacturing technological innovations can impact supply chains in several ways, therefore, their relevance for reshoring may in fact be specific to industry characteristics or supply chain priorities. For example, automation and robotisation can reduce labor intensity (Foerstl et al., 2016; Tate, 2014) and increase flexibility of production (Foerstl et al., 2016; Stentoft et al., 2016c). Additive manufacturing can radically shorten the prototyping phase (Stentoft et al., 2016c) and foster product customization (Brennan et al., 2015), resulting in reduced time-to-market for highly personalized products that are likely to require shorter and leaner supply chains (Vyas, 2016). Stentoft et al. (2016c) found evidence that in general, the level of technological innovation varies between groups of companies pursuing different globalization strategies (namely, remain domestic; offshoring; reshoring). However, different technological innovations (digitalization; new manufacturing technologies; automation and robotisation) show different patterns of variations among the strategies – for example, reshoring cases significantly differ from offshoring cases in the degree of automation and robotization, while no differences were found in the degree of digitalisation. Apparently, different manufacturing technological innovations can play different roles in driving the (re)location decision. Since reshoring decisions are a complex entanglement of motivations, we believe that future research should pay specific attention also to (possible) interdependences *among* motivations (i.e., in terms of time, proximity, consumer response, risks, innovation). It would also be useful to compare the motivations of companies that decide to reshore and those that do not (Fratocchi *et al.*, 2016) or have never offshored (Canham and Hamilton, 2013). In addition, motivations and their possible interdependencies should be investigated by coupling them with the governance mode alternatives (insourcing and outsourcing). In this respect, we agree with Gray *et al.*

(2013) that the two decisions are alternatives but we also share with Bals *et al.* (2016) the idea that they are mutually influenced.

Moreover, as any decision is composed of two key factors – the information considered when taking the decision and the people who are in charge of the decision – another intriguing research direction which hasn't been adequately stress to date regards the role of the entrepreneur in driving reshoring decisions. In this sense, linking risk-management and behavioral theories to the study of the reshoring decision may generate useful new insights, which could contribute to further explain why reshoring decisions are taken by considering learning and entrepreneurial orientation (among many others) as different individual level factors that may influence and drive reshoring decisions.

Finally, we want to highlight that studying reshoring motivations is also extremely relevant for policy makers; therefore, future research should intensively analyze the types of industrial policy tools that should be implemented with regard to specific motivations. For instance, while labor legislation can be useful for productivity enlargement in capital-intensive companies (e.g., electronics), support for projects aiming to develop technical skills is more relevant for industries where the "made in" motivation is critical (e.g., the garments industry).

The "How" question is clearly an under-investigated topic, perhaps because of the novelty of the phenomenon, which reduces the possibility of implementing longitudinal studies (Fratocchi *et al.*, 2015) that are still scarce (Ashby, 2016, Gylling *et al.*, 2015, Robinson and Hsieh, 2016). Future research should focus on how organizations should support reshoring strategies, in terms for instance of organizational readiness and willingness (Bals *et al.*, 2016), access to competence (Stentoft *et al.*, 2016a), learning and dynamic capabilities (Arlbjørn and Lüthje, 2012, Bals *et al.*, 2016, Kinkel, 2014) and decision making processes (Bals *et al.*, 2016, Gylling *et al.*, 2015, Joubioux and Vanpoucke, 2016, Stentoft *et al.*, 2016a, Stentoft *et al.*, 2016c).

Future research should be focused on both the decision making and the implementation of the manufacturing reshoring phase. With respect to the former, either a risk management perspective – especially in the case of reshoring decisions conceptualized as corrections of prior misjudged decisions – or a strategic one appear as promising theoretical approaches. In all cases, specific attention should be given to the role of management (particularly of headquarters managers) and their ability to create value (e.g., Ciabuschi *et al.*, 2011), and to managerial tools (e.g., Total Cost of Ownership, Ellram, 1995), which may support managers in analyzing the *ex ante* and *ex post* alternatives. Particularly, evidence exists that adoption of more advanced control management systems can make a difference in the reshoring decision-making process (Gylling *et al.*, 2015). Accordingly, we suggest that future research should also be devoted to the development of more effective, although usable, accounting and control management systems for the location decision.

Referring to the implementation phase, the only available model (Bals *et al.*, 2016) is undoubtedly useful, but our knowledge still remains limited regarding the factors that might characterize the path toward effective reshoring. Among them, the in- vs. outsourcing alternatives adopted in the offshoring and reshoring phases might (or might not) have a relevant impact. More specifically, when the change in location is coupled with one in the governance mode (Bals *et al.*, 2016), managerial complexity is likely to increase substantially, leading to a higher level of risk of failure, which managers must carefully address. In this respect, specific focus should be reserved for the roles and tasks of suppliers (Grandinetti and Tabacco, 2015). Attention should also be applied to reshoring decisions based on cooperation strategies. Even if Bals *et al.* (2016) did not find evidence of such a type in their case studies, we cannot

exclude yet, from a theoretical standpoint, the role of collaboration and alliances among companies as influencing factors for reshoring decisions.

In addition, studying the paths toward reshoring will also shed light on several practical challenges. Decisions might well be made at different managerial levels and in different locations (Bals *et al.*, 2016). Reshoring could require many different sequential and/or simultaneous activities, such as analysis and implementation of scenarios and subsequent decisions, several micro-level processes of closure, downsizing, transformation and establishment of (sub)sets of activities and resources, and termination, alteration, strengthening or start-up of (new or existing) business relationships at one and/or several locations/countries. This last point might well also contribute to shedding new light on the effects that different reshoring implementation patterns can have on local business networks and specific business and institutional relationships.

Regarding the "When" question, the duration aspect seems particularly useful. Especially if combined with performance measurement, duration could be quite informative with regard to key aspects, such as firms' reaction to changes, speed of learning, and behavioral aspects, such as persistence in fighting against emerging problems. All in all, it has been indicated that reshoring is only one of a series of possible options that firms must consider among offshoring implementation challenges (Manning, 2014). Given the relevance of entry mode in the internationalization process, consistent with Ancarani *et al.* (2015), we believe that another important research direction involving time-related elements aim to investigate the influence of entry mode (greenfield vs. mergers and acquisitions) on the duration of offshoring experience prior to reshoring.

Finally, while interesting research opportunities could also arise from studying the remaining questions individually (Who? Where?), their stronger contribution is likely to lie in their combination. In fact, it seems plausible that the motivations and behaviors of reshoring firms could depend on firms' and (home and host) countries' characteristics. Thus, including these questions in the future research agenda will prove useful to provide a more compelling and exhaustive characterization and comprehension of the reshoring phenomenon. Nevertheless, there is an intrinsic value in tackling these questions separately. For example, the "Who" issue is useful for investigating the (eventual) influence of the entry mode (greenfield investments vs. mergers and acquisitions) in the host country adopted at the time of the initial offshoring decision. This is a traditional IB research question, which has already been investigated with regard to de-internationalization and foreign divestments (Fisch and Zschoche, 2012, Mata and Portugal, 2000). More specifically, Fratocchi *et al.* (2014a) speculated that firms offshoring according to the internal growth model (greenfield) are more likely to reshore later than those implementing external growth approaches (mergers and acquisitions) because of the usual post-integration redefinitions of a firm's organizational and strategic architecture. At the same time, findings proposed by Gray *et al*. (2017) with respect to SMEs, induce the suggestion that further research should be implemented to verify the role of size on reshoring decisions.

Interestingly – while we did not find empirical evidence about either the outcome of reshoring initiatives, or their impacts on the firm or the locations – such aspects have been included by a few authors as suggested avenues for future research. Accordingly, we think that the "5Ws & 1H" set we utilized for screening the literature can be conveniently extended to include a 6th "W", namely the "which impact" question (Table 8).

A final remark concerns research focusing on actors potentially influencing the reshoring phenomenon besides firms, namely policy makers, customers and stock market actors. The role of government was investigated by Bailey and De Propris (2014a, 2014b), but we suggest further investigation with regard to the effectiveness of specific

incentives (e.g., financial aid, investments in infrastructure and/or in human capital development). Regarding customers, Grappi *et al.* (2015) offered interesting starting points for further investigations; among them, we underline focusing on the impact of the "made in" effect (Bertoli and Resciniti, 2012) on consumers' choices when production is reshored. Finally, Brandon-Jones *et al*. (2017) found that reshoring announcements result in positive abnormal stock returns, showing that the benefits associated with such a decision tend to outweigh the costs. This is consistent with Fel and Griette (2017) who found that French companies obtained high financial benefits after reshoring manufacturing activities.

4.2 A research agenda for reshoring studies

The "5Ws & 1H" is a valuable scheme to analyze the extant knowledge of reshoring. Open issues have been highlighted for each of them, which scholars may consider tackling in their future research, to increase the comprehension of specific aspects of the phenomenon. However, as seen in the section above, numerous research questions have been identified – mostly due to the novelty and complexity of reshoring. In an attempt to develop a more manageable research agenda, and to prioritize among the various issues, we utilize some of the research questions, or coherent combinations of them, to synthesize four prominent research priorities of reshoring research. In our view, these represent the most urgent and meaningful avenues scholars should follow.

Priority 1 – A comprehensive characterization of reshoring

Empirical knowledge on reshoring is undoubtedly scarce and has led several authors (Fratocchi *et al.*, 2014a, Kinkel, 2012, Wiesmann *et al.*, 2017) to call for investigation into the impact of firms' characteristics (e.g., size, entry-mode), as well as industries' and countries' characteristics on reshoring propensity. Despite a vast array of motivations having been identified, it is necessary to further refine them (Fratocchi *et al.*, 2016) and understand the strength of the various drivers (Foerstl *et al.*, 2016). Certain drivers (e.g., automation and innovation in manufacturing in particular) seem to attract the interest of scholars, who probably perceive their potential relevance for reshoring, in spite of the paucity of empirical evidence.

A comprehensive characterization of reshoring, in addition to informing on the magnitude and geographical trends of reshoring, should highlight the reshoring patterns of distinct types of firms, capturing the (possible) differences in their motivations, and also account for specific country-effects in influencing the decision.

Priority 2 – The practice of reshoring: decision-implementation-outcome

The "how" question has emerged as a very relevant, yet understudied, one. Moreover, to date we lack substantial evidence on the outcome of reshoring. Understanding the way companies undertake the decision to reshore and implement it, and evaluate the result of that choice is of paramount importance. This could provide managers with reliable tools, inform them about the organizational characteristics and capabilities that are more likely to make reshoring successful, and warn them of the main obstacles to effective reshoring (e.g., need for a change in governance, availability of suppliers, etc.). Particularly, it is very important that future research could shed light on the "right" amount (and type) of information that is necessary, as well as reasonably accessible, to effective decision making processes. While Hartman *et al.* (2017) suggest that "unless there is an urgent requirement to get to a

relocation decision, we would encourage decision-makers to delay the decision making process until more information can be assimilated", since "A fully-informed relocation decision – or at least, as fully informed as possible given time constraints – made tomorrow may prove more beneficial to the long term bottom line than a partially informed decision made today" (p. 10), Gray *et al*. (2017) believe that from a practical point of view, the conclusion that firms (and especially SMEs) should replace their LPLC heuristic by a complete analysis of all costs and benefits of offshoring versus reshoring would be unfortunate – as it would either slow down the decision process, or have poor predictive accuracy (p. 45). They rather suggest the development and deployment of tools that would ideally match the analysis level to the complexity and uncertainty inherent in the location decision.

Interestingly, as highlighted by Bals *et al*. (2016), a better comprehension of the decision making process should also account for the motivations behind that process, since for instance a reshoring choice as "reaction to failure" could suffer from abbreviated, short-term oriented decision making that might negatively affect the feasibility of implementation.

Priority 3 – A broader approach to the manufacturing location decision: offshoring, reshoring… or "rightshoring"?

Reshoring supports the viewpoint that a firm's manufacturing internationalization does not necessarily follow a pure expansion path but rather a non-linear trajectory, in which steps of increased commitment can alternate with others of reduced commitment (Fratocchi *et al.*, 2015). Kinkel (2012) states that "the deduction of future trends and new paradigms in production management and offshoring research should always be mirrored in the light of possibly changing (and even trend reversing) environmental and economic conditions" (p. 714). Accordingly, we suggest that it is important to embrace a broader perspective in the study of the manufacturing location decision of a firm, to understand how firms can properly structure (and possibly reconfigure) their "global manufacturing footprint" (Stentoft *et al.*, 2016c). Comparative analysis of the motivations of different location choices can be helpful to explain diverging location patterns and clarify why, even in the same industry, firms' decisions with regard to their host country may vary.

In our view, it is necessary to (re)evaluate the appropriateness of the extant frameworks for production internationalization in explaining the location decisions. For instance, it has been noted how the Eclectic Paradigm might be inadequate to fully explain the emergence of (highly fragmented) global production networks because it assumes that the firm has already an ownership advantage, and is capable of effectively transferring it abroad (Contractor *et al.*, 2010). But, in the context of offshoring, ownership and internalization advantages could appear somewhat less evident (Doh, 2005, Kedia and Mukherjee, 2009). Or even, as noted by Doh that, "by disintegrating production stages along the supply chain and transferring them to other geographic locations, firms may create conditions for the erosion of ownership and internalization advantages" (2005, p. 698). Such an argument seems coherent with regard to why reshoring can occur, and it would reaffirm, at least under certain conditions, the validity of the Eclectic paradigm logic.

From a supply chain management point of view, the nascent framework of supply chain innovation (Arlbjørn et al., 2011; Arlbjørn and Paulraj, 2013) offers an interesting perspective to interpret the manufacturing location decision – including reshoring – by considering it as one dimension of the broader issue of increasing competitiveness by innovating the supply chain. Supply chain innovation (SCI) is "an incremental or radical change in structure, processes or technology (or a combination of these) that takes place in the supply chain so as to create value for all

stakeholders" (adapted from Arlbjørn et al., 2011). It first highlights that companies can seek higher competitiveness through the redesign of the network structure and relationships; the improvement or change of their set of activities and routines; and the adoption of new technological solutions. SCI can occur either at the intra-firm or inter-firm level. Second, it recognizes that such changes might not happen in insulation; rather, they can interplay to scale up the value creation in the supply chain. In this context, the manufacturing location decision is a key aspect of the network structure dimension, and changes in such decision (e.g., reshoring) constitutes innovations on this dimension. Accordingly, the analysis of the "SCI links" (Stentoft et al., 2016c) can contribute to clarify why and how relocation decisions happen – e.g., due to changes in the underlying technologies or processes, or as way to trigger such changes. For instance, firms might realize that more efficient business processes along the chain could require increased collaboration with close and akin business partners like domestic suppliers, and in turn deliberate to reshore.

In sum, we perceive reshoring to be a critical element of the ongoing debate regarding how internationalization can be appropriately explained in the rapidly changing global environment, as well as a key capability to support a firm's global value chain management (Contractor *et al.*, 2010, Mugurusi and de Boer, 2014). Reshoring is consistent with this emerging perspective of "offshoring capabilities" (Schmeisser, 2013) and it could contribute to refining a more comprehensive framework of "global value chain management capabilities". Such a framework would entail not only a firm's capability to design effectively and segment its globally extended value chain, and to coordinate external organizations into the firm's strategy (Buckley, 2009, Doh, 2005), but also the ability to sense changing conditions in the business and market contexts, and to reconfigure its value chain accordingly, designing its evolution in time.

Priority 4 – Reshoring and Policy-making

In recent years, several governments in Western countries have shown interest in the phenomenon (Guenther, 2012, Livesey, 2012), that however struggles to switch into actions. Not surprisingly, policy factors have been less important drivers of reshoring to date (Fratocchi *et al.*, 2016, Kinkel and Maloca, 2009). However, the scenario may change in the future. Even in light of the forthcoming digital transformation of manufacturing, Wiesmann *et al*. (2017) observe that "reshored manufacturing will require fewer but more skilled workers and will not easily occur without major policy changes" (p. 35). Tate (2014) believes that it would be interesting for researcher to understand the role of government in (location) decision making. Particularly, we think it will be interesting to observe whether governments will try to re-attract firms through economic measures such as tax cuts or labor market "flexibilization", or if they will rather invest more in digital infrastructures, and high-level and technical education, or even executive education. For example, Gray *et al*. (2017) report cases of collaboration between Institutions (the US Department of Commerce), academics and practitioner-led organizations to develop tools aimed at helping managers in undertaking the location decision.

Incidentally, reshoring might be also influenced by other types of regulations: for example, Gray *et al*. (2013) affirm that reshoring will be favored if a transition toward more stringent environmental regulations occurs, although these authors did not find evidence of that in the reshoring cases they recently analyzed (Gray *et al.*, 2017).

5. Implications for practice and society

Our work, a literature review that is largely based on scientific publications, primarily informs the academic community on the current state-of-the-art and future research directions of reshoring phenomena. Nevertheless, it also has some relevant implications for practice and society. As for the former, managers can benefit from the clarifications we provide on the definition of reshoring, drawing a clear distinction from related yet distinct issues such as insourcing or near-reshoring. Also, it is useful for practitioners to gain insights into the vast array of motivations that can lead a company to reshore. Managers should understand that reshoring can happen due to several reasons, and not necessarily that these represent a mere overturning of those that stimulated prior offshoring. Also, reshoring motivations can vary depending on several factors operating at the firm, industry, and country-level. Managers should reflect on which of these are more likely to occur in the context where they operate. Finally, our research points out some of the first attempts to develop decision making models for reshoring that can assist managers in their analyses, and it also reports on the existence of barriers that could hinder the implementation of reshoring initiatives (Wiesmann *et al.*, 2017), which should be taken into consideration by managers when planning for reshoring.

From a societal point of view, our research underlines that reshoring can be part of that re-industrialization policy that many Western countries include in their economic agenda – yet, its impact on employment should not be overestimated, since often the relocation is only in regard to some product lines. In this sense, reshoring is considered also as one of the elements that may help the recovery from on-going economic crisis that have troubled several countries for instance in Europe in the past years. But, if we look at reshoring from the host-countries point of view, we should not forget the potential effects that reshoring may have on those local economies and labour markets. The social effects of a growing reshoring trend has yet to be seen or forecasted, but certainly some local markets that are depending heavily from foreign employers and investments might suffer consequences of reshoring in the long-term. However, it has to be taken into debt account that manufacturing reshoring is not the only (and even the most relevant) alternative implemented by manufacturing companies in their "second step" of the production internationalization process (Fratocchi et al, 2015). In industries like footwear, "further off-shoring" decisions – that is relocation in even more distant countries (Fratocchi et al, 2014) - are at least as relevant as reshoring ones (Martínez-Mora and Merino, 2014). At the same time, at least in China, local production capacity is increasingly used to supply the growing internal demand.

At the same time, there might be an intimate relationship between reshoring and the various forms of technological innovations applied to manufacturing – which has become popularly labeled as "Industry 4.0". Stentoft *et al*. (2016c) found that companies that reshore tend to have a higher degree of technological innovation compared with companies that offshore, and the same holds true for companies which remain domestic. Whether Industry 4.0 will result in either an increase or a loss of jobs is strongly debated, yet it is generally understood that the new manufacturing era will require different and probably sharper kinds of worker skills. Therefore, policies that will be able to support the digital transformation of manufacturing are more likely to favor the repatriation of production activities to the respective countries, and the employment of highly skilled workers.

Finally, since customers are prone to recognize a premium price for products manufactured in the home country after the reshoring decision (Grappi *et al.*, 2015), a specific policy should be developed in terms of traceability laws (see for instance the debate at the European Parliament).

6. Limitations and concluding remarks

It is our belief that researching manufacturing reshoring decisions is timely and relevant. In that vein, this work represents an attempt to provide an exhaustive and elaborated state-of-the art of the current knowledge on the topic. The "5Ws & 1H" is a valuable approach to systematize the various topics that have been investigated so far. In addition, the work has collected, analyzed and enriched the proposals about how research should proceed in the future. The research agenda we propose may indeed represent a valuable track to address that research.

However, there are limitations in our work. First, since the research applied to date has often been largely explorative and descriptive in nature, this prevented us from more solid conclusions on causal effects or more specific relationships among variables. Hopefully, future research will be able to shed light on these aspects. Regarding the size of the paper sample we considered, while it is significantly higher in comparison to previous literature reviews on the reshoring topic (Wiesmann *et al.*, 2017), it is still limited by the novelty of this research stream; this can be considered as another limitation of this work. Also, our choice to follow a rigorous selection criteria and rely on a widely known and highly reputable source for the articles provides higher insurance on the quality and reliability of the information, but perhaps at the expense of its completeness. For example, practitioner-oriented and "gray" literature that is not indexed on the selected database is not part of this review. Finally, in prospecting future research, we preferred to focus more on the "content" than on the "methods". On that, we limit ourselves to the suggestion that especially large-scale investigations – based on either secondary data or the survey method – should be adopted privileged in future research studies on reshoring (although case studies are particularly welcome, especially for the second priority of our agenda).

References

[* The article is included in the literature review]

Abbasi, M. H. (2016), "It's not Offshoring or Reshoring but Right-shoring that matters", *Journal of Textile and Apparel, Technology and Management,* Vol. 10**,** No. 2, pp. 1-6. *

Aharoni, Y. and Brock, D. M. (2010), "International business research: Looking back and looking forward", *Journal of International Management,* Vol. 16**,** No. 1, pp. 5-15.

Albertoni, F., Elia, S., Massini, S. and Piscitello, L. (2017), "The reshoring of business services: Reaction to failure or persistent strategy?", *Journal of World Business,* Vol. 52**,** No. 3, pp. 417-430.

Ancarani, A., Di Mauro, C., Fratocchi, L., Orzes, G. and Sartor, M. (2015), "Prior to reshoring: A duration analysis of foreign manufacturing ventures", *International Journal of Production Economics,* Vol. 169, pp. 141-155. *

Antelo, M. and Bru, L. (2010), "Outsourcing or restructuring: The dynamic choice", *International Journal of Production Economics,* Vol. 123**,** No. 1, pp. 1-7.

Arlbjørn, J. S., de Haas, H. and Munksgard, K. B. (2011), "Exploring supply chain innovation", *Logistics Research*, Vol. 3, pp. 3-18.

Arlbjørn, J. S. and Lüthje, T. (2012), "Global operations and their interaction with supply chain performance", *Industrial Management & Data Systems,* Vol. 112**,** No. 7, pp. 1044-1064. *

Arlbjørn, J. S. and Mikkelsen, O. S. (2014), "Backshoring manufacturing: Notes on an important but under-researched theme", *Journal of Purchasing & Supply Management,* Vol. 20**,** No. 1, pp. 60-62.

Arlbjørn, J. S. and Paulraj, A. (2013), "Special Topic Forum On Innovation In Business Networks From A Supply Chain Perspective: Current Status And Opportunities For Future Research", *Journal of Supply Chain Management*, Vol. 49, No. 4, pp. 3-11.

Ashby, A. (2016), "From global to local: reshoring for sustainability", *Operations Management Research*, pp. 1-14. *

Bailey, D. and De Propris, L. (2014a), "Manufacturing reshoring and its limits: the UK automotive case", *Cambridge Journal of Regions, Economy and Society,* Vol. 20**,** No. 1, pp. 66-68. *

Bailey, D. and De Propris, L. (2014b), "Reshoring: Opportunities and Limits for Manufacturing in the UK – the case of the Auto Sector", *Revue d'économie industrielle,* Vol. 1**,** No. 145, pp. 45-61. *

Baldwin, R. and Venables, A. J. (2013), "Spiders and snakes: Offshoring and agglomeration in the global economy", *Journal of International Economics,* Vol. 90**,** No. 2, pp. 245-254. *

Bals, L., Kirchoff, J. F. and Foerstl, K. (2016), "Exploring the reshoring and insourcing decision making process: toward an agenda for future research", *Operations Management Research*, pp. 1-15. *

Beer, S. (1972), *Brain of the Firm: The Managerial Cybernetics of Organization,* Allen Lane, London, UK.

Beer, S. (1984), "The Viable System Model: Its Provenance, Development, Methodology and Pathology", *The Journal of the Operational Research Society,* Vol. 35**,** No. 1, pp. 7-25.

Belderbos, R. (2003), "Antidumping and foreign divestment: Japanese electronics multinationals in the EU", *Review of World Economics,* Vol. 139**,** No. 1, pp. 131-160.

Bellego, C. (2014), "Reshoring: a multifaceted decision involving much more than just labour costs", *Les 4 Pages de la direction géneral de la competitivitè, de l'industrie et des services***,** No. 30, pp. 1-4.

Belussi, F. (2015), "The international resilience of Italian industrial districts/clusters (ID/C) between knowledge re-shoring and manufacturing off (near)-shoring", *Investigaciones Regionales***,** No. 32, pp. 89-113. *

Benito, G. R. (1997), "Divestment of foreign production operations", *Applied Economics,* Vol. 29**,** No. 10, pp. 1365-1378.

Benito, G. R., Petersen, B. and Welch, L. S. (2009), "Towards more realistic conceptualisations of foreign operation modes", *Journal of International Business Studies,* Vol. 40**,** No. 9, pp. 1455-1470.

Benito, G. R. and Welch, L. S. (1997), "De-internationalization", *Management International Review,* Vol. 1997**,** No. 2, pp. 7-25.

Benito, G. R. G. (2015), "Why and how motives (still) matter", *Multinational Business Review,* Vol. 23**,** No. 1, pp. 15-24.

Bertoli, G. and Resciniti, R. (Eds.) (2012), *International Marketing and the Country of Origin Effect: The Global Impact of "Made in Italy",* Edward Elgar Publishing, Cheltenham, UK.

Boehe, D. M. (2010), "Captive Offshoring of New Product Development in Brazil", *Management International Review,* Vol. 50**,** No. 6, pp. 747-773.

Brandon-Jones, E., Dutordoir, M., Frota Neto, J. Q. and Squire, B. (2017), "The impact of reshoring decisions on shareholder wealth", *Journal of Operations Management,* Vol. 49–51, pp. 31-36. *

Brennan, L., Ferdows, K., Godsell, J., Golini, R., Keegan, R., Kinkel, S., Srai, J. S. and Taylor, M. (2015), "Manufacturing in the world: where next?", *International Journal of Operations & Production Management*, Vol. 35, No. 9, pp. 1253-1274.

Buckley, P. J. (2009), "The impact of the global factory on economic development", *Journal of World Business,* Vol. 44**,** No. 2, pp. 131-143.

Canham, S. and Hamilton, R. T. (2013), "SME internationalisation: offshoring, "backshoring", or staying at home in New Zealand", *Strategic Outsourcing: An International Journal,* Vol. 6**,** No. 3, pp. 277-291. *

Ciabuschi, F., Forsgren, M. and Martín, O. M. (2011), "Rationality vs ignorance: The role of MNE headquarters in subsidiaries' innovation processes", *Journal of International Business Studies,* Vol. 42**,** No. 7, pp. 958-970.

Contractor, F. J., Kumar, V., Kundu, S. K. and Pedersen, T. (2010), "Reconceptualizing the Firm in a World of Outsourcing and Offshoring: The Organizational and Geographical Relocation of High-Value Company Functions", *Journal of Management Studies,* Vol. 47**,** No. 8, pp. 1417-1433.

Cowell, M. and Provo, J. (2015), "Reshoring and the "manufacturing moment"", *In:* Bryson, J. R., Clark, J. and Vanchan, V. (Eds.) *Handbook of Manufacturing Industries in the World Economy.* Edward Elgar Publishing Ltd, Cheltenham, UK, pp. 71-83. *

De Backer, K., Menon, C., Desnoyers-James, I. and Moussiegt, L. (2016), "Reshoring: Myth or Reality?", *OECD Science, Technology and Industry Policy Papers, No. 27* OECD Publishing, Paris, France.

Denning, S. (2013), "Boeing's offshoring woes: seven lessons every CEO must learn", *Strategy & Leadership,* Vol. 41**,** No. 3, pp. 29-35. *

Denyer, D. and Tranfield, D. (2009), "Producing a systematic review", *In:* Buchanan, D. A. and Bryman, A. (Eds.) *The Sage handbook of organizational research methods.* Sage Publications, Thousand Oaks, CA, pp. 671-689.

Diamantopoulos, A., Schlegelmilch, B. and Palihawadana, D. (2011), "The relationship between country-of-origin image and brand image as drivers of purchase intentions: A test of alternative perspectives", *International Marketing Review,* Vol. 28**,** No. 5, pp. 508-524.

Doh, J. P. (2005), "Offshore Outsourcing: Implications for International Business and Strategic Management Theory and Practice", *Journal of Management Studies,* Vol. 42**,** No. 3, pp. 695-704.

Dunning, J. H. (1995), "Reappraising the eclectic paradigm in an age of alliance capitalism", *Journal of international business studies,* Vol. 26, pp. 461-461.

Dunning, J. H. (1998), "Location and the Multinational Enterprise: A Neglected Factor?", *Journal of International Business Studies,* Vol. 29**,** No. 1, pp. 45-66.

Ellram, L. M. (1995), "Total cost of ownership: an analysis approach for purchasing", *International Journal of Physical Distribution & Logistics Management,* Vol. 25**,** No. 8, pp. 4-23.

Ellram, L. M. (2013), "Offshoring, Reshoring and the Manufacturing Location Decision", *Journal of Supply Chain Management,* Vol. 49**,** No. 2, pp. 3-5.

Ellram, L. M., Tate, W. L. and Petersen, K. J. (2013), "Offshoring and reshoring: an update on the manufacturing location decision", *Journal of Supply Chain Management,* Vol. 49**,** No. 2, pp. 14-22. *

European Parliament Resolution (2014), "Reindustrializing Europe to promote competitiveness and sustainability", *In:* Committee on Industry, R. a. E. (Ed.), Strasbourg.

Fel, F. and Griette, E. (2017), "Near-reshoring your supplies from China: a good deal for financial motives too", *Strategic Direction,* Vol. 33**,** No. 2, pp. 24-26. *

Fink, A. (2005), *Conducting Research Literature Reviews: From the Internet to Paper,* Sage Publications, London, UK.

Fisch, J. H. and Zschoche, M. (2012), "The effect of operational flexibility on decisions to withdraw from foreign production locations", *International Business Review,* Vol. 21**,** No. 5, pp. 806-816.

Foerstl, K., Kirchoff, J. F. and Bals, L. (2016), "Reshoring and insourcing: drivers and future research directions", *International Journal of Physical Distribution & Logistics Management,* Vol. 46**,** No. 5, pp. 492-515. *

Foster, K. (2016), "A Prediction of US Knit Apparel Demand: Making the Case for Reshoring Manufacturing Investment in New Technology", *Journal of Textile and Apparel, Technology and Management,* Vol. 10**,** No. 2, pp. 1-10.

Fox, S. (2015), "Moveable factories: How to enable sustainable widespread manufacturing by local people in regions without manufacturing skills and infrastructure", *Technology in Society,* Vol. 42, pp. 49-60. *

Fratocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M. and Zanoni, A. (2015), "Manufacturing back-reshoring as a nonlinear internationalization process", *In:* Van Tulder, R., Verbeke, A. and Drogendijk, R. (Eds.) *The future of Global Organizing, Progress in International Business Research (PIBR).* Emerald, pp. 367-405. *

Fratocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M. and Zanoni, A. (2016), "Motivations of manufacturing reshoring: an interpretative framework", *International Journal of Physical Distribution & Logistics Management,* Vol. 46**,** No. 2, pp. 98-127. *

Fratocchi, L., Di Mauro, C., Barbieri, P., Nassimbeni, G. and Zanoni, A. (2014a), "When manufacturing moves back: Concepts and questions", *Journal of Purchasing and Supply Management,* Vol. 20**,** No. 1, pp. 54-59. *

Fratocchi, L., Iapadre, L., Ancarani, A., Di Mauro, C., Zanoni, A. and Barbieri, P. (2014b), "Manufacturing Reshoring: Threat and opportunity for East Central Europe and Baltic Countries", *In:* Zhuplev, A. (Ed.) *Geo-regional competitiveness in Central and Eastern Europe, The Baltic Countries, and Russia.* IGI Global, pp. 83-118. *

Grandinetti, R. and Tabacco, R. (2015), "A return to spatial proximity: combining global suppliers with local subcontractors", *International Journal of Globalisation and Small Business,* Vol. 7**,** No. 2, pp. 139-161. *

Grappi, S., Romani, S. and Bagozzi, R. P. (2015), "Consumer stakeholder responses to reshoring strategies", *Journal of the Academy of Marketing Science,* Vol. 43**,** No. 4, pp. 453-471. *

Gray, J. V., Esenduran, G., Rungtusanatham, M. J. and Skowronski, K. (2017), "Why in the world did they reshore? Examining small to medium-sized manufacturer decisions", *Journal of Operations Management,* Vol. 49–51, pp. 37-51. *

Gray, J. V., Skowronski, K., Esenduran, G. and Johnny Rungtusanatham, M. (2013), "The reshoring phenomenon: What supply chain academics ought to know and should do", *Journal of Supply Chain Management,* Vol. 49**,** No. 2, pp. 27-33. *

Greenwood, M. (2011), *Which business and management journal database is best?* [Online], available at: https://bizlib247.wordpress.com/2011/06/19/which-business-and-management-journal-database-is-best/ (accessed August 23rd, 2013).

Guenther, G. (2012), "Federal Tax Benefits for Manufacturing: Current Law, Legislative Proposals, and Issues for the 112th Congress". Federal Tax Benefits for Manufacturing: Current Law, Legislative Proposals, and Issues for the 112th Congress

Gylling, M., Heikkilä, J., Jussila, K. and Saarinen, M. (2015), "Making decisions on offshore outsourcing and backshoring: A case study in the bicycle industry", *International Journal of Production Economics,* Vol. 162, pp. 92-100. *

Hahn, D. E., Bunyaratavej, K. and Doh, P. J. (2011), "Impacts of Risk and Service Type on Nearshore and Offshore Investment Location Decisions", *Management International Review,* Vol. 51**,** No. 3, pp. 357-380.

Handley, S. M. (2012), "The perilous effects of capability loss on outsourcing management and performance", *Journal of Operations Management,* Vol. 30**,** No. 1–2, pp. 152-165.

Hartman, P. L., Ogden, J. A., Wirthlin, J. R. and Hazen, B. T. (2017), "Nearshoring, reshoring, and insourcing: Moving beyond the total cost of ownership conversation", *Business Horizons,* Vol. 60**,** No. 3, pp. 363-373. *

Hätönen, J. and Eriksson, T. (2009), "30+ years of research and practice of outsourcing – Exploring the past and anticipating the future", *Journal of International Management,* Vol. 15**,** No. 2, pp. 142-155.

Huq, F., Pawar, K. S. and Rogers, H. (2016), "Supply chain configuration conundrum: how does the pharmaceutical industry mitigate disturbance factors?", *Production Planning & Control,* Vol. 27**,** No. 14, pp. 1206-1220. *

Hutzschenreuter, T., Lewin, Y. A. and Dresel, S. (2011), "Time to Success in Offshoring Business Processes", *Management International Review,* Vol. 51**,** No. 1, pp. 65-92.

Jahns, C., Hartmann, E. and Bals, L. (2006), "Offshoring: Dimensions and diffusion of a new business concept", *Journal of Purchasing and Supply Management,* Vol. 12**,** No. 4, pp. 218-231.

Jain, N. K., Kothari, T. and Kumar, V. (2016), "Location Choice Research: Proposing New Agenda", *Management International Review,* Vol. 56**,** No. 3, pp. 303-324.

Jensen, P. D. Ø., Larsen, M. M. and Pedersen, T. (2013), "The organizational design of offshoring: Taking stock and moving forward", *Journal of International Management,* Vol. 19**,** No. 4, pp. 315-323.

Johanson, J. and Vahlne, J.-E. (1977), "The Internationalization Process of the Firm-A Model of Knowledge Development and Increasing Foreign Market Commitments", *Journal of International Business Studies,* Vol. 8**,** No. 1, pp. 23-32.

Johanson, J. and Vahlne, J.-E. (1990), "The Mechanism of Internationalisation", *International Marketing Review,* Vol. 7**,** No. 4, pp. 11-23.

Joubioux, C. and Vanpoucke, E. (2016), "Towards right-shoring: a framework for off-and re-shoring decision making", *Operations Management Research*, pp. 1-16. *

Kedia, B. L. and Mukherjee, D. (2009), "Understanding offshoring: A research framework based on disintegration, location and externalization advantages", *Journal of World Business,* Vol. 44**,** No. 3, pp. 250-261.

Kinkel, S. (2012), "Trends in production relocation and backshoring activities: Changing patterns in the course of the global economic crisis", *International Journal of Operations & Production Management,* Vol. 32**,** No. 6, pp. 696-720. *

Kinkel, S. (2014), "Future and impact of backshoring—Some conclusions from 15 years of research on German practices", *Journal of Purchasing and Supply Management,* Vol. 20**,** No. 1, pp. 63-65. *

Kinkel, S. (2014b), "Return to the promised land? Main conclusions from 15 years of research on German companies' production back-shoring activities", *EurOMA - European Operations Management Association.* Palermo, Italy.

Kinkel, S., Lay, G. and Maloca, S. (2007), "Development, motives and employment effects of manufacturing offshoring of German SMEs", *International Journal of Entrepreneurship and Small Business,* Vol. 4**,** No. 3, pp. 256-276. *

Kinkel, S. and Maloca, S. (2009), "Drivers and antecedents of manufacturing offshoring and backshoring—A German perspective", *Journal of Purchasing and Supply Management,* Vol. 15**,** No. 3, pp. 154-165. *

Kotabe, M., Mol, M. J. and Ketkar, S. (2008), "An evolutionary stage model of outsourcing and competence destruction: A Triad comparison of the consumer electronics industry", *Management International Review,* Vol. 48**,** No. 1, pp. 65-94.

Lam, H. and Khare, A. (2016), "Addressing Volatility, Uncertainty, Complexity & Ambiguity (VUCA) Through Insourcing and Backshoring", *In:* Mack, O., Khare, A., Krämer, A. and Burgartz, T. (Eds.) *Managing in a VUCA World.* Springer, Switzerland, pp. 141-149. *

Lewin, A. Y., Massini, S. and Peeters, C. (2009), "Why are companies offshoring innovation? The emerging global race for talent", *Journal of International Business Studies,* Vol. 40**,** No. 6, pp. 901-925.

Liesch, P. W., Buckley, J. P., Simonin, L. B. and Knight, G. (2012), "Organizing the Modern Firm in the Worldwide Market for Market Transactions", *Management International Review,* Vol. 52**,** No. 1, pp. 3-21.

Livesey, F. (2012), "The Need for a New Understanding of Manufacturing and Industrial Policy in Leading Economies", *Innovations: Technology, Governance, Globalization,* Vol. 7**,** No. 3, pp. 193-202.

Manning, S. (2014), "Mitigate, tolerate or relocate? Offshoring challenges, strategic imperatives and resource constraints", *Journal of World Business,* Vol. 49**,** No. 4, pp. 522-535.

Manning, S., Lewin, Y. A. and Schuerch, M. (2011), "The Stability of Offshore Outsourcing Relationships", *Management International Review,* Vol. 51**,** No. 3, pp. 381-406.

Mariotti, S. (2009), "Tendenze degli investimenti diretti esteri dopo la crisi finanziaria: che accade?", *Economia e Politica Industriale*.

Martínez-Mora, C. and Merino, F. (2014), "Offshoring in the Spanish footwear industry: A return journey?", *Journal of Purchasing and Supply Management,* Vol. 20**,** No. 4, pp. 225-237. *

Maskell, P., Pedersen, T., Petersen, B. and Dick-Nielsen, J. (2007), "Learning Paths to Offshore Outsourcing: From Cost Reduction to Knowledge Seeking", *Industry and Innovation,* Vol. 14**,** No. 3, pp. 239-257.

Mata, J. and Portugal, P. (2000), "Closure and divestiture by foreign entrants: the impact of entry and post-entry strategies", *Strategic Management Journal,* Vol. 21**,** No. 5, pp. 549-562.

Mcivor, R. (2010), *Global services outsourcing,* Cambridge University Press.

Mezzadri, A. (2014), "Backshoring, local sweatshop regimes and CSR in India", *Competition & Change,* Vol. 18**,** No. 4, pp. 327-344. *

Moradlou, H. and Backhouse, C. J. (2016), "A review of manufacturing re-shoring in the context of customer-focused postponement strategies", *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture,* Vol. 230**,** No. 9, pp. 1561-1571. *

Moradlou, H., Backhouse, C. J. and Ranganathan, R. (2017), "Responsiveness, the primary reason behind re-shoring manufacturing activities to the UK: An Indian industry perspective", *International Journal of Physical Distribution & Logistics Management,* Vol. 47**,** No. 2/3, pp. 222-236. *

Mudambi, R. and Venzin, M. (2010), "The Strategic Nexus of Offshoring and Outsourcing Decisions", *Journal of Management Studies,* Vol. 47**,** No. 8, pp. 1510-1533.

Mugurusi, G. and De Boer, L. (2013), "What follows after the decision to offshore production?: A systematic review of the literature", *Strategic Outsourcing: An International Journal,* Vol. 6**,** No. 3, pp. 213-257.

Mugurusi, G. and De Boer, L. (2014), "Conceptualising the production offshoring organisation using the viable systems model (VSM)", *Strategic Outsourcing: An International Journal,* Vol. 7**,** No. 3, pp. 275-298. *

Murat, A. (2013), "Framing the offshoring and re-shoring debate: A conceptual framework", *Journal of Global Business Management,* Vol. 9**,** No. 3, pp. 73-83.

Nash.Off, M. (2011), "The 'Reshoring' Initiative - Part I", *Metal Finishing***,** No. October, pp. 43-46. *

Pisani, N. and Ricart, J. E. (2016), "Offshoring of Services: A Review of the Literature and Organizing Framework", *Management International Review,* Vol. 56**,** No. 3, pp. 385-424.

Razvadovskaya, Y. V. and Shevchenko, I. K. (2015), "Dynamics of Metallurgic Production in Emerging Countries", *Asian Social Science,* Vol. 11**,** No. 19, pp. 178-184. *

Robinson, P. K. and Hsieh, L. (2016), "Reshoring: a strategic renewal of luxury clothing supply chains", *Operations Management Research*, Vol. 9, No. 3-5, pp. 1-13. *

Saki, Z. (2016), "Disruptive Innovations in Manufacturing–An Alternative for Re-shoring Strategy", *Journal of Textile and Apparel, Technology and Management,* Vol. 10**,** No. 2, pp. 1-7. *

Sardar, S., Lee, Y. and Memon, M. (2016), "A Sustainable Outsourcing Strategy Regarding Cost, Capacity Flexibility, and Risk in a Textile Supply Chain", *Sustainability,* Vol. 8**,** No. 3, pp. 234. *

Schmeisser, B. (2013), "A systematic review of literature on offshoring of value chain activities", *Journal of International Management,* Vol. 19**,** No. 4, pp. 390-406.

Seuring, S. and Gold, S. (2012), "Conducting content-analysis based literature reviews in supply chain management", *Supply Chain Management: An International Journal,* Vol. 17**,** No. 5, pp. 544-555.

Srai, J. S. and Ané, C. (2016), "Institutional and strategic operations perspectives on manufacturing reshoring", *International Journal of Production Research*, Vol. 54, No. 23, pp. 1-19. *

Stentoft, J., Mikkelsen, O. S. and Jensen, J. K. (2016b), "Flexicurity and relocation of manufacturing", *Operations Management Research*, Vol. 9, No. 3-4, pp. 1-12. *

Stentoft, J., Mikkelsen, O. S. and Jensen, J. K. (2016c), "Offshoring and backshoring manufacturing from a supply chain innovation perspective", *Supply Chain Forum: An International Journal,* Vol. 17**,** No. 4, pp. 190-204. *

Stentoft, J., Olhager, J., Heikkilä, J. and Thoms, L. (2016a), "Manufacturing backshoring: a systematic literature review", *Operations Management Research*, vv *

Tate, W. L. (2014), "Offshoring and reshoring: US insights and research challenges", *Journal of Purchasing and Supply Management,* Vol. 20**,** No. 1, pp. 66-68. *

Tate, W. L. and Bals, L. (2017), "Outsourcing/offshoring insights: going beyond reshoring to rightshoring", *International Journal of Physical Distribution & Logistics Management,* Vol. 47**,** No. 2/3, pp. 106-113. *

Tate, W. L., Ellram, L. M., Bals, L. and Hartmann, E. (2009), "Offshore outsourcing of services: An evolutionary perspective", *International Journal of Production Economics,* Vol. 120**,** No. 2, pp. 512-524.

Tate, W. L., Ellram, L. M., Schoenherr, T. and Petersen, K. J. (2014), "Global competitive conditions driving the manufacturing location decision", *Business Horizons,* Vol. 57**,** No. 3, pp. 381-390. *

The White House (2012), "Blueprint for an America Built to last", *In:* House, T. W. (Ed.), Washington, DC.

Ţurcan, R. V., Mäkelä, M. M., Sørensen, O. J. and Rönkkö, M. (2010), "Mitigating theoretical and coverage biases in the design of theory-building research: an example from international entrepreneurship", *International Entrepreneurship and Management Journal,* Vol. 6**,** No. 4, pp. 399-417.

Uluskan, M., Joines, J. A. and Godfrey, A. B. (2016), "Comprehensive insight into supplier quality and the impact of quality strategies of suppliers on outsourcing decisions", *Supply Chain Management: An International Journal,* Vol. 21**,** No. 1, pp. 92-102. *

Unctad (2013), "World investment report. Global Value Chains: Investment and Trade for Development", United Nations Press, New York and Geneva, Geneva.

Vissak, T. (2010), "Nonlinear internationalization: A neglected topic in international business research", *In:* Devinney, T., Pedersen, T. and Tihanyi, L. (Eds.) *The Past, Present and Future of International Business and Management.* Emerald, Bingley, pp. 559-583.

Vissak, T. and Francioni, B. (2013), "Serial nonlinear internationalization in practice: A case study", *International Business Review,* Vol. 22**,** No. 6, pp. 951-962.

Vissak, T., Francioni, B. and Musso, F. (2012), "MVM's Nonlinear Internationalization: A Case Study", *Journal of East-West Business,* Vol. 18**,** No. 4, pp. 275-300.

Vyas, N. (2016), "Disruptive Technologies Enabling Supply Chain Evolution", *Supply Chain Management Review*, pp. 36-418.

Wiesmann, B., Snoei, J. R., Hilletofth, P. and Eriksson, D. (2017), "Drivers and barriers to reshoring: a literature review on offshoring in reverse", *European Business Review,* Vol. 29**,** No. 1, pp. 15-42. *

Wu, X. and Zhang, F. (2014), "Home or Overseas? An Analysis of Sourcing Strategies Under Competition", *Management Science,* Vol. 60**,** No. 5, pp. 1223-1240. *

Zhai, W. (2014), "Competing back for foreign direct investment", *Economic Modelling,* Vol. 39, pp. 146-150. *

Zhai, W., Sun, S. and Zhang, G. (2016), "Reshoring of American manufacturing companies from China", *Operations Management Research*, pp. 1-13. *

Fig. 1 Breakdown by year and type of documents

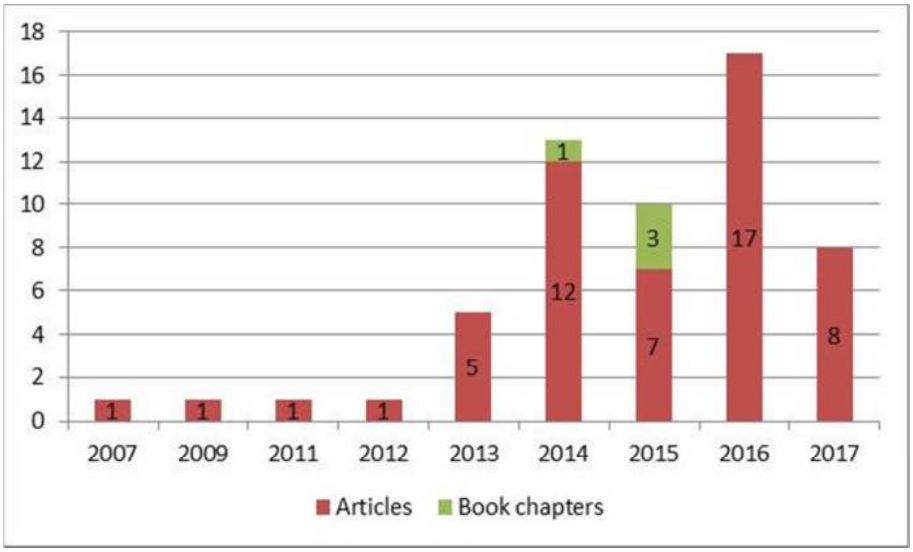

Table 1 Breakdown by journal (only for articles)

Journal/Book chapter	# documents
Operations Management Research	7
Journal of Purchasing and Supply Management	6
International Journal of Physical Distribution and Logistics Management	4
Journal of Textile and Apparel Technology and Management	3
Business Horizons	2
International Journal of Production Economics	2
Journal of Operations Management	2
Journal of Supply Chain Management	2
Strategic Outsourcing	2
Asian Social Science	1
Cambridge Journal of Regions, Economy and Society	1
Competition and Change	1
Economic Modelling	1
European Business Review	1
International Journal of Entrepreneurship and Small Business	1
International Journal of Globalisation and Small Business	1
International Journal of Operations and Production Management	1
International Journal of Production Research	1
Investigaciones Regionales	1
Journal of International Economics	1
Journal of the Academy of Marketing Science	1
Management Science	1
Metal Finishing	1
Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture	1
Production Planning and Control	1
Revue d'Economie Industrielle	1
Strategic Direction	1
Strategy and Leadership	1
Supply Chain Forum	1
Supply Chain Management	1
Sustainability	1
Technology in Society	1
Total	**53**

Table 2 Classification of the literature by reference theory

Theoretical approach	Reference code in Appendix 1																
Dunning OLI Paradigm	2	5	14	19	20	21	22	25	26	30	32	33	34	36	40	46	54
TCE	8	11	16	18	19	23	30	36	40	46	54						
RBT	3	5	8	11	18	19	25	36	40	56							
Internalization Theory	2	19	26	33	34	46	54										
Other SC theories	29	33	43	47													
Dynamic capabilities	3	8	54														
Uppsala Model	20	25	33														
Other IB theories	20	21	22														
Organizational learning	3	8															
Organizational buying behavior	8	16															
Hymer approach	5	26															
Contingency theory	8	16															
Vernon's Life cycle model	1																
Critical Incident Techniques	8																
Social network analysis	4																
Resource dependence theory	8																
Relational view	8																
Absortive capacity	8																
Consumer behavioral	24																
Other location theories	27																
Viable system model	40																
Strategic management theories	46																

* A number of articles use multiple theories

Table 3 Categorization of the literature with respect to research methodologies

Research methodology	Reference code in Appendix 1																						
Conceptual (including notes)	3	7	8	12	13	16	17	18	21	26	31	35	38	39	41	41	42	44	49	50	51	53	55
Case research	4	9	23	25	27	28	29	30	36	37	43												
Survey research	11	14	15	32	33	34	47	52															
Mathematical modeling	1	2	10	45	55	57																	
Mixed methods	5	6	46	48																			
Secondary data research	19	20	22	57																			
Empirical experiment research	24																						

Table 4 Theoretical concepts regarding the relocation of manufacturing activities

Theoretical concept	References	Unit of analysis	Relocation at home/"near to home" country of production activities	Governance structure
Back-reshoring	Fratocchi *et al.*, 2015, Fratocchi *et al.*, 2014a, Fratocchi *et al.*, 2014b	Manufacturing activity abroad (Both partial and total)	Only Home country	In- & outsourcing
Back-shoring / Backshoring	Kinkel, 2012, Kinkel and Maloca, 2009	Manufacturing activity abroad (Both partial and total)	Only Home country	In- & outsourcing
	Canham and Hamilton, 2013	"Any part of manufacturing"	Only Home country	n.a.
	Mezzadri, 2014	Production	Only Home country	In- & outsourcing
	Wu and Zhang, 2014	"Sourcing activity"	Only Home country	Outsourcing
	Gylling *et al.*, 2015	Activities or functions	Only Home country	In- & outsourcing
	Ashby, 2016	Manufacturing	Both Home and "Near to home" country	n.a.
	Bals *et al.*, 2016	Value creation activities	Only Home country	Reshoring and Insourcing are interconnected terms
	Stentoft *et al.*, 2016b	"Company's own foreign activities"	Only Home country	n.a.
	Stentoft *et al.*, 2016c	"Foreign activities", "Foreign location"	Both Home and "Near to home" country	Insourcing
	Lam and Khare, 2016	Overseas operations (not specifically defined)	Only Home country	(mainly) Insourcing
Back-sourcing	Kinkel *et al.*, 2007	"Manufacturing capacities"	Only Home country	Outsourcing
Reshoring/ Re-shoring	Ashby, 2016, Foster, 2016, Fox, 2015, Fratocchi *et al.*, 2014a, Fratocchi *et al.*, 2014b, Grandinetti and Tabacco, 2015, Gray *et al.*, 2013, Huq *et al.*, 2016	Manufacturing activity abroad (Both partial and total)	Only Home country	In- & outsourcing
	Ellram, 2013	Manufacturing activity abroad (Both partial and total)	Only Home countries	n.a.
	Ellram *et al.*, 2013	Manufacturing activity abroad (Both partial and total)	Both Home and "Near to home" countries	Insourcing
	Zhai, 2014	"New product manufacturing"	Only Home countries	Insourcing
	Cowell and Provo, 2015	"Also including new foreign direct investment and the expansion of existing facilities or firms within the US"	Only Home countries	n.a.
	Razvadovskaya and Shevchenko, 2015	"Production capacity"	"Developed countries"	n.a.

	Bals *et al.*, 2016	Value creation activities	The reshoring concept includes Backshoring and Nearshoring ones. Therefore, both Home and "Near to home" countries	Reshoring and Insourcing are often interconnected terms
	Foerstl *et al.*, 2016	"Value creation tasks"	Both Home and "Near to home" countries	In- & outsourcing
	Zhai, 2014	Valuable activities	Only Home countries	n.a.
	Uluskan *et al.*, 2016	Production activities	Only Home country	Outsourcing
	Brandon-Jones *et al.*, 2017	"Production activity"	Only Home country	In- & outsourcing
	Hartman *et al.*, 2017	"Outsourced manufacturing functions"	Only Home country	n.a.
	Tate and Bals, 2017	"Disaggregated firm value chain activities"	Only Home country	n.a.

Table 5 Manufacturing reshoring drivers: "Managerial mistake" category

Driver/Source	Ancarani et al, 2015	Ashby, 2016	Bailey and DePropris, 2014	Canham and Hamilton, 2013	Denning, 2013	Fel and Griette, 2017	Foerstl and Bals, 2016	Fratocchi et al., 2014a	Fratocchi et al., 2015	Fratocchi et al., 2016	Gray et al., 2013	Gylling et al., 2015	Kinkel et al, 2007	Kinkel and Maloca, 2009	Kinkel, 2014	Martínez-Mora and Merino, 2014	Stentoft et al., 2016a	Tate, 2014	Tate et al., 2014	Wiesman et al, 2017
Miscalculation of actual cost/Adoption of new cost accounting methods				x	x		x				x	x	x	x	x	x	x		x	x
Mistake correction		x	x		x	x		x	x		x			x	x			x	x	
Lack of knowledge on host country							x		x	x				x	x					x
Lack of systematic location planning							x		x	x				x	x					
Bandwagon effect/Overhasty off-shoring effect							x				x			x						x
Bounded rationality	x						x													
Opportunism							x													

Table 6 Manufacturing reshoring drivers: "External environment" category

Category	Motivation	Lack of skilled workers in host country/ Availability in home country	Untapped production capacity at home/Capacity bottleneck in the host country (also external)	Union pressure at the home country (also internal)	Labor costs' gap reduction	Logistics
Access to skill and knowledge	Ancarani et al., 2015	×			×	×
	Arlbjørn and Mikkelsen, 2014					
	Ashby, 2016				×	×
	Bailey and De Propris, 2014a	×			×	×
	Bailey and De Propris, 2014b	×			×	×
	Bals et al, 2016	×			×	×
	Brandon-Jones et al, 2017		×			
	Canham and Hamilton, 2013	×			×	×
	Cowell and Provo, 2015	×			×	×
	Denning,2013				×	×
	Ellram et al., 2013	×			×	
	Felland Grieţte, 2017				×	
	Foerstl and Bals, 2016	×			×	×
	Foster, 2016	×				
	Fox, 2015				×	
	Fratocchi et al., 2014a	×			×	×
	Fratocchi et al 2014b	×		×		×
	Fratocchi et al., 2015	×	×	×	×	×
	Fratocchi et al., 2016	×	×	×	×	×
	Grandinetti and Tabacco, 2015					×
	Grappi et al., 2015					
	Gray et al., 2013				×	
	Gray et al, 2017					
	Gylling et al., 2015					
	Hua et al, 2016					
	Kinkel et al, 2007		×			
	Kinkel and Maloca, 2009	×				
	Kinkel, 2012	×			×	
	Kinkel, 2014	×	×		×	×
	Joubioux and Vanpoucke 2016	×				×
	Lam and Khare, 2016				×	×
	Martínez-Mora and Merino, 2014					
	Moradlou & Backhouse, 2016				×	×
	Moradlou & Backhouse, 2017	×				×
	Saki, 2016				×	×
	Sardar et al, 2016					
	Srai and Ané, 2016	×			×	×
	Stentoft et al., 2016a	×	×		×	×
	Stentoft et al., 2016b					
	Stentoft et al., 2016c	×			×	×
	Tate et al., 2014	×			×	×
	Tate, 2014				×	×
	Tate and Bals, 2017				×	
	Uluskan et al., 2016					×
	Wiesman et al., 2017	×			×	
	Wu and Zhang, 2014				×	

	costs (also internal)																																														
	Energy costs and shortage			x		x	x			x	x	x		x					x	x												x		x	x	x		x	x			x	x		x		
	Home labor market flexibility					x												x	x	x																				x						x	
	Increased home country productivity	x				x						x							x	x																x		x	x		x						
	Total cost of sourcing (also internal environment)	x	x	x	x	x				x	x		x		x		x		x	x	x				x		x					x	x			x	x		x		x				x		x
	Freight costs (also internal)					x												x	x	x	x											x		x	x						x				x		
	National subsides for relocation	x				x	x	x						x			x	x	x	x											x					x		x	x				x			x	
	Payment terms																																					x									
	Excessive paperwork/Administrative costs																																		x	x											
	Customs duties for re-import											x							x	x																											
Customer related issues	**Poor local products quality**	x	x	x	x		x	x	x	x		x	x	x			x	x	x	x				x	x	x	x	x	x	x	x	x		x	x	x	x	x	x		x	x			x		
	Made-in effect	x						x	x	x									x	x													x			x		x	x			x				x	
	Customers' gratitude and																					x																									

	willingness to buy																																														
	Host market size reduction/Other market growth	x										x							x	x				x			x											x	x		x					x	x
Innovation	**Loss of know-how in the host country/ IP risks (including brand counterfaiting)**	x				x	x	x			x	x		x				x	x	x			x							x	x	x		x				x	x			x	x		x	x	
	Technology clusters (at the home country) and spillover benefits																																					x									
Risk	**Exchange rate risk**	x			x	x						x	x	x				x	x	x			x		x						x	x		x		x		x	x				x		x	x	
	Global supply chain risks (including VUCA - Volatility, Uncertainty, Complexity and Ambiguity)	x		x	x	x		x			x	x		x	x				x	x			x			x					x	x		x				x	x		x	x		x	x	x	
	Demand volatility																								x								x						x								x
	Psichic distance/Intercultural criticalities	x					x					x		x										x						x	x			x				x								x	

	Political social risk (including legislation)	x								x		x						x													x	x		x				x							x	x	
Supply chain management (excluding costs)	Production and delivery time impact (also internal)	x	x	x	x	x	x		x		x	x	x				x	x	x	x	x				x				x		x	x		x			x	x	x		x					x	
	Lack of infrastructure in the host country	x																										x										x									
	Availability/Termination of supplier relationships																		x	x																		x									
	Closeness to supplier of raw material																															x															
	Raw material availability											x		x																								x								x	
	Raw material dimension (e.g. size)																															x															

Table 7 Manufacturing reshoring drivers: "Internal environment" category

Sub-category	Motivation	Access to physical resources: Untapped production capacity at home/Capacity bottleneck in the host country (also external)	Access to physical resources: Union pressure at the home country (also external)	Cost: Coordination and communication costs	Cost: High inventory levels	Cost: Penalties for
Ancarani et al., 2015				×		
Arbjørn and Mikkelsen, 2014						
Ashby, 2016				×		
Bailey and De Proprís, 2014a				×		
Bailey and De Proprís, 2014b				×	×	
Baldwin and Venables, 2013				×	×	
Bals et al, 2016				×		
Brandon-Jones et al, 2017		×		×	×	
Canham and Hamilton, 2013				×		
Cowell and Provo, 2015						
Denning, 2013						
Ellram et al., 2013						
Felland Griette, 2017				×		
Foerstl and Bals, 2016				×	×	
Foster, 2016						
Fox, 2015						
Fratocchi et al., 2014a			×			
Fratocchi et al 2014b			×	×	×	×
Fratocchi et al., 2015		×	×	×		×
Fratocchi et al., 2016		×		×	×	×
Grandinetti and Tabacco, 2015				×		
Gray et al., 2013				×		
Gray et al, 2017						
Gylling et al., 2015				×		
Hua et al, 2016				×		
Kinkel et al, 2007		×		×		
Kinkel and Maloca, 2009				×		
Kinkel, 2012				×		
Kinkel, 2014		×		×		
Joublioux and Vanpoucke 2016					×	
Lam and Khare, 2016				×		
Martínez-Mora and Merino, 2014						
Moradlou & Backhouse, 2016				×		
Moradlou & Backhouse, 2017						
Robinson and Hsieh, 2016						
Saki, 2016						
Sardar et al, 2016						
Srai and Ané, 2016				×	×	
Stentoft et al., 2016a		×		×		
Stentoft et al., 2016c						
Tate et al., 2014						
Tate, 2014						
Tate and Bals, 2017						
Uluskan et al., 2016						
Wiesman et al, 2017						
Wu and Zhang, 2014						

	late orders																																														
	Freight costs (also esternal)					x													x	x	x	x										x		x	x						x				x		
	Logistics costs (also esternal)	x		x	x	x		x		x	x	x			x			x	x	x	x	x								x	x	x		x	x		x		x	x	x	x	x		x		
	Total cost of sourcing (also esternal environment)	x	x	x	x	x					x	x		x		x		x		x	x	x			x		x					x	x				x	x		x	x				x		x
	Hidden costs														x	x															x								x								
	Total cost of sourcing (also external environment)	x		x	x	x								x		x		x			x	x			x						x	x	x	x						x					x		x
Customer related element	**Reduced responsiveness to customer demand/Customer proximity**	x		x	x		x	x		x			x	x	x				x	x	x	x		x			x				x	x			x			x	x	x							x
	Need to increase customer satisfaction	x			x			x		x			x		x					x	x										x				x				x	x	x						
Innovation	**Loss of innovation potential/Vicinity to R&D**	x	x		x			x	x			x		x	x				x	x	x		x							x	x	x							x	x	x		x			x	

	Implementation of strategies based on product/process innovation														x	x					x													x						x							
Managerial-Entrepreneurial issues	Emotional elements (e.g. patriotism/loyalty)									x										x	x																			x						x	
	Change in firm's business strategy (e.g. new business area, vertical integration, ..)							x						x	x							x				x					x					x			x								
	Firm's global reorganization																				x																										
	Firm's aims in terms of environmental and social sustainability			x				x				x		x	x																					x			x							x	
	Focus on core activity		x																																				x	x							
Production management	Automation of production process	x	x					x								x				x	x																x		x	x	x	x		x		x	
	Lean							x						x																																	

	manufacturing																																														
	Engineering technology of production process						x																																								
	Adoption of moveable factories																x																														
Supply chain management	**Reduced operational flexibility**	x		x		x				x			x		x			x	x		x						x	x	x	x	x	x							x								
	Production and delivery time impact (also external)	x	x	x	x	x		x		x		x	x	x				x	x	x	x	x			x				x		x	x		x				x	x	x	x					x	
	Purchase order rigidity (also in terms of minimum order)									x									x	x	x																			x							
	Redefinition of the global supply chain			x		x							x							x	x	x																	x								

Table 8 Future research directions and priorities for a reshoring research agenda

Topic	#	Suggested directions for future research(*)	Relevant to Priority (**)
What	1	Characterize the reshored manufacturing activities (e.g., task complexity, degree of knowledge codifiability, required skills) (Fratocchi *et al.*, 2014a)	1
	2	Similarities and differences between offshoring and reshoring for a better comprehension of the firm's global manufacturing footprint (Joubioux and Vanpoucke, 2016, Stentoft *et al.*, 2016a)	1, 3
Why	1	Role of manufacturing automation and digitalization ("Industry 4.0") and other disruptive manufacturing technology in driving reshoring (Arlbjørn and Mikkelsen, 2014, Bals *et al.*, 2016, Foerstl *et al.*, 2016, Stentoft *et al.*, 2016a, Zhai *et al.*, 2016)	1, 4
	2	Role of resource scarcity and factor market rivalry in driving the reshoring decision (Tate, 2014)	1, 2
	3	Assessment of the strength of the reshoring drivers (Foerstl *et al.*, 2016)	1
	4	Connection between offshoring and reshoring motivations (Ancarani *et al.*, 2015, Foerstl *et al.*, 2016, Kinkel, 2012, Wiesmann *et al.*, 2017)	1, 3
	5	Comparisons between motivations for reshoring and motivations for not reshoring, or of undertaking a different relocation decision (e.g., further offshoring) (Fratocchi *et al.*, 2016)	1, 3
	6	Interdependencies between reshoring motivations and insourcing/outsourcing motivations (Bals *et al.*, 2016, Foerstl *et al.*, 2016, Fratocchi *et al.*, 2016, Wiesmann *et al.*, 2017)	1
	7	Types of policies and their effectiveness in driving reshoring (Tate, 2014, Wiesmann *et al.*, 2017)	4
	8	*Interdependencies among different reshoring motivation (e.g., in terms of time, proximity, consumer response, risk, innovation)*	*1*
	9	*Role of individual-level factors (e.g., role of the entrepreneur) driving the reshoring decision*	*1, 2*
How	1	Organizational characteristics to support reshoring strategies (Bals *et al.*, 2016, Foerstl *et al.*, 2016)	2
	2	Characteristics of the decision making process (Bals *et al.*, 2016, Stentoft *et al.*, 2016a, Wiesmann *et al.*, 2017)	2
	3	Analysis of the roles of managers at the Head Quarter and at the foreign subsidiary, and of their interplay in the decision making process (Bals *et al.*, 2016, Foerstl *et al.*, 2016)	2
	4	Types of tools supporting the decision making process (Stentoft *et al.*, 2016a)	2
	5	Effects of organizational learning in the implementation phase (Bals *et al.*, 2016, Foerstl *et al.*, 2016)	2
	6	Barriers to effective reshoring implementations (Wiesmann *et al.*, 2017)	2, 4
	7	Role of suppliers and supplier relationships (e.g., cooperation) in supporting/hindering effective reshoring (Grandinetti and Tabacco, 2015)	2
	8	*Development of advanced control management systems to assist the reshoring decision making process*	*2*

	9	*The reshoring decision making process of SMEs*	*2*
When	1	Relationship between the entry mode (greenfield vs. merger/acquisition) and the duration of the offshoring experience (Ancarani *et al.*, 2015, Fratocchi *et al.*, 2014a)	1
	2	Relationship between duration and performance of the offshoring experience (Ancarani *et al.*, 2015)	1
Who	1	Characterization of the reshoring patterns, especially with respect to industry's and firms' characteristics (Fratocchi *et al.*, 2014a, Kinkel, 2012, Kinkel and Maloca, 2009, Wiesmann *et al.*, 2017)	1, 2
Where	1	Characterization of the geographical trends, especially with respect to countries' characteristics (Fratocchi *et al.*, 2014a, Kinkel and Maloca, 2009, Stentoft *et al.*, 2016a, Zhai *et al.*, 2016)	1
	2	Better understanding of the advantages and disadvantages of home and foreign locations (Fratocchi *et al.*, 2014a)	1
Which impact	1	Post-reshoring performance (evaluation of the benefit of reshoring, if any) (Ancarani *et al.*, 2015, Foerstl *et al.*, 2016, Fratocchi *et al.*, 2016)	1, 2
	2	Impact of reshoring on a country's Economy and Welfare (Stentoft *et al.*, 2016a, Tate, 2014, Wiesmann *et al.*, 2017)	4

(*) New suggestions for research directions are in italics.

(**) We remind the four priorities are: 1. Comprehensive characterization of reshoring; 2. The practice of reshoring: decision-implementation-outcome; 3. A broader approach to the manufacturing location decision: offshoring, reshoring…or "rightshoring"?; 4. Reshoring and policy-making

Appendix 1 Extant literature

#	Authors	Year	Journal/Book chapter	What	Who	Why	Where	When	How
1	Abbasi, H.	2016	Journal of Textile and Apparel Technology and Management		X				
2	Ancarani, A., Di Mauro, C., Fratocchi, L., Orzes, G., Sartor, M.	2015	International Journal of Production Economics	X	X	X	X	X	
3	Arlbørn, J.S., Mikkelsen, O.S.	2014	Journal of Purchasing and Supply Management	X	X	X			
4	Ashby, A	2016	Operations Management Research	X	X	X			
5	Bailey, D., De Propris, L.	2014a	Cambridge Journal of Regions, Economy and Society	X	X	X	X		
6	Bailey, D., De Propris, L.	2014b	Revue d'Economie Industrielle	X	X	X	X		
7	Baldwin, R., Venables, A.J.	2013	Journal of International Economics						X
8	Bals, L., Kirchoff, J.F., Foerstk, K.	2016	Operations Management Research	X		X			X
9	Belussi, F.	2015	Investigaciones Regionales						
10	Brandon-Jones, E., Dutordoir, M., Frota Neto, J.Q., Squire, B.	2016	Journal of operations management	X		X			
11	Canham, S., Hamilton, R.T.	2013	Strategic Outsourcing	X	X	X			
12	Cowell, M., Provo, J.	2015	Book chapter			X			
13	Denning, S.	2013	Strategy and Leadership		X	X			
14	Ellram, L.M., Tate, W.L., Petersen, K.J.	2013	Journal of Supply Chain Management	X		X	X		
15	Fel, F., Griette, E.	2017	Strategic Direction		X	X	X	X	
16	Foerstl, K., Kirchoff, Bals, L.	2016	International Journal of Physical Distribution and Logistics Management	X		X			
17	Foster, K.	2016	Journal of Textile and Apparel Technology and Management	X		X			
18	Fox, S.	2015	Technology on Society	X					
19	Fratocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M., Zanoni, A.	2016	International Journal of Physical Distribution and Logistics Management	X	X	X			

20	Fratocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M., Zanoni, A.	2015	Book chapter	X	X	X	X		
21	Fratocchi, L., Di Mauro, C., Barbieri, P., Nassimbeni, G., Zanoni, A.	2014 a	Journal of Purchasing and Supply Management	X	X	X	X	X	
22	Fratocchi, L., Iapadre, P.L., Barbieri, P., Di Mauro, C., Vignoli, M., Zanoni, A.	2014 b	Book chapter	X	X	X	X	X	
23	Grandinetti, R., Tabacco, R.	2015	International Journal of Globalisation and Small Business	X	X	X			
24	Grappi, S., Romani, S., Bagozzi, R.P.	2015	Journal of the Academy of Marketing Science			X			
25	Gray, J.V., Esenduran, G., Rungtusanatham, M., Skowronski, K.	2017	Journal of operations management			X			X
26	Gray, J.V., Skowronski, K., Esenduran, G., Rungtusanatham, M.	2013	Journal of Supply Chain Management	X		X			
27	Gylling, M., Heikkilä, J., Jussilä, K., Saarinen, M.	2015	International Journal of Production Economics	X	X	X			X
28	Hartman, P.L., Ogden, J.A., Withlin, J.R., Hazen, B.T.	2017	Business Horizons	X					X
29	Huq, F., Pawar, K.S., Rogers, H.	2016	Production Planning and Control	X	X	X			
30	Joubioux, C., Vanpoucke, E.	2016	Operations Management Research	X	X				X
31	Kinkel, S.	2014	Journal of Purchasing and Supply Management	X	X	X		X	
32	Kinkel, S.	2012	International Journal of Operations and Production Management	X	X	X		X	
33	Kinkel, S., Lay, G., Maloca, S.	2007	International Journal of Entrepreneurship and Small business	X	X	X			
34	Kinkel, S., Maloca, S.	2009	Journal of Purchasing and Supply Management	X	X	X			
35	Lam, H., Khare, A.	2016	Book Chapter	X		X			
36	Martínez-Mora, C., Merino, F	2014	Journal of Purchasing and Supply Management	X	X	X	X		
37	Mezzadri, A.	2014	Competition and Change	X	X		X		
38	Moradlou, H., Backhouse, C.J.	2016	Journal of Engineering Manufacturing			X			X

39	Moradlou, H., Backhouse, C.J.	2017	International Journal of Physical Distribution and Logistics Management			X			
40	Mugurusi, G., de Boer, L.	2014	Strategic Outsourcing						X
41	Nash-Off, M.	2011	Metal Finishing						
42	Razvadovskaja, YV., Shevcenko, I.K.	2015	Asian Social Science		X		X		
43	Robinson, P.K., Hsieh, L.	2016	Operations Management Research		X	X			
44	Saki, Z.	2016	Journal of Textile and Apparel Technology and Management		X	X			
45	Sardar, S., Lee, Y.H., Memon, M.S.	2017	Sustainability		X				
46	Srai, J.S., Ané, C.	2016	International Journal of Production Research			X			
47	Stentoft, J., Mikkelsen, O.S., Jensen, J.K.	2016c	Supply Chain Forum: An International Journal	X		X	X		X
48	Stentoft, J., Mikkelsen, O.S., Jensen, J.K.	2016b	Operations Management Research	X		X			
49	Stentoft, J., Ohlager, J., Heikkilä, J., Thoms, L.	2016a	Operations Management Research		X				
50	Tate, W.L.	2014	Journal of Purchasing and Supply Management			X	X		
51	Tate, W.L., Bals, L.	2017	International Journal of Physical Distribution and Logistics Management	X		X			
52	Tate, W.L., Ellram, L.M., Schoenherr, T., Petersen, K.J.	2014	Business Horizons			X	X		
53	Uluskan, M., Joines, J.A., Godfrey, A.B.	2016	Supply Chain Management	X		X			
54	Wiesmann, B., Snoei, J.R., Hiletofth, P., Eriksson, D.,	2017	European Business review	X		X			X
55	Wu, X., Zhang, F.	2014	Management Science	X		X			
56	Zhai, W.	2014	Economic Modelling						
57	Zhai, W., Sun., S, Zhang, G.	2016	Operations Management Research			X	X		