Journal of International Business Policy (2025) 8:53–79
https://doi.org/10.1057/s42214-024-00207-1

# Exploring factors influencing manufacturing home-shoring strategies: insights from three diverse geographical regions

**Diletta Pegoraro[1] · Agnieszka Chidlow[2] · Lisa De Propris[2]**

Received: 13 December 2023 / Revised: 20 November 2024 / Accepted: 20 November 2024 / Published online: 12 February 2025


**Abstract**
Due to the ongoing political instability and economic disruptions in the environments where firms operate, the shift towards regional value chains is redefining global supply chains. Driven by economic policies in regions such as the EU and North America that aim to enhance autonomy and resilience, factors influencing supply chain location decisions have become increasingly important for both business leaders and policymakers. In this context, our paper integrates international business, economic geography, and the global value chain framework to investigate the efficiency-seeking, knowledge-seeking, and supplier-seeking factors that influence home-shoring strategies within manufacturing activities. Our work specifically focuses on identifying which of these factors underpin three key manufacturing home-shoring strategies. Utilising unique primary sub-national-level data and a multinomial logit model, our work examines these strategies across three regions: Veneto (Italy), England (UK), and California (US). Our findings highlight the importance of efficiency-seeking factors as central pull drivers of manufacturing home-shoring strategies. For policymakers, this study underscores the need for a nuanced and regionally tailored approach, as local supplier dynamics and the availability of supportive public policies impact the success of full manufacturing home-shoring strategies across different locations.

**Keywords** Manufacturing home-shoring · Internalisation theory · Agglomeration theory · Global value chains · Sub-national level · Primary data · Multinomial logit model · Base-placed policies

## Introduction

In their rather provocative work, *Restoring American Competitiveness,* Pisano and Shih (2009) pointed to numerous high-tech industries that had either already disappeared from the United States' (US) industrial landscape or were at risk due to the aggressive offshoring trends of the 1980s and 1990s. Fifteen years after their study, US industrial policies are now attempting to revitalise manufacturing sectors through the CHIPS and Science Act and the Inflation Reduction Act (US Congress, 2021). This policy attempt to increase manufacturing home-shoring (MHS) has been mirrored by the European Union (EU), which introduced its own Chips Act as part of its plan for (open) strategic autonomy (EU-SA) (EU, 2022).

In this context, the US and EU domestic markets are increasingly viewed as more attractive to multinational enterprises (MNEs) that are not only seeking to adapt their international footprint to geopolitical uncertainties (Luo & Van Assche, 2023) but also to increase the resilience of their operations. For example, the COVID-19 pandemic highlighted the fragility of overextended global value chains (GVCs), pushing firms to adjust to the "new normal" (Ciravegna et al., 2023; Ghauri et al., 2021).

The global trends mentioned earlier, which are external to MNEs' GVCs, are intricately connected to the internal trend of adopting digital technologies to build more flexible,

Accepted by Carlo Pietrobelli, Area Editor, 20 November 2024. This article has been with the authors for three revisions.

✉ Diletta Pegoraro
diletta.pegoraro@polimi.it

Agnieszka Chidlow
a.chidlow@bham.ac.uk

Lisa De Propris
l.de_propris@bham.ac.uk

[1] Department of Management, Economics and Industrial Engineering, Politecnico di Milano, 32, 20133 Piazza Leonardo da Vinci, Italy

[2] Birmingham Business School, University of Birmingham, Edgbaston Park Road, B15 2TY Birmingham, United Kingdom

agile, and resilient GVCs (Zhan, 2021). Further, due to the Fourth Industrial Revolution (De Propris & Bailey, 2021), MNEs now have the tools to make critical decisions in response to these macro trends, such as location choices (e.g. 3D printing, advanced robotics, and augmented reality); governance structures (e.g. blockchain technology and big data analytics); digital systems and knowledge transfer (e.g. digital marketplaces and cloud-based services); and human resource management (e.g. virtual reality) (Ahi et al., 2022). Furthermore, as Srinivasan and Eden (2021: 238) noted: "Going digital can build responsible GSCs (global supply chains) and GVCs that create positive net social benefits", emphasising the crucial role of technology in achieving more equitable and sustainable practices for society as a whole.

These trends significantly influence the continentalisation of GVCs[1], a phenomenon already evident in the US and Asia, along with decoupling in selected strategic sectors. In the US, there is a clear upward trend in reallocating manufacturing activities within key sectors, such as automotive, electronics, and semiconductors, alongside increased imports from Mexico. In Asia, China has intensified its investments in Vietnam, reflected in a substantial rise in imports from the country (Alfaro & Chor, 2023). Although signs of GVC continentalisation remain relatively weak in Europe, the EU-SA is expected to move in that direction (Amighini et al., 2023).

Following the discussion on the continentalisation of GVCs, the research objective of this work is to examine which pull factors drive companies to home-shore, and how it varies for different types of home-shoring strategies. In our study, the MHS is viewed as a strategic location decision that MNEs can adopt to manage a domestic supply chain by either (a) opening or scaling-up a manufacturing plant in the home territory (i.e. the same location as the headquarters), (b) increasing reliance on domestic suppliers, or (c) adopting both strategies simultaneously.

It is vital to note that our work does not seek to determine whether the MHS strategy follows the closure of manufacturing activities abroad or the severing of relationships with international suppliers. The MHS strategy is not intended as the reverse of an offshoring strategy (Kinkel, 2014); rather, it is presented as another opportunity for MNEs to enhance the resilience and efficiency of their supply chains (Bailey et al., 2018; Barbieri et al., 2019; Choudhary et al., 2022; Elia et al., 2022).

We intentionally choose to use the term "home-shoring" rather than "reshoring," as we believe it is ontologically more accurate within the discourse of the continentalization of global value chains. This is because the dyadic relationships inherent in the previous strategy (i.e. offshoring) do not always persist, as explained in the following section. In so doing, this paper aims therefore to fill a theoretical and methodological gap in the literature on MNEs' attitude towards locating production in home economies. The work provides a list of relevant factors that policymakers should consider for supporting successful MHS strategies. Epistemically, we triangulate international business, economic geography and the GVC framework to deliver a multidisciplinary theoretical framework that can explain which factors more strongly drive home-shoring strategies, and which home-shoring methods match such factors. Methodologically, we rely on a unique set of primary data and use a discrete choice model to examine home-shoring strategies across three distinct sub-national regions[2]: Veneto in Italy (EU-NUTS2), England (EU-NUTS1) in the United Kingdom and California (Federal State) in the United States.

## Literature review

The discourse on continentalisation of GVC has highlighted outcomes stemming from production location strategies. However, the lexicon surrounding these strategies is more complex than ever (Foroundi et al., 2023) and could mislead policymakers in designing ad hoc policies (Tsai & Urmetzer, 2024). If terms such as *reshoring*, *backshoring,* and *nearshoring* imply location decisions that blend ownership and geographical considerations, additional terms such as *friend-shoring*, *green-shoring* and *peace-shoring* are adding motivational factors to be considered.

When considering the term "reshoring", its ontology may appear straightforward—the relocation of a value chain activity back to the home country that was previously relocated to a host country. However, its epistemology proves to be complex for three reasons. Firstly, the object of relocation is not always an activity that was previously offshored. This is because firms may choose to reshore activities that have never been performed in their home facilities before. Secondly, the mode of governance (i.e. make-it or buy-it) could differ between the offshoring and reshoring moves, implying changes not only in geography but also in the organisation of production. Finally, reshored activities may involve different value-creation processes compared to those that were offshored. Based on the above, the underlying theme is that reshoring, like

[1] We borrow the term continentalism from the political science debate on the shifting powers of geopolitics to capture the trend of value chains to have increasingly a pan-continental spread (see Calder, 2012; Vevier, 1960).

[2] Following Hutzschenreuter et al. (2020), we refer to the sub-national level within the administrative dimension, specifically using NUTS classifications for the United Kingdom and Italy, and Federal States for the United States

any production decision, is driven by changes in the spatial and governance organisation of the firm's value chain, focusing on the sequence of decisions. As such, for empirical analysis, primary data capable of capturing the entire logic of this two-stage move is essential. Consequently, we do not use the term "reshoring" in this manuscript as we cannot control its counterfactor, but we use the term of "home-shoring" which has garnered limited attention among scholars in the field of location decision-making.

The term home-shoring first appeared in the manufacturing location literature in Tate et al. (2014), defined as "the movement of manufacturing activities back to the home country" (382). To clarify our study, we aim to differentiate between two types of governance in adopting home-shoring strategies: in-house or outsourcing. Therefore, we adopt Tate et al.'s (2014) definition of manufacturing home-shoring strategy as the strategic decision by businesses to locate production functions in their home economies, either by establishing new manufacturing facilities or by outsourcing to domestic suppliers.

The emergence of home-shoring in the literature on manufacturing location underscores a shift away from previous considerations of offshoring decisions. This shift is timely, reflecting current debates on the continentalisation of GVC and deglobalisation (Altman et al., 2024) as well as the increasing emphasis on the advantages of domestic economies in fostering strategic autonomies (Butollo, 2021; Moradlou et al., 2021; Pegoraro et al., 2020; Witt et al., 2023).

To better understand the motivation driving home-shoring strategies, we examine the pull factors that make the home economy an attractive destination for production. Home-shoring is a location strategy that is aligned with the recognition that internationalisation "is a non-linear, processual phenomenon […], involving both local and international dimensions" (Poulis & Poulis, 2018, p 8). To follow such twists and turns, MNEs navigate these dynamics by continually reassessing their internal structures and evaluating their competitiveness of various locations including their home economies (Hannibal & Knight, 2018).

Building on the work of Canello et al. (2022) and Tate et al. (2014), we propose three MHS strategies:

**Strategy 1: Home-shoring via insourcing**: Firms choose to open a new manufacturing site in the sub-nation territory;
**Strategy 2: Home-shoring via outsourcing**: Firms choose to increase the use of domestic suppliers (i.e. located in the home country);
**Strategy 3: Full home-shoring**: Firms choose both to open a new manufacturing site and to increase the use of domestic suppliers.

We develop a theoretical framework that integrates epistemic discussions from international business and economic geography with the GVC framework, to explain firms' location decisions to favour production in their home economies. By critically reviewing and synthesising these diverse yet often isolated debates, we aim to identify significant and measurable pull factors specific to the home economy that can be empirically translated. In doing so, our approach connects and integrates multidisciplinary debates on production location decisions, extracting key factors that can drive MHS strategies. International business theories contribute insights into efficiency-seeking factors, economic geography emphasises spatial proximity and knowledge-seeking factors, while the GVC framework focuses on governance and supply chain-seeking factors.

## Pull Factor 1: Efficiency-seeking factors

Internalisation theory (Buckley & Casson, 1976) is the fundamental conceptual framework for assessing and investigating the complexity of firms' internationalisation strategies (Casson & Li, 2022; Strange & Humphrey, 2019). Despite the editorial perspective offered by Narula et al. (2019), we align with the "generalist" school of thought, advocating for a holistic understanding of internationalisation theory through its integration within other disciplines, such as economic geography (e.g. agglomeration theory and proximity concepts).

Verbeke et al. (2021) highlight internationalisation theory's relevance in addressing contemporary challenges when connected with the value chain concepts of the GVC framework (Benito et al., 2019; Strange & Humphrey, 2019), particularly in relation to governance modes. The goal of the internationalisation approach is to explain firms' strategies from the efficiency point of view (Delis et al., 2019), allowing for exploration within domestic boundaries to overcome inefficiencies stemming from external factors.

To explain firms' decisions to reconfigure their supply chains towards domestic economies through the lens of internationalisation theory, we examine sources of efficiency gains that firms can leverage when engaging in MHS strategies. The internationalisation approach frames the decision-making process as influenced by market imperfections, which underpin transaction costs. Therefore, reducing transaction costs often becomes pivotal in firms' production location decisions. Prior to the 2008 Global Financial Crisis, the dominant strategy centred on minimising manufacturing costs. Since then, firms have diversified their approaches to enhance efficiency beyond mere labour cost reductions. A transformative manufacturing paradigm, known as Industry 4.0, has emerged, leveraging technologies such as digital and green innovations (Barbieri et al., 2022; Butollo, 2021; De Propris & Bailey, 2021; Krenz & Strulik, 2021). These

advances optimise the capital-to-labour ratio, reduce lead times, facilitate production customisation, and foster innovative-production co-innovation. Amidst technological evolution and market volatility, proximity to research institutions and specialised expertise in knowledge-intensive business services (Balboni et al., 2019) become crucial. This proximity enables firms to prioritise higher value-added activities and explore new markets, moving beyond traditional cost-saving strategies.

By reviewing the motives leading towards a manufacturing reshoring (see Appendix A), we identify five pull factors that underpin the MHS driven by *efficiency-seeking factors*. These factors include:

1. *Opportunity for digitalising the production process.* This involves enhanced methods of generating value and coordinating within and between boundaries and organisations by supporting the efficient management of global coordinators in improving the efficiency and efficacy of logistics, enabling precise monitoring of operations and goods movements along GVCs (Adner et al., 2019; Ahi et al., 2021; Hannibal & Knight, 2021) meaning complementary management of operations in both the domestic and foreign countries.
2. *Investment in automation* as a tool that increases the efficiency of the manufacturing process by redesigning new digital cyber-physical spaces that combine flexibility and volume (Laplume et al., 2016; Luo & Zahra, 2023).
3. *Proximity to the final market* as the principle of global factory (Buckley & Ghauri, 2004) not only for final goods but also for intermediate goods[3].
4. *Favourable public policies* within a political realism perspective can reduce the costs in dealing with the liability of foreignness such as the new Carbon Law emanated by the EU Commission and the IRA policy adopted by the US (Horner & Alford, 2019).
5. *Opportunity to partner with key suppliers* facilitate efficiency gains (Pietrobelli & Saliola, 2008). This is pivotal in pursuing a home-shoring strategy given the fact that they can establish a relational governance with the lead firm.

## Pull factor 2: Knowledge-seeking factors

While the international business literature acknowledges that firms' location decisions are shaped by territorial specificities (Arikan & Shenkar, 2021), it typically adopts a space-neutral approach when comparing similar territories across different countries. However, it often overlooks the nuanced distinctions within a country by treating locations as homogenous entities.

The spatial distribution of firms' value chains is intrinsically related to the value-added contribution of different locations. Recognising the significance of space, economic geography offers essential insights into the role of spatial factors and places, providing a crucial conceptual framework to elucidate place-based factors. Factors such as inter-industry spillovers and access to immobile factors play pivotal roles in explaining firms' location decisions, practically when driven by knowledge-sourcing strategies. This perspective supports the notion that accessing and internalising knowledge often necessitates proximity to knowledge hubs (Cantwell & Piscitello, 2015; Chidlow et al., 2009, 2015a; De Propris et al., 2005). Therefore, spatial proximity emerges as a critical determinant informing firms' strategic location decisions.

The literature on knowledge spillovers and innovation underscores the critical role of geographical proximity in fostering knowledge-sharing and leakages, innovation collaboration, co-innovation, and benefiting from agglomeration economies. The aggressive relocation of manufacturing activities since the 1990s has often led to the depletion of these clusters and districts' productive systems. However, following the 2008 financial crisis, this trend has slowed down, with new dynamics of agglomeration sparking processes of industrial revitalisation. This resurgence has seen the emergence of new firms and existing firms expanding their operations domestically and locally (Buciuni & Pisano, 2018).

The location of firms' functions significantly influences their innovation and production (Cantwell, 2009). The degree of openness and connectivity of places directly shapes firms' integration into GVCs and indirectly influences their operational strategies (Cano-Kollmann et al., 2016).

The proceeding discussion underscores the intrinsic relationship between location decisions and place-based factors. MNEs strategically target specific locales where embedded competencies, scientific knowledge, inter-firm relationships, shared culture, and community dynamics collectively define the capabilities for value-creation (De Propris & Bailey, 2021). These factors not only shape the immediate operational environment but also facilitate the evolution of places towards more valuable trajectories.

By applying the theory of geographical proximity, firms' location decisions can be interpreted as place-aware when driven by pull factors that are fundamentally immobile, intangible, and context-specific (see Appendix A). Building on this premise, our examination identifies four knowledge-seeking factors:

[3] An example is the semiconductor industry in the US, where efforts to scale up production are limited in impact because the majority of suppliers remain based in Taiwan.

1. *Access to tacit knowledge*. Geographical proximity increases labour productivity because of the access to specialised tangible (e.g. skills and infrastructure) and intangible (e.g. knowledge and information) assets that promote the faster diffusion of ideas and inventions, and opportunities to compete and cooperate with other businesses up and down the value chain (Li & Bathelt, 2021; Santangelo & Phene, 2021). There is ample evidence that industrial clusters and industrial districts have been targeted for their value-creation capabilities by foreign firms (Buckley & Ghauri, 2004; Cantwell & Mudambi, 2011; Chidlow et al., 2009, 2015a; De Propris et al., 2005) pursuing knowledge-seeking strategies.
2. *Leveraging local identity*. "Made In" is an emotional factor that can be attached to particular types of products (Grappi et al., 2015). Often, it evokes an emotional feeling of reliability in machinery equipment (e.g. Made in the US or Made in Germany), or creativity and artisan quality in the fashion sector (Made in Italy or Made in the UK). It is also an element of debate about the importance of the label: namely to what extent the product can be classified as *Made In*. While in the US it is mandatory to insert the Made In label, in Europe it is not, as the only suggesting label is the CE mark, which stands as a guarantee of high-quality product. In the light of reshoring manufacturing, the *Made In* element could justify a premium price paid by clients or promote a marketing campaign focused on the heritage of the brand (Grappi et al., 2015).
3. *Competent workforce*. For a company, a competent workforce is of the utmost importance to pursue any manufacturing reshoring modality. This is confirmed by Tate et al. (2014), who report that a lack of skilled labour force related to advanced manufacturing activities in emerging countries is pushing US companies to reshore. Similar conclusions are tested by Kinkel (2014), who confirms that reshoring in Germany is happening because there are sought-after skilled engineers and manufacturing capabilities. However, a competent workforce is a resource that must be cultivated with the support of key external actors to firms, such as education systems and local communities. This theme is strictly connected to the economic geography discipline, as skilled workers have been an element of value enhancement for the territory, but it is also connected with suppliers' capability to uncodify the information requested by lead firms in the GVC literature.
4. *Shared culture inside the firm*. In the firm, sharing the same culture is a relevant human factor for pursuing responsiveness and short production times (Moradlou et al., 2017). There are many studies on the positive effect of sharing the same mind-sets and beliefs on the reduction of supply chain frictions, and most of them highlight that a common ground of logic favours the sharing of information and communication, leading to a more efficient production process (Duclos et al., 2003). This is valid if the employees are connected with the territory where the firm is established, as they would foster those pipelines of knowledge that only insiders are able to decodify, such as the dynamics in an industrial district.

### Pull factor 3: Local supplier-seeking factors

Within the international business literature, offshored outsourcing strategies were the main driver that fostered the internationalisation of MNEs by creating extended and complex global supply chains to orchestrate. In the 1990s, so-called consumer-driven and buyer-driven commodity chains (Gereffi, 1994) were the backbone of globalisation, a concept that evolved later into the term GVC (Gereffi et al., 2005), by stressing two main elements: one is the nature of governance between the lead firm and its suppliers (i.e. a top-down approach), and the other one is the role of host stakeholders and contextual factors shaping the upgrading of both firms (i.e. lead firm and suppliers) and territories (i.e. a bottom-up approach). The extreme slicing up and the international spread of GVCs until the mid-2000s was driven primarily by a low-cost race in developing and emerging countries, creating a hollowing out of manufacturing capabilities and skills in advanced countries. This phenomenon was anticipated by Sabel and Piore (1984), who suggested that an excessively fragmented and dispersed supply chain could result in a stifled environment for innovation.

Recently, international business scholars have started to question the term "global" in the GVC discourse (Buckley, 2023; Coveri & Zanfei, 2023; Strange, 2020; Witt et al., 2023; Zhan, 2021). Indeed, due to the recent trend to continentalise value chains, firms prefer suppliers geographically closer to their home base. This means that attention needs to pivot to understanding the attractiveness and the intrinsic value-creating capabilities of the home territory, accessible to firms that want to open or scale-up manufacturing activities or increase the use of domestic suppliers. These capabilities include a flourishing network of local suppliers with specialised competences capable of codifying and translating information to and from lead firms (Witt et al., 2023); a thick institutional and social system where norms and policy scaffold inter-firm relations (Pegoraro et al., 2022); and alignment of private and public interests (Horner, 2017).

Drawing on the literature on manufacturing reshoring (see Appendix A) and cross-checking it with the debate on "global" value chains, it is possible to identify four factors that could play a pivotal role in influencing the manufacturing location decision of firms towards their home territory:

1. *Proximity to R&D* is a factor that can increase face-to-face interaction and therefore promote a more rapid exchange of tacit knowledge, especially for specific critical sectors (e.g. electronics, pharmaceutical, biotechnologies) in which policymakers are pushing a more strategic autonomy (Chidlow et al., 2009, 2015a; Giroud, 2013).
2. *Product customisation* requires establishing high-value relationships with suppliers to meet lead firms' need for a mass-customisation strategy in support of their internationalisation (Liu et al., 2018).
3. *Proximity to localised suppliers* enables firms' manufacturing processes to be flexible, adaptable, and resilient thanks to seamless information exchanges and access to buyer/supplier knowledge (Davids & Frenken, 2018; Ghauri et al., 2021). Indeed, co-location eases collaboration with local suppliers and reduces transaction frictions in the local value chain especially when international shocks to access markets and suppliers occur, as the flow of goods and services must cross a shorter pipeline than with international ones.
4. *Co-creation with suppliers* requires that the firm and the supplier are in proximity to facilitate the exchange of ideas and opinions (Mani & Gunasekaran, 2021; Oliveira et al., 2021), testbed the product prior to its production, and leverage the supplier's network for more rapid marketisation of the product (Lee et al., 2012).

Following on from the above, current scholarship still has a limited understanding of how these pull factors specifically influence the types of home-shoring strategies that firms adopt. Therefore, further exploration is warranted to understand how efficiency-seeking, knowledge-seeking, and supplier-seeking factors shape these strategies within different regional contexts. Figure 1 below synthesises the identified pull factors and illustrates their relationship with the MHS strategies.

## Research methodology

To gain a deeper understanding of MHS strategies, this work adopts a novel approach by utilising data obtained through an online self-administered survey conducted between March and December 2018 in Veneto (Italy), England (United Kingdom), and California (US) as part of the positivistic paradigmatic fit (Aguzzoli et al., 2024). The selection of these locations was based on their rankings in hosting reshoring activities, manufacturing orientation, and technological advances (Eurofound, 2018). Although in the field of international business, most contributions focus on the national level as the unit of analysis, the value of drilling down at the sub-national level has been advocated by Hutzschenreuter et al. (2020) and Rasel et al. (2020) on the basis that, within each country, territories might differ significantly, e.g. institutionally, business environment, sectoral specialisation (Chidlow et al., 2015a; Shenkar, 2001). Our unique data set allows not only for a more contextual understanding of international business strategy in these regions (Hutzschenreuter et al., 2020) but also for evidence-based policy implications.

Because of the complexity inherent in understanding the MHS strategies, we believe that utilising primary data offers distinct advantages over secondary data sources for examining this phenomenon. This preference aligns with the findings of Nielsen et al. (2020) and Cerar et al. (2021), who highlight the prevalence of secondary data in studying complex phenomena. They point out that such data often result in the omission of vital information that can only be captured through primary data. Despite the potential insights

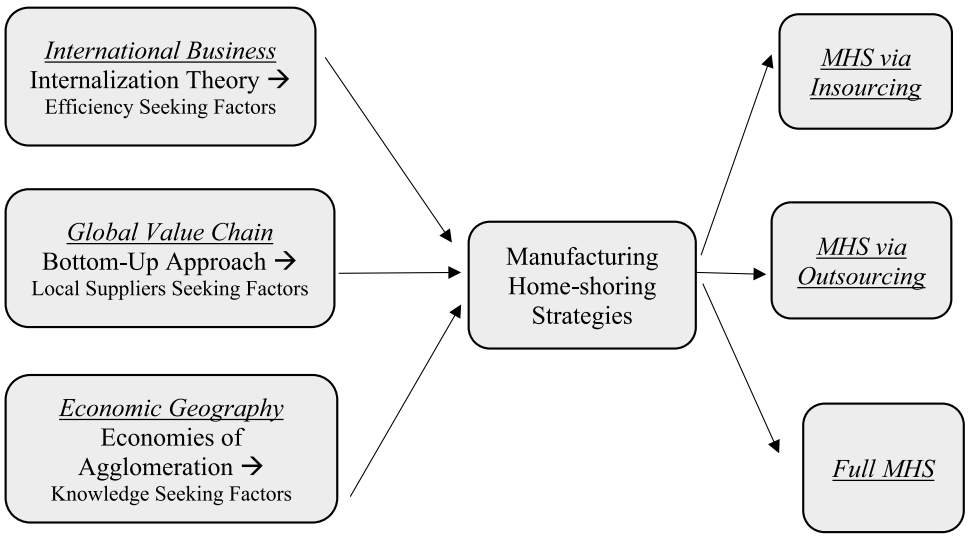


**Fig. 1** Conceptual framework. *Source*: Authors' elaboration

primary data can provide, it is rather striking that only 23 papers on reshoring are based on primary data at the firm level (see electronic supplementary material), indicating an underutilisation of this valuable resource. Primary data offers an unparalleled depth of understanding and provides valuable insights into phenomena like reshoring and firms' location decisions.

The analysis of the MHS strategies in this study is based on a stratified random sample of 330 firms located in Veneto (Italy, $n = 108$), England (UK, $n = 119$), and California (US, $n = 103$). By employing such a diverse sample, this work offers unique and distinctive contributions to the current discourse on the factors driving MHS strategies from the perspective of firms' location decision-making.

## Sample selection

The sample selection process differed across the three regions. In Veneto (Italy), we personally administered the questionnaire, enabling us to control the sample list by specifically including manufacturing firms that had announced home-shoring strategies. In contrast, in England (UK) and California (USA), such ex-ante control was not feasible, as the questionnaire administration was outsourced to Qualtrics XM, as further detailed in the data collection section.

In Veneto (Italy), a unique dataset of 2000 records was created to achieve a representative sample of manufacturing companies[4]. Firstly, through a meticulous examination of local and national press via LexisNexis by one of the researchers on the team, 311 companies were identified as having announced home-shoring strategies. Secondly, we were given a list of 8000 firms based in Veneto (Italy) from the Union of Chambers of Commerce (UCC) that were operating in the manufacturing sector. We then matched the two datasets and identified 309 firms that fit our criteria. Two companies were removed as they did not match the UCC list. After subtracting these matched firms from the initial 8000 records, we selected 1691 firms following the proportion of size and sector (NACE-2) as per ISTAT (2017) to ensure a representative sample of manufacturing firms based in Veneto.

In England (UK), to ensure representative sampling, a minimum quota of 60% for the top five manufacturing sectors in the sub-national region (e.g. metal products excluding machinery and equipment; machinery and equipment; rubber and plastic products; basic metals; motor vehicles, trailers and semi-trailers) was established. The choice was driven by increasing the odds to obtain significant results on firms in sectors that were actually already involved in the home-shoring debate according to WMG and Reshoring UK (Godsell et al., 2017).

In California (US), a quota was not imposed as 87% of the total manufacturing sector in 2018 was from fabricated metals, machinery, computers and electronics, aerospace and agricultural products and food according to NAM (2019), all sectors involved in the home-shoring debate according to Reshoring Institute (2016) and Reshoring Initiative (2015).

## Questionnaire design

The questionnaire used to collect the necessary data was organised into four distinct sections. In compliance with the General Data Protection Regulation (GDPR) requirements, the first section not only presented participants with a consent form and screening questions regarding the use and storage of their personal data but also ensured the confidentiality and anonymity of the responses given. Following this, the second section focused on exploring manufacturing home-shoring strategies, capturing details such as the year of implementation, country-level location, and the mode of offshoring (e.g. foreign suppliers or foreign manufacturing plants). The subsequent section focused on pull factors, drawing insights from established theoretical frameworks to understand the motivations behind the MHS decisions. Finally, participants were prompted to provide firm demographics, including sector, number of employees, and revenue. This comprehensive structure facilitated a thorough examination of the various aspects surrounding manufacturing home-shoring practices.

The MHS strategies were identified using four dichotomous questions posed to respondents. These questions focused on whether the firm closed a manufacturing plant abroad, opened a manufacturing plant in the specified country, reduced international outsourcing, and increased the use of domestic suppliers (see Table 1 below).

To assess the importance of the pull factors identified in the literature review, we employed a vague metric recommended by Dillman et al. (2014) and used it to capture opinions and attitudes that cannot be quantified with traditional metrics (Al Baghal, 2014). For every MHS strategy adopted, respondents were asked to rate the importance of each pull factor by using a five-point unipolar Likert scale. This scale ranged from "Very Important (= 4)", "Moderately Important (= 3)", "Slightly Important (= 2)", "Not Important (= 1)", and additionally included a "Not Applicable (= 0)" category. This option allowed respondents to indicate if a specific question was relevant (or not) to them, thereby mitigating construct bias (Chidlow et al., 2009). Further, to ensure clarity and precision in constructing questions, the Brief, Relevant, Unambiguous, Specific, Objective (BRUSO) model

[4] It is noteworthy that the initial UCC database contained approximately 8000 records because of the obligation of limited companies operating in Veneto to submit their balance sheets and financial documents. Only 2000 responses were valuable due to contractual agreement.

**Table 1** Proxies used to identify manufacturing home-shoring (MHS) strategies*

| MHS (Dependent variable (*j*)) | Close a manufacturing plant abroad? N = No, Y = Yes | Open a manufacturing plant in the [Country] N = No, Y = Yes | Reduce international outsourcing? N = No, Y = Yes | Increase the use of domestic suppliers? N = No, Y = Yes |
|---|---|---|---|---|
| Home-shoring for insourcing (P1) | Y | Y | N | N |
| | N | Y | Y | N |
| | Y | Y | Y | N |
| | N | Y | N | N |
| Home-shoring for outsourcing (P2) | N | N | Y | Y |
| | Y | N | Y | Y |
| | Y | N | N | Y |
| | N | N | N | Y |
| Full home-shoring (P3) | N | Y | Y | Y |
| | Y | Y | Y | Y |
| | Y | Y | N | Y |
| | N | Y | N | Y |
| No home-shoring (P4) | N | N | N | N |
| | Y | N | Y | N |
| | Y | N | N | N |
| | N | N | Y | N |

*Each row corresponds to the MHS strategy chosen by the firm based on responses to the questionnaire used during the data collection stage.
*Source*: Authors' elaboration

(Peterson, 2000) was followed. This added an additional layer of rigour during the construct development process (Chidlow et al., 2014, 2015b).

### Data collection

As part of the methodological fit (Knight et al., 2022) the primary data were collected through the design and administration of an online self-administered survey, guided by methodological frameworks established by Dillman (1978, 2000) and advocated by Chidlow et al., (2009, 2015b) for this type of study. While the questionnaire used was identical across all three locations, variations in data collection procedures were present due to the cross-country nature of the study. In Veneto (Italy), for instance, the research team administered the questionnaire using IdSurvey software, facilitated by the UCC. After emailing the initial survey request, respondents were given a 30-day window to complete the questionnaire. Reminders were sent via email after the first 10, 20, and 28 days to participants who had not yet responded. Following these procedures, 108 questionnaire responses were obtained and used for further data analysis.

In England (UK) and California (US), data collection was facilitated by Qualtrics XM, utilising its proprietary software for questionnaire administration. This decision was driven by practical considerations such as the cost and time constraints associated with compiling up-to-date and reliable information on firms in the manufacturing sectors, as well as Qualtrics XM's competitive advantage in already possessing such data. Consequently, the research team opted to outsource the data collection procedures to Qualtrics XM, while at the same time ensuring consistency and comparability with the data collected in Veneto (Italy). Similarly to Veneto (Italy), participants were given a 30-day period to complete the questionnaire following the initial survey request and reminders were also sent via email after 10, 20, and 28 days to participants who had not yet responded. Following these procedures, we obtained 119 questionnaire responses from England and 103 from California, which were then used for further data analysis.

To optimise the benefits and minimise the costs for potential respondents (Chidlow et al., 2015b; Dillman, 1978, 2000) across our diverse locations, several procedures were implemented: maintaining consistency in all email subject lines when corresponding with potential respondents; emphasising the significance of the study and the usefulness of the results in the covering email as well as on the survey's main page; incorporating logos from legitimate sponsors; and designing the web layout for optimal display, including compatibility with smartphones and tablets. What is more, working-level criteria for the respondents, such as CEOs or operations managers were put in place to ensure reliable responses in relation to the MHS strategies.

Given the cross-language nature of our data collection, we adopted back-translation, following the recommendation of Brislin (1978) as described in previous research

(Chidlow et al., 2014). Throughout this process, various versions of the questionnaire were compared, and any issue concerning data equivalence was promptly addressed (see Fig. 2). This task was undertaken by two of the authors who are bilingual in Italian and English, along with experienced researchers based at the Reshoring Institute in California. Achieving data equivalence was crucial (Hult et al., 2008; Usunier, 2011), considering that the taxonomy of the phenomenon under investigation, including terms such as home-shoring, reshoring, backshoring, offshoring, and outsourcing, was still in its infancy at the time of the study, and both perceptions and understanding of these terms varied in the literature.

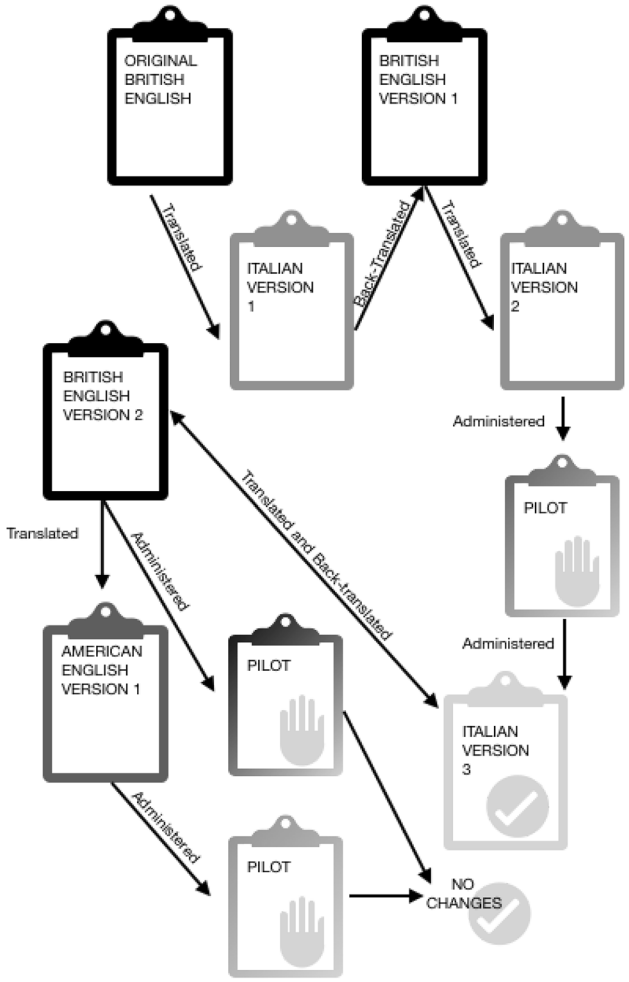


**Fig. 2** Process of translation and back-translation. *Source*: Authors' elaboration

## Data analysis

### The multinomial logit model

To examine the MHS strategies, based on the primary data described above, the multinomial logit (MNLG) model was chosen for its effectiveness in investigating motives guiding discrete management choices, using Stata 13 as part of the methodological and paradigmatic fit of this study (Aguzzoli et al., 2024; Knight et al., 2022). This econometric technique is well-suited for analysing data with categorical outcomes, allowing the response variable to take on more than two possible values. Widely used in examining choices made by individuals and/or firms in international business and other social science disciplines, the MNLG model offers valuable insights into decision-making processes (Greene et al., 2022).

The MNLG model operates by estimating the likelihood of an individual selecting a particular category within a categorical variable, which is then modelled as a function of independent variables. It assumes that the probability of choosing each category is linked to the log-odds of that category relative to a reference category, with the relationship between the probabilities and independent variables being modelled using a linear function. In the realm of international business, the MNLG model has found extensive application in studying various aspects of firms' decision-making processes (Brouthers et al., 2008; Meyer et al., 2009), location choices (Chidlow et al., 2009, 2015a; De Beule & Duanmu, 2012; Gao et al., 2018), partner selections (Li et al., 2008), purchasing behaviour (Sharma, 2011), and marketing strategies (Oh & Rugman, 2012). For more in-depth understanding of potential applications and the robustness of this analytical method, please refer to Greene et al. (2022).

The MNLG model in this paper is based on the characteristics of the firm which is considering the choice preference made to maximise the utility function. Similar to Chidlow et al., (2009, 2015a), this work also assumes that a firm which decided to adopt the MHS strategy in the domestic economy has an unobserved (i.e. latent) profit function. This profit function is dependent on the characteristics of the chooser (i.e. the firm) as the random component that is arising from other unobserved characteristics of the choice. Hence, the utility function ($_{nj}$) of choosing the MHS *j* strategy by the *n*th firm faced with J choices of MHS strategies can be described in the following form (see Eq. 1), which is in line with the observations made by Greene et al. (2022):

$$U_{nj} = x'_n \beta_j + \varepsilon_{nj} \quad j = 1, ..., J, n = 1, ..., N \tag{1}$$

where there are *J* error terms $\varepsilon_{nj}$ for any firm *n*. The exogenous variables $x'_n$ describe only the firm and are identical across alternatives. However, the parameter $\beta_j$ differs across alternatives *J* (i.e. the MHS strategy). The firm will then choose the alternative with the greatest utility, such as:

$$P\left(U_{nj} > U_{nk}\right) \quad \text{for all other } k \neq j \tag{2}$$

A strong assumption of the error term across the alternatives in Eq. (1) implies that a firm's unobserved preference for a certain alternative is independent of their stochastic preference for other alternatives. This imposes the "independence of irrelevant alternatives" (IIA) restriction on the predicted probabilities, which means that the choice of the strategy must be equally substitutable to firms (Hausman & McFadden, 1984), i.e.:

$$F\left(\varepsilon_{nj}\right) = \exp(-e^{-\varepsilon_{nj}}) \tag{3}$$

Finally, the probability that firm $n$ chooses alternative $j$ can be expressed as:

$$P_{nj} = P\left(x_n\right) = \frac{e^{x_n\prime\beta_j}}{\sum_{i=1}^{j} e^{x_n\prime\beta_j}} \tag{4}$$

which forms the MNLG model.

In summary, the model revolves around the data type, which is determined by each individual firm's preference. It incorporates the unique characteristics of each firm, emphasising the significance of factors chosen by an individual firm and employs cross-sectional selections. The predicted variable is represented by the MHS strategies while explanatory variables encompass the factors influencing firm's choice. In addition, control variables are integrated into the model to account for firm-specific characteristics.

*Dependent variable*. The dependent variable (DV) in this study is the MHS strategy chosen by the firm based on responses to the questionnaire. The DV is categorical in nature and takes the following forms:

- **The MHS strategy for Insourcing (P1):** The firm has chosen to open a manufacturing site in the sub-national territory;
- **The MHS strategy for Outsourcing (P2):** The firm has chosen to increase the use of domestic suppliers (i.e. located in the home country);
- **The Full MHS strategy (P3):** The firm has chosen both to open a manufacturing site and to increase the domestic suppliers;
- **No-home-shoring (P4):** The firm has chosen neither to open a manufacturing site in the sub-national territory nor to increase domestic suppliers.

The identification of the MHS strategies presented above is derived from a combination of dichotomous questions asked of respondents in the questionnaire, as shown in Table 1.

*Independent variables*. Independent variables (β) were derived through confirmatory factor analysis (CFA), discussed below, which assessed the importance of 13 factors influencing the adoption of the MHS strategy. Such factors were rated by respondents using the five-point Likert scale described above.

## Confirmatory factor analysis

The confirmatory factor analysis employed in this study was informed by a review of the literature on manufacturing reshoring and adopts an inductive approach. The CFA consists of three one-factor solution models, each representing a single latent factor. In the theoretical framework, internalisation theory is associated with efficiency-seeking factors (*Fefficiency*), agglomeration economy theory with knowledge-seeking factors (*Fknowledge*), and the bottom-up approach of the GVC with local supplier-seeking factors (*Flocsuppliers*). These three seeking factors are treated as independent latent variables in the MNLG model and are not related to each other. Further, each model has two specificities: the maximum likelihood method is used to estimate the parameters, and the output is presented with standardised factor loadings; hence the observed variables are comparable.

In our models, indicator variables were derived from specific questionnaire questions, representing the 13 manufacturing reshoring pull factors. These responses ranged from 0 to 4 based on the adopted Likert scale, reflecting the perceived importance of each factor to the respondent. These observed variables were treated as continuous, which is why we computed the CFA in structural equation modelling (SEM). Following the SEM command in Stata 13, post-estimation commands were used (i.e. *estat eggof* and *estat gof, stats(all)*) to assess the model fit.

To assess the goodness of fit at the equation level, we examined the R2 level of each observed variable (i.e. the percentage of variance explained by the model). Model fit indices, including the comparative fit index (CFI), root mean square of error approximation (RMSEA), and standardised root mean square residual (SRMSR), were also calculated to assess the overall model fit. In assessing their adequacy, Hu and Bentler's (1999) guidelines were followed as a rule of thumb that two out of three indices (CFI, RMSEA, SRMRS) should meet the following thresholds: CFI over 0.90, RMSEA less than 0.05 and more than 0.10 for the lower and upper bound respectively, and SRMSR less than 0.10.

In addition, the *p*-square is highly influenced by the sample size (i.e. the more significant the sample, the smaller the *p* value), the $\chi 2$ value and its probability were carefully considered: the smaller the $\chi 2$ value the better, and the *p* value equal to or more than 0.5. The CFA models are presented in Fig. 3.

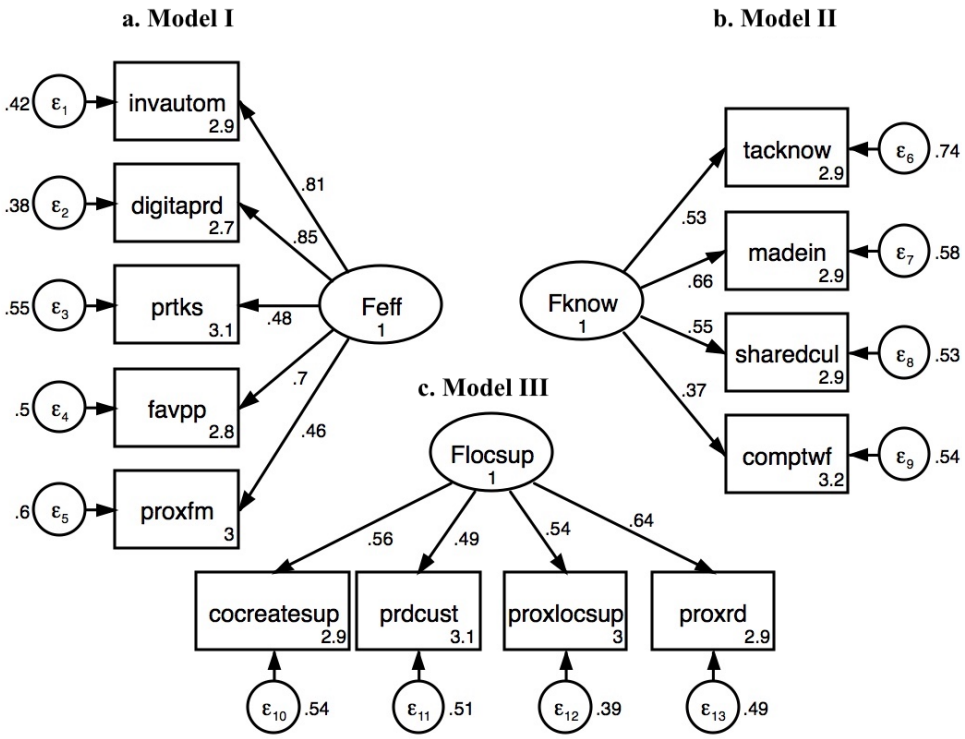


**Fig. 3** Confirmatory factor analysis: Model I, Model II, Model III. *Note* For abbreviations, *Feff* is *Fefficiency* in the text of the paper. *Source*: Authors' elaboration

**Table 2** Equations for parameter estimation

| Model I | Model II | Model III |
|---|---|---|
| $invautom = \lambda * Feff + \varepsilon_1$ | $tacknow = \lambda * Fknow + \varepsilon_6$ | $cocreatesup = \lambda * Flocsup + \varepsilon_{10}$ |
| $digitaprd = \lambda * Feff + \varepsilon_2$ | $madein = \lambda * Fknow + \varepsilon_7$ | $prdcust = \lambda * Flocsup + \varepsilon_{11}$ |
| $prtks = \lambda * Feff + \varepsilon_3$ | $sharedcul = \lambda * Fknow + \varepsilon_8$ | $proxlocsup = \lambda * Flocsup + \varepsilon_{12}$ |
| $favpp = \lambda * Feff + \varepsilon_4$ | $comptwf = \lambda * know + \varepsilon_9$ | $proxrd = \lambda * Flocsup + \varepsilon_{13}$ |
| $proxfm = \lambda * Feff + \varepsilon_5$ | | |

$\lambda *$ = factor loading;$\varepsilon_i$ = error of measurement; *Feff* = latent variable efficiency-seeking (Fefficiency); *Fknow* = latent variable knowledge-seeking (Fknow); Flocsup = latent variable local suppliers-seeking (Flocsup)

*Source*: Authors' elaboration

As indicated in Table 2, each model was specified with as many equations as the number of observed variables. Each model features different equations because each observed variable is uniquely associated with the assigned latent variable. The latent variable is inferred by the combination of the observed variables. In this case, Model I has five equations, while Model II and Model III have four equations each. Each equation is composed of the factor loading (latent variable) and the unique error term.

The results of the CFA are presented in Table 3

Based on the three one-factor single models, the CFA confirms that all three models exhibit a good fit at both the equation and model levels. This suggests that the observed variables positively represent the latent variable in each model. In addition, multi-collinearity was assessed through the correlation matrix, and no significant correlations identified amongst the variables (see Appendix B), ensuring the reliability of the results.

*Control variables*. To control for the sub-national aspect of the data, three dummy variables were used: Subnatio $nal_{Veneto}$, $Subnnational_{England}$ and $Subnational_{California}$. A detailed explanation of these variables can be found in Table 7 (below). Notably, firm size and sector were not included as control variables because of the limited sample sizes across our three locations. Moreover, the addition of too many control variables in a model can lead to collinearity issues.

Before undertaking statistical estimations using the variables mentioned above, firms that adopted the MHS strategy were examined. Such profiling, encompassing the MHS

**Table 3** Confirmatory factor analysis (CFA) on motives for choosing a manufacturing home-shoring strategy

| Observed variable | Factors | | | Equation fit |
|---|---|---|---|---|
| | *F*efficiency | *F*know | Flocsup | *R2* |
| *Model I—Efficiency-Seeking Factors = "Fefficiency"* | | | | |
| (1) Investment in automation | 0.74 | | | 0.42 |
| (2) Opportunities to digitalise the production process | 0.77 | | | 0.37 |
| (3) Establishing partnership with key suppliers | 0.55 | | | 0.54 |
| (4) Adoption of favourable public policies | 0.69 | | | 0.50 |
| (5) Proximity to the final market | 0.51 | | | 0.60 |
| *Model II —Knowledge-Seeking Factors = "Fknow"* | | | | |
| (1) Tacit knowledge in the territory | | 0.51 | | 0.74 |
| (2) Opportunity to leverage *Made In* | | 0.59 | | 0.58 |
| (3) Working environment with a shared culture | | 0.56 | | 0.52 |
| (4) Availability of competent workforce | | 0.45 | | 0.53 |
| *Model III—Local Supplier-Seeking Factors = "Flocsup"* | | | | |
| (1) Opportunity to co-create the final product with suppliers | | | 0.58 | 0.53 |
| (2) Possibility to customise the final product | | | 0.55 | 0.50 |
| (3) Proximity to R&D centre | | | 0.62 | 0.39 |
| (4) Proximity to local specialised suppliers | | | 0.63 | 0.48 |
| Observation no. | 226 | 226 | 226 | |
| Eigenvalue | 2.212 | 1.135 | 1.443 | |
| Proportion variance explained ($R^2$) | 0.82 | 0.70 | 0.68 | |
| *Model fit* | | | | |
| Prob > chi2 | 0.27 | 0.85 | 0.01 | |
| RMSEA | 0.03 | 0.00 | 0.11 | |
| *Lower bound* | 0.00 | 0.00 | 0.03 | |
| *Upper bound* | 0.10 | 0.07 | 0.20 | |
| SRMR | 0.02 | 0.07 | 0.03 | |
| CFI | 0.99 | 1.00 | 0.96 | |

Note: Prior to the CFA, the motives were coded and divided into 3 factors according to the literature review

*Source*: Authors' elaboration

strategy for insourcing (P1), the MHS strategy for outsourcing (P2), full home-shoring (P3) in comparison with the no-home-shoring strategy (P4), is presented in Tables 4, 5, and 6 below.

Based on the above information, in Veneto, there is a notable preference for MHS strategies focused on outsourcing (P2) rather than insourcing (P1) among firms. In addition, small and medium-sized enterprises (SMEs) are particularly active in adopting MHS strategies, accounting for 80% of the sample. Analysis of sectoral trends reveals that low-tech sectors, such as the food and textile industries, are more inclined towards insourcing, while sectors like machinery and equipment, along with other manufacturing sectors, tend to opt for outsourcing (P2).

In England, firms predominantly opted for the full MHS strategy (P3), followed by outsourcing and insourcing. Medium and large-sized firms were most prevalent, constituting 70% of the three strategies. Analysis of sectoral trends indicates that the basic metal and chemicals sectors are most relevant for insourcing, while the electrical equipment and textile sectors are prominent in outsourcing. The textile and basic metal sectors are notable for full MHS strategy (P3), highlighting the activity in the intermediate and capital sectors, which collectively represents 70% of the sample for this location.

In California, the full MHS strategy (P3) was the most commonly adopted, followed by outsourcing (P2) and insourcing (P1). The sectoral distribution displayed less variation, with computers, fabricated metals, and food products emerging as the top three sectors in each strategy. Notably, large firms accounted for more than 75% of the sample in each strategy.

Now, using the independent and control variables, the probability of choosing or not choosing the MHS strategy (i.e. insourcing (P1), outsourcing (P2), or full home-shoring strategy (P3) was based on the following equation:

**Table 4** Characteristics of surveyed firms: Veneto

| Insourcing (P1) | $n = 8$ | Frequency | Percentage |
|---|---|---|---|
| Broad economic sector (BEC) | Intermediate | 2 | 25 |
| | Consumption | 6 | 75 |
| Manufacturing of | Food products, beverages, and tobacco | 2 | 25 |
| | Textiles, wearing apparel, leather | 2 | 25 |
| | Rubber and plastic products | 1 | 12.5 |
| | Other non-metallic mineral products | 1 | 12.5 |
| | Basic metals | 1 | 12.5 |
| | Machinery and equipment n.e.c. | 1 | 12.5 |
| Size | Micro | 1 | 12.5 |
| | Small | 5 | 62.5 |
| | Medium | 2 | 25 |
| Outsourcing (P2) | $n = 34$ | | |
| Broad economic sector (BEC) | Intermediate | 16 | 43.24 |
| | Consumption | 12 | 32.43 |
| | Capital | 9 | 24.32 |
| Manufacturing of | Machinery and equipment n.e.c. | 11 | 29.73 |
| | Other manufacturing, repair, and install | 8 | 21.62 |
| | Textiles, wearing apparel, leather | 6 | 16.22 |
| | Basic metals | 5 | 13.51 |
| | Food products, beverages, and tobacco | 2 | 5.41 |
| | Rubber and plastic products | 2 | 5.41 |
| | Furniture | 2 | 5.41 |
| | Wood and wood products | 1 | 2.7 |
| Size | Small | 17 | 47.06 |
| | Medium | 12 | 32.35 |
| | Large | 5 | 11.76 |
| | Micro | 3 | 8.82 |
| Full (P3) | *n = 5* | | |
| Broad economic sector (BEC) | Capital | 2 | 40 |
| | Consumption | 2 | 40 |
| | Intermediate | 1 | 20 |
| Manufacturing of | Textiles, wearing apparel, leather | 1 | 20 |
| | Rubber and plastic products | 1 | 20 |
| | Basic metals | 1 | 20 |
| | Machinery and equipment n.e.c. | 1 | 20 |
| | Other manufacturing, repair, and install | 1 | 20 |
| Size | Small | 3 | 60 |
| | Medium | 1 | 20 |
| | Large | 1 | 20 |
| No home-shoring (P4) | *n = 58* | | |
| Broad economic sector (BEC) | Intermediate | 25 | 43.1 |
| | Consumption | 25 | 43.1 |
| | Capital | 8 | 13.79 |

**Table 4** (continued)

| No home-shoring (P4) | *n = 58* | | |
|---|---|---|---|
| Manufacturing of | Textiles, wearing apparel, leather | 17 | 29.31 |
| | Basic metals | 16 | 27.59 |
| | Machinery and equipment n.e.c. | 8 | 13.79 |
| | Wood and wood products, paper | 4 | 6.9 |
| | Food products, beverages, and tobacco | 3 | 5.17 |
| | Other non-metallic mineral products | 3 | 5.17 |
| | Other manufacturing, repair, and install | 3 | 5.17 |
| | Rubber and plastic products | 2 | 3.45 |
| | Furniture | 2 | 3.45 |
| Size | Micro | 17 | 29.31 |
| | Small | 17 | 29.31 |
| | Medium | 16 | 27.59 |
| | Large | 8 | 13.79 |

*Source*: Authors' own calculations

**Table 5** Characteristics of surveyed firms: England

| Insourcing (P1) | *n* = 11 | Frequency | Percentage |
|---|---|---|---|
| Broad economic sector (BEC) | Intermediate | 4 | 36.36 |
| | Capital | 4 | 36.36 |
| | Consumption | 3 | 27.27 |
| Manufacturing of | Basic metals | 5 | 45.45 |
| | Chemicals and chemical products | 3 | 27.27 |
| | Machinery and equipment n.e.c. | 2 | 18.18 |
| | Textiles, wearing apparel, leather | 1 | 9.09 |
| Size | Medium | 4 | 36.36 |
| | Large | 4 | 36.36 |
| | Micro | 2 | 18.18 |
| | Small | 1 | 9.09 |
| Outsourcing (P2) | *n* = 24 | | |
| Broad economic sector (BEC) | Intermediate | 12 | 50 |
| | Capital | 6 | 25 |
| | Consumption | 6 | 25 |
| Manufacturing of | Electrical equipment | 5 | 20.83 |
| | Textiles, wearing apparel, leather | 4 | 16.67 |
| | Basic metals | 4 | 16.67 |
| | Machinery and equipment n.e.c. | 4 | 16.67 |

**Table 5** (continued)

| Outsourcing (P2) | $n = 24$ | | |
|---|---|---|---|
| | Food products, beverages, and tobacco | 2 | 8.33 |
| | Wood and wood products, paper | 2 | 8.33 |
| | Chemicals and chemical products | 1 | 4.17 |
| | Fabricated metal products | 1 | 4.17 |
| | Computer, electronic, and optical products | 1 | 4.17 |
| Size | Large | 12 | 50 |
| | Medium | 7 | 29.17 |
| | Small | 5 | 20.83 |
| Full (P3) | $n = 48$ | | |
| Broad economic sector (BEC) | Intermediate | 21 | 43.75 |
| | Capital | 14 | 29.17 |
| | Consumption | 13 | 27.08 |
| Manufacturing of | Textiles, wearing apparel, leather | 9 | 18.75 |
| | Basic metals | 8 | 16.67 |
| | Machinery and equipment n.e.c. | 8 | 16.67 |
| | Food products, beverages, and tobacco | 5 | 10.42 |
| | Wood and wood products, paper | 4 | 8.33 |
| | Electrical equipment | 4 | 8.33 |
| | Basic pharmaceutical products | 2 | 4.17 |
| | Rubber and plastic products | 2 | 4.17 |
| | Fabricated metal products | 2 | 4.17 |
| | Coke and refined petroleum products | 1 | 2.08 |
| | Chemicals and chemical products | 1 | 2.08 |
| | Computer, electronic, and optical products | 1 | 2.08 |
| | Other manufacturing, repair and install | 1 | 2.08 |
| Size | Large | 21 | 43.75 |
| | Medium | 14 | 29.17 |
| | Small | 12 | 25 |
| | Micro | 1 | 2.08 |
| No home-shoring (P4) | $n = 20$ | | |
| Broad economic sector (BEC) | Intermediate | 9 | 45 |
| | Consumption | 7 | 35 |
| | Capital | 4 | 20 |
| Manufacturing of | Electrical equipment | 5 | 25 |
| | Wood and wood products, paper | 3 | 15 |
| | Rubber and plastic products | 3 | 15 |
| | Basic metals | 3 | 15 |
| | Machinery and equipment n.e.c. | 3 | 15 |
| | Food products, beverages, and tobacco | 1 | 5 |
| | Coke and refined petroleum products | 1 | 5 |
| | Motor vehicles, trailers, and semi-trailers | 1 | 5 |
| Size | Large | 9 | 45 |
| | Medium | 7 | 35 |
| | Small | 3 | 15 |
| | Micro | 1 | 5 |

*Source*: Authors' own calculations

**Table 6** Characteristics of surveyed firms: California

| Insourcing (P1) | $n = 16$ | Frequency | Percentage |
|---|---|---|---|
| Broad economic sector (BEC) | Intermediate | 8 | 50 |
| | Capital | 5 | 31.25 |
| | Consumption | 3 | 18.75 |
| Manufacturing of | Fabricated metal products | 7 | 43.75 |
| | Computer, electronic and optical products | 5 | 31.25 |
| | Food products, beverages, and tobacco | 1 | 6.25 |
| | Chemicals and chemical products | 1 | 6.25 |
| | Rubber and plastic products | 1 | 6.25 |
| | Other manufacturing, repair and install | 1 | 6.25 |
| Size | Large | 12 | 75 |
| | Medium | 3 | 18.75 |
| | Micro | 1 | 6.25 |
| Outsourcing (P2) | $n = 21$ | | |
| Broad Economic Sector (BEC) | Intermediate | 10 | 47.62 |
| | Consumption | 7 | 33.33 |
| | Capital | 4 | 19.05 |
| Manufacturing of | Computer, electronic and optical products | 8 | 40 |
| | Fabricated metal products, except machinery | 6 | 30 |
| | Food products, beverages, and tobacco | 2 | 10 |
| | Rubber and plastic products | 1 | 5 |
| | Machinery and equipment n.e.c. | 1 | 5 |
| | Other manufacturing, repair and install | 1 | 5 |
| | Paper and paper products | 1 | 5 |
| Size | Large | 16 | 76.19 |
| | Small | 2 | 9.52 |
| | Medium | 2 | 9.52 |
| | Micro | 1 | 4.76 |
| Full (P3) | $n = 56$ | | |
| Broad economic sector (BEC) | Consumption | 29 | 51.79 |
| | Intermediate | 17 | 30.36 |
| | Capital | 10 | 17.86 |
| Manufacturing of | Fabricated metal products | 19 | 33.93 |
| | Food products, beverages, and tobacco | 13 | 23.21 |
| | Computer, electronic and optical products | 12 | 21.43 |
| | Chemicals and chemical products | 7 | 12.5 |
| | Coke and refined petroleum products | 2 | 3.57 |
| | Other non-metallic mineral products | 1 | 1.79 |
| | Other manufacturing, repair and install | 1 | 1.79 |
| | Paper and paper products | 1 | 1.79 |
| Size | Large | 48 | 85.71 |
| | Medium | 5 | 8.93 |
| | Small | 2 | 3.57 |
| | Micro | 1 | 1.79 |
| No home-shoring (P4) | $n = 20$ | | |
| Broad economic sector (BEC) | Consumption | 14 | 53.85 |
| | Capital | 9 | 34.62 |
| | Intermediate | 3 | 11.54 |

**Table 6** (continued)

| No home-shoring (P4) | $n = 20$ | | |
|---|---|---|---|
| Manufacturing of | Computer, electronic and optical products | 10 | 38.46 |
| | Food products, beverages, and tobacco | 6 | 23.08 |
| | Fabricated metal products | 4 | 15.38 |
| | Textiles, wearing apparel, leather | 2 | 7.69 |
| | Coke and refined petroleum products | 1 | 3.85 |
| | Chemicals and chemical products | 1 | 3.85 |
| | Electrical equipment | 1 | 3.85 |
| | Other manufacturing, repair and install | 1 | 3.85 |
| Size | Large | 21 | 80.77 |
| | Micro | 2 | 7.69 |
| | Small | 2 | 7.69 |
| | Medium | 1 | 3.85 |

*Source*: Authors' own calculations

$$Homeshoring_{nj|i} = \beta_{0,j|i} + \beta_{1,j|i} Fefficiency_n + \beta_{2,j|i} Fknowledge_n + \beta_{3,j|i} Flocsuppliers_n + \beta_{4,j|i} Subnational_z + \varepsilon \quad (5)$$

where $j = 1,\ldots,4$ (i.e. 1 = Insourcing (P1), 2 = Outsourcing (P2), 3 = Full home-shoring (P3), 4 = No-home-shoring (P4)), $I = 4$ as the comparison category and $n = 1,\ldots,330$ are the number of firms; z = 1 = Veneto (Italy), 2 = England (UK), 3 = California (US). The variable measurement and summary statistics are presented in Table 7.

## Empirical results

Drawing on Eq. (5) and the previously discussed variables, four independent MNLG models were estimated for the three pull factors (i.e. *Fefficiency, Fknowledge, Flocsuppliers*) extracted by the CFA (Greene et al., 2022). The parameter estimates from these models in relation to the adoption of the chosen MNS strategies across examined locations are presented in Table 8.

It is evident from Table 8 that across all MNLG models, the Full MHS strategy (P3) is consistently preferred over the no-home-shoring MHS strategy (P4) when efficiency-seeking factors are important to firms. Factors such as investments in automation, opportunity for digitalisation, production process, proximity to the final market, favourable public policies, and opportunity to partner with key suppliers contribute to this preference. *Fefficiency* emerges as statistically significant across all models, with respective coefficients of – 0.67 ($p = 0.09$), − 0.70 ($p = 0.06$), − 0.67 ($p = 0.09$), and – 0.72 ($p = 0.06$) compared to the MHS with outsourcing (P1) and no-home-shoring (P4) strategies.

In Model I, *Fefficiency* achieved statistical significance at 1.30 ($p = 0.01$), in Model II at 1.51 ($p = 0.00$), in Model III at 0.99 ($p = 0.04$), and in Model IV at 0.87 ($p = 0.06$). The negative sign indicates that firms do not choose solely home-shore based on efficiency-seeking factors, as they exhibit a preference for the no-home-shoring (P4) strategy over the MHS strategy for outsourcing (P2). However, the Full MHS strategy (P3) is consistently preferred over all other strategies, supported by a positive and statistically significant sign. This suggests that the Full MHS strategy (P3) (i.e. a combination of increased domestic outsourcing and expanding internal capacity) is driven by efficiency-seeking factors that firms consider when they want to pivot their production more domestically.

Models II, III, and IV incorporate geographical dimensions and firm size into the analysis. Model II specifically examines the Veneto (Italy) region. The results indicate that, in comparison with England (UK) and California (US), Veneto exhibits the lowest probability of adopting any MHS strategies, as evidenced by negative and statistically significant coefficients. However, the data suggests a preference for choosing local sub-suppliers over insourcing (P1) or the full MHS strategy (P3), as indicated by a negative coefficient, albeit less than 1.

According to Model III, firms in England seem to prefer the no-home-shoring strategy (P4) over the MHS strategy for outsourcing (P2) when efficiency-seeking factors are prioritised over the remaining factors examined in the model as indicated by the significant negative coefficient for F*efficiency* (– 0.67, $p = 0.09$). Conversely, English firms lean towards the full MHS strategy (P3) over the no-home-shoring (P4) strategy when elements of efficiency-seeking factors (F*efficiency*) are important to them, as evidenced by the significant positive coefficient (0.99, $p = 0.04$). This suggests that investing in their own production facility alongside

**Table 7** Measurement and summary statistics of explanatory and dummy variables

| Variables | Explanatory variables<br>Definition | Mean (SD) |
|---|---|---|
| Fefficiency | Factor score (see Tables 4, 5, 6) | 1.37e-09 (0.75) |
| Fknow | Factor score (see Tables 4, 5, 6) | 2.81e-09 (0.67) |
| Flocsup | Factor score (see Tables 4, 5, 6) | – 2.34e-09 (0.70) |
| **Subnational**$_{\text{Veneto}}$ | Dummy: 1 if firm is located in Veneto, 0 Otherwise | 0.31 (0.46) |
| **Subnational**$_{\text{England}}$ | Dummy: 1 if firm is located in Midlands, 0 Otherwise | 0.36 (0.48) |
| **Subnational**$_{\text{California}}$ | Dummy: 1 if firm is located in California, 0 Otherwise | 0.32 (0.46) |

Authors' elaboration

**Table 8** Choice of manufacturing home-shoring: The multinomial logit model

| P1\|P4 | Model I | | | Model II | | | Model III | | | Model IV | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coef. | Std. Err. | *p* value | Coef. | Std. Err. | *p* value | Coef. | Std. Err. | *p* value | Coef. | Std. Err. | *p* value |
| Fefficiency | 0.07 | 0.44 | 0.87 | – 0.05 | 0.46 | 0.91 | 0.10 | 0.46 | 0.82 | 0.08 | 0.46 | 0.86 |
| Fknow | 0.01 | 0.75 | 0.98 | – 0.35 | 0.78 | 0.65 | 0.02 | 0.79 | 0.97 | 0.08 | 0.79 | 0.91 |
| Flocsup | – 0.26 | 0.61 | 0.67 | 0.10 | 0.64 | 0.87 | – 0.42 | 0.65 | 0.51 | – 0.32 | 0.63 | 0.61 |
| Subnational$_{\text{Veneto}}$ | | | | – 1.99 | 0.37 | 0.00 | | | | | | |
| Subnational$_{\text{England}}$ | | | | | | | – 0.63 | 0.38 | 0.09 | | | |
| Subnational$_{\text{California}}$ | | | | | | | | | | – 0.49 | 0.31 | 0.12 |
| P2\|P4 | | | | | | | | | | | | |
| Fefficiency | – 0.67 | 0.39 | 0.09 | – 0.70 | 0.37 | 0.06 | – 0.67 | 0.39 | 0.09 | – 0.72 | 0.39 | 0.06 |
| Fknow | – 0.24 | 0.71 | 0.73 | – 0.37 | 0.66 | 0.57 | – 0.25 | 0.72 | 0.72 | – 0.21 | 0.72 | 0.77 |
| Flocsup | 0.11 | 0.57 | 0.84 | 0.26 | 0.53 | 0.62 | 0.13 | 0.59 | 0.82 | 0.10 | 0.58 | 0.86 |
| Subnational$_{\text{Veneto}}$ | | | | – 0.56 | 0.21 | 0.01 | | | | | | |
| Subnational$_{\text{England}}$ | | | | | | | 0.06 | 0.31 | 0.84 | | | |
| Subnational$_{\text{California}}$ | | | | | | | | | | – 0.32 | 0.30 | 0.28 |
| P3\|P4 | | | | | | | | | | | | |
| Fefficiency | 1.30 | 0.50 | 0.01 | 1.51 | 0.55 | 0.00 | 0.99 | 0.48 | 0.04 | 0.87 | 0.46 | 0.06 |
| Fknow | – 0.13 | 0.81 | 0.87 | – 0.70 | 0.87 | 0.42 | – 0.07 | 0.77 | 0.92 | – 0.11 | 0.76 | 0.88 |
| Flocsup | – 0.14 | 0.65 | 0.82 | 0.27 | 0.70 | 0.70 | 0.02 | 0.62 | 0.97 | – 0.02 | 0.62 | 0.97 |
| Subnational$_{\text{Veneto}}$ | | | | – 2.56 | 0.47 | 0.00 | | | | | | |
| Subnational$_{\text{England}}$ | | | | | | | 0.79 | 0.27 | 0.00 | | | |
| Subnational$_{\text{California}}$ | | | | | | | | | | 0.61 | 0.24 | 0.01 |
| N-Observation | 330 | | | 330 | | | 330 | | | 330 | | |
| Log-likelihood | – 435 | | | – 397 | | | – 423 | | | – 425 | | |
| Model LT chi2 | 37.94 | | | 85.15 | | | 59.93 | | | 58.22 | | |
| Prob>R2 | 0.00 | | | 0.00 | | | 0.000 | | | 0.000 | | |

P4—No Home-shoring is the comparison group, P1|P4—MHS for Insourcing vs. No Home-shoring, P2|P4—MHS for Outsourcing vs. No Home-shoring, P3|P4—Full MHS vs. No Home-shoring.

*p* value reported in line with Meyer et al. (2017)

*Source*: Authors' elaboration

collaboration with local suppliers may be necessary for optimising efficiency.

Model IV reveals that in California, firms tend to favour the full MHS strategy (P3) over the no-home-shoring (P4) strategy if they prioritise efficiency-seeking factors. Based on these results, we conclude that efficiency-seeking factors are important for firms adopting the full MHS strategy (P3). Furthermore, the results indicate that knowledge-seeking and local supplier-seeking factors do not play a significant role in decision-making processes for firms in California when choosing the MHS strategy.

## Discussion and policy implications

The results of the MNLG analysis indicate that efficiency-seeking factors consistently exhibit positive and statistically significant coefficients when firms adopt the full MHS strategy. Interestingly, local supplier-seeking factors display negative and statistically significant coefficients across all models when firms opt for the MHS strategy for insourcing, indicating a preference for expanding capacity internally by establishing new manufacturing sites within the domestic economy over local outsourcing. This finding aligns with previous research by Bailey et al. (2018), who observed that the thinning out of manufacturing capabilities in Spain deterred firms from home-shoring, leaving internalisation as the only viable option. However, our findings, consistent with Bailey et al. (2018), suggest that once a firm establishes a new manufacturing plant and integrates itself into the local production system, the availability and quality of local suppliers become relevant for seeking flexibility, innovation, and variety (Canello et al., 2022). Indeed, the results suggest a higher probability of adopting the full MHS strategy compared to the no-home-shoring strategy, indicating that access to domestic suppliers complements the decision to open a new manufacturing site longer term. This emphasises a possible two-stage approach which sees the importance of embedding home-shored activities in the local economy as crucial only following capacity expansion.

We find, however, that knowledge-seeking factors are not significant. This is surprising given the extensive literature on agglomeration economies. The fact that access to tacit knowledge, leveraging the local identity and culture are not sufficiently attractive factors to activate the MHS strategies could have two possible explanations. One is that the MNE engaging in MHS strategies already has a presence in such dense web of relations, such as to discount them its decision; the other is that, while clustering offers direct face-to-face interactions and the creation of long-lasting trust-based relations, these soft factors matter only at the margin. More crucially, firms' production location choices hinge first on technological opportunities, access to specialised suppliers, and proximity to markets (i.e. efficiency-seeking factors). This suggests that the presence of an industrial cluster becomes more important post-MHS, as the expanded business wires itself into the local supply chain and socio-institutional system.

The latent variable for efficiency (*Fefficiency*) emerges as crucial for the adoption of the full MHS strategy, consistently showing significant and positive coefficients across all models. This underscores the interconnectedness between a firm's technological investment and its reliance on domestic suppliers, which contribute significantly to its competitiveness. In particular, factors related to Industry 4.0, such as investment in automation and opportunities for digitising the production process, underscore the importance of internal process optimisation for efficiency-seeking firms. The adoption of digitalisation and automation not only enhances operational efficiency but also necessitates workforce upskilling and may lead to a reduction in labour force size as new capabilities emerge. These technological advancements facilitate faster delivery times and smoother connectivity with key suppliers, and leverage opportunities arising from efficiency-seeking collaborations and favourable public policies.

However, achieving efficiency-seeking goals through manufacturing home-shoring (i.e. the full MHS strategy) necessitates collaboration with domestic suppliers; otherwise, the MHS strategy risks failure. Further investigation is warranted regarding the power dynamics between firms. Our findings suggest that the adoption of the full MHS strategy indirectly enhances firms' efficiency within their value chain, impacting both upstream (e.g. management of key suppliers and manufacturing activities) and downstream (e.g. proximity to the final market) activities. This underscores the significance of local and active supplier networks in implementing the chosen MHS strategies, suggesting a need for increased investment in production automation in the absence or weakness of the supplier base.

Spatial comparative analysis reveals that firms in Veneto (Italy) lag behind those in California (US) and England (UK) in adopting the MHS strategies, indicating potential areas for improvement and development. It is important to emphasise that the findings of this study are significantly influenced by the characteristics of the surveyed firms, particularly the industrial composition of the surveyed regions. In Veneto (Italy), where a majority of firms belong to the intermediary sector and are small and medium-sized, the results differ from England (UK) and California (US). English firms are typically medium-sized or larger in the intermediary sector, while Californian firms are mostly large and operate in the consumption sector. This suggests that a one-size-fits-all approach to the MHS is unlikely to be effective. Rather, firms should carefully consider the specific industrial fabric of the territories in which they operate when designing their MHS strategy and their own capabilities for implementing it.

Finally, one micro-pull factor influencing the efficiency-seeking for implementing the full MHS strategy is the presence of *favourable public policies*. This is in line with the qualitative results of Pegoraro et al. (2022) in advocating for the relevance of territorial level policymaking in creating location-specific pull factors, attuned with national-level strategies. To further explore this topic, selected local-based policies will be presented.

In Veneto (Italy), there is no direct policy related to home-shoring, but the local political initiatives aim to support

the local competitiveness, productivity, and international attraction, hence indirectly sustaining the home-shoring and resilience of the territory such as the Corporate, Territorial and Sectoral Crisis Units project (Regione Veneto, 2021), which aims to support the restructuring of firms' organisation in identified productive areas. This policy allowed Electrolux to improve the efficiency of its manufacturing plant by investing 110 million euros while at the same time closing a manufacturing plant in Hungary (Regione Veneto, 2015, 2023). Similarly, Pastificio Giovanni Rana S.p.A relocated its production line of pre-cooked food from Belgium to Verona, a city of Veneto (MIMIT, 2023). To conclude, the Veneto Region is not adopting a single policy to support home-shoring initiatives, but it is preparing fertile ground in which these initiatives can prosper.

In the UK, Brexit discourses have overshadowed policy initiatives. The turnover of different Prime Ministers and their changing policy agendas over the last decade has hindered the design and implementation of coherent industrial policies. Instead, there have been narrow sector-specific policies, such as the High Value Manufacturing Catapult, and bottom-up initiatives like Reshoring UK (Pegoraro et al., 2022). Notably, while the topic of reshoring was not explicitly mentioned in the latest industrial policy plan, The Growth Plan 2022, many objectives aim to enhance UK competitiveness by making the country more attractive for manufacturing and aiding business scalability in selected sectors, including cell and gene therapy, compound semiconductor applications, connected places, digital, energy systems, high-value manufacturing, medicines discovery, offshore renewable energy, and satellite applications (HVM Catapult, 2018), in collaboration with local authorities (LEP, 2023). Concurrently, a private voluntary online consortium based on industrial associations is gaining momentum: Reshoring UK and UK Engineering Marketplace. Launched in 2016, it coordinates and provides matching services between customers and suppliers in the manufacturing sector (Reshoring UK, 2023). In England, certain industrial policies promote local economic development leveraging the socio-sectoral specifics of regions such as the Northern Powerhouse, Midlands Engine, the Oxford–Cambridge Arc, and the Western Gateway (MacKinnon, 2019).

In the US, the political environment welcomes policies to boost domestic manufacturing aiming to increase the number of jobs (White House, 2012, 2017, 2022). In accordance with our findings, California has numerous initiatives led by both private and public agencies which have been in place since before the CHIPS and Science Act (US Congress, 2021). One worth mentioning is California Competes (California Competes, 2023), which provides a tax credit scheme and a grant programme within certain limits. In the period 2014–2018, the jobs incentivised by the California Competes Tax Credit (CCTC) were able to create a multiplier close to three in the invested area (Freedman et al., 2023). California also has local-based initiatives that directly support the attraction of the state as a manufacturing location. For example, the San Jose City Council Economic Department hosts and manages the website SJEconomy.com, which provides information on the many opportunities that future businesses can engage with, such as roundtable discussions, business assistance programmes, and company visits. Although manufacturing jobs have slowly decreased after the dot-com bust, firms in California have thrived thanks to the adoption of additive manufacturing and other technological innovations. However, the lack of skilled workers and the unwillingness of workers to work in remote locations such as the Central Valley have challenged the renaissance of manufacturing jobs.

To overcome this challenge, the Economic Development Department has launched an initiative to promote these areas as worthy of investment, especially because of their low cost of labour and living standards, which are more apt for a manufacturing salary. The department is also promoting these initiatives by visiting firms and companies in the Bay Area (Central California, 2023). Overall, the presence or absence of local policies incentivising full home-shoring initiatives affects the likelihood of adopting a full home-shoring strategy. Policymakers should actively engage with manufacturing firms within their local jurisdiction, although these local policies should not directly target the home-shoring strategy

## Insights into existing international business understanding

The empirical analysis indicates that the Full MHS strategy emerges as the most favoured approach among firms. This strategy entails the combination of opening new manufacturing sites with greater reliance on domestic suppliers. This preference is consistently observed across regions such as Veneto (Italy), England (UK) and California (US), underscoring the importance of a robust local supplier network for successful MHS implementation (Butollo, 2021).

The rationale behind the MHS strategy, driven by efficiency-seeking factors, is pivotal. These macro factors include investments in automation, opportunities for digitalising production processes, proximity to final markets, adoption of favourable public policies, and establishing partnerships with key suppliers. Notably, these factors align with the principles of Industry 4.0, suggesting a shift towards valuing manufacturing activities more and challenging the viability of cost reduction through offshoring (Barbieri et al., 2022; Lee et al., 2023). By enhancing production efficiency, manufacturing firms gain better control over the production process, enabling them to upgrade products and

improve overall production lines. However, focusing solely on internal dimensions within the firm is insufficient. The longer-term success of each home-shoring decision appears equally contingent on the quality and robustness of local supply chains.

The epistemological novelty of the paper is represented in Fig. 1, which synthesises the triangulation between international business, economic geography, and the GVC literature. This integrative approach forms a multidisciplinary theoretical framework that elucidates the factors driving the MHS strategies. Within this approach, we delineate three sets of factors: efficiency-seeking factors, knowledge-seeking factors, and supplier-seeking factors. Our research seeks to ascertain the influence of each set of factors on the decision-making process regarding MHS strategies, as well as the methods utilised for their implementation.

With this paper, we offer empirical evidence supporting the adoption of the MHS strategy by firms as strategic production location decisions, which can be contextualised within the framework of the international business discipline and linked to a trend towards more continentalised value chains (Kano et al., 2020). Furthermore, our research reveals a notable preference among firms for initially establishing a manufacturing plant in their home country and subsequently integrating with the local supplier network by increasing domestic sourcing. This finding underscores the critical role of a robust local supplier network in sustaining MHS strategic initiatives. Indeed, in economies where such networks are lacking, the viability and longevity of MHS strategy implementations may be compromised.

Our work contributes to the field of international business by emphasising the significance of internalisation theory in examining and understanding contemporary changes in the business environment. Following Li et al. (2024), who advocated for the expansion of Dunning's eclectic framework to encompass considerations of reshoring, our work offers a different perspective. We contend that the intricate debate surrounding reshoring, particularly within the context of home-shoring narratives, cannot be adequately addressed through the lens of this particular framework alone, because of its insufficient elements for comprehensively elucidating the evolving dynamics faced by MNEs. Furthermore, the framework's oversight of the contextual intricacies within which MNEs operate renders it incomplete. As such, our findings indicate that efficiency-seeking factors predominantly drive the adoption of a full home-shoring strategy. However, these factors are not solely contingent upon the firm's internal characteristics but are also heavily influenced by the sub-national contexts in which they operate.

This brings us to expand further on agglomeration theory, which also falls short of explaining MHS decisions alone. We find that MHS are not primarily driven by leveraging agglomeration factors, but rather the latter matter only in combination with internalisation strategies. It is worth mentioning that the firms in question are likely to be already located in some form of local industrial cluster, so soft local factors, such as culture, tacit knowledge, and identity become important only as corollaries to a core efficiency-driven strategy. This does not mean that place does not matter, but rather that firms' home is the starting point of the MHS journey. The home location is taken for granted and already known, and what matters here is that it is deemed to be hospitable for allowing the firm further growth. Policy recommendations point to a crucial role for local policymakers to design ad hoc policies that can positively influence the choice of the MHS strategy, but at the same time, policies that aim to improve the efficiency of manufacturing (i.e. Industry 4.0 technologies), without adopting direct policies towards onshoring, are also important (Van Assche, 2024). Through our work, the MHS strategy emerges as a strategic tool enabling firms to recalibrate their GVCs towards a more regional scale. Through MHS decisions, firms effectively reshape their international footprint, adapting to changing market dynamics. The evidence presented in this paper should guide firms in their location decision-making when adopting a strategy that implies a more domestic value chain. External shocks such as the COVID-19 pandemic (Elia et al., 2021), geopolitical conflicts (e.g. Russia–Ukraine and Israel–Palestine) as well as trade disruptions, call national governments and international institutions to a heightened awareness of a fundamental shift in the organisation of production by MNEs seeking access to digital and green technology, greater supply chain resilience and reliance (e.g. in relation to critical materials and components)[5]. However, firms should not blindly follow this call if the chosen location does not possess specific requirements, as our empirical findings suggest, to avoid a negative return on the significant investment made to increase their domestic footprint.

In addition to the above, and to conclude this work, it is worth pointing out that our study encounters two primary limitations. Firstly, there is a discrepancy in the classification of the examined locations: England (UK) is categorised as NUTS-1, whereas California (US) and Veneto (Italy) fall under NUTS-2. While this difference in administrative levels may influence the generalisability of our findings and the sampling techniques employed, it is important to be mindful of these nuances. Secondly, due to the anonymised nature of the data obtained from firms in England and California, we were unable to establish a direct link between firm performance indicators, such as revenues, both pre- and post-implementation of the MHS strategy. In addition,

[5] See, NextGenerationEU and the Bipartisan Infrastructure Law and Build Back Framework in the United States

the restricted dataset limited our ability to control for variables such as firm size and industry sectors, which could potentially impact the outcomes under examination. Despite these data-driven limitations, this work remains valuable for examining the MHS strategy across different distinct locations using both the theoretical and methodological approaches employed (Knight et al., 2022). Finally, we anticipate that future research will engage more deeply with innovation studies, in accordance with the work of Ancarani et al. (2024), and will examine the primary role of industrial clusters in influencing relocation decisions.

## Appendix A

**Table 9** Manufacturing reshoring literature review

| Factors | Discipline | Tested by | Seeking factor |
|---|---|---|---|
| Working environment with a shared culture | EG | Moradlou et al. (2017); Srai and Anè (2016) | Knowledge |
| Proximity to R&D centre | GVC | Bals et al. (2016); Kinkel (2014); Martinez-Mora and Merino (2014) | Local supplier |
| Possibility to customise the final product | GVC | Ellram et al. (2013); Fratocchi et al. (2016); Grappi et al. (2015); Gylling et al. (2015); Stentfort et al. (2016) | Local supplier |
| Availability of competent workforce | EG | Gylling et al. (2015); Tate et al. (2014); Moradlou et al. (2017) | Knowledge |
| Opportunities to digitalise the production process | IB | Bals et al. (2016); Fratocchi et al. (2016); Tate et al. (2014) | Efficiency |
| Investment in automation | IB | Fratocchi et al. (2016); Kinkel (2014) | Efficiency |
| Proximity to local specialised suppliers | GVC | Bals et al. (2016); Canham and Hamilton (2013) | Local supplier |
| Tacit knowledge in the territory | EG | Bals et al. (2016); Ellram et al. (2013); Zhai et al. (2016); Kinkel (2014) | Knowledge |
| Opportunity to co-create the final product with suppliers | GVC | Ellram et al. (2013); Ketokivi et al. (2017) | Local supplier |
| Establishing partnership with key suppliers | IB | Bals et al (2016); Fratocchi et al. (2016); Gray et al. (2017); Bailey et al. (2018) | Efficiency |
| Proximity to final market | IB | Srai & Anè (2016) | Efficiency |
| Adoption of favourable public policies | IB | Ancarani et al. (2015); Bals et al. (2016); Ellram et al. (2013); Fratocchi et al. (2016); Zhai et al. (2016); Stentfort et al. (2016); Tate et al. (2014); Bailey and De Propris (2014) | Efficiency |
| Leveraging local identity | EG | Ancarani et al.(2015); Bals et al. (2016); Canham and Hamilton (2013); Grappi (2015); Tate et al. (2014); Strai and Anè (2016) | Knowledge |

*EG* economic geography, *IB* international business, *GVC* global value chains. Papers were selected prior data collection; hence no update references are reported in this table.

*Source*: Authors' elaboration

## Appendix B

**Table 10** Correlation matrix: motives for choosing a manufacturing home-shoring strategy

| | | Efficiency-seeking factors | | | | | Knowledge-seeking factors | | | | Local supplier-seeking factors | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| Efficiency-seeking factors | (1) | 1 | | | | | | | | | | | | |
| | (2) | 0.64 | 1 | | | | | | | | | | | |
| | (3) | 0.41 | 0.41 | 1 | | | | | | | | | | |
| | (4) | 0.55 | 0.55 | 0.40 | 1 | | | | | | | | | |
| | (5) | 0.33 | 0.43 | 0.32 | 0.36 | 1 | | | | | | | | |
| Knowledge-seeking factors | (1) | 0.33 | 0.41 | 0.39 | 0.48 | 0.42 | 1 | | | | | | | |
| | (2) | 0.54 | 0.53 | 0.38 | 0.39 | 0.42 | 0.35 | 1 | | | | | | |
| | (3) | 0.45 | 0.39 | 0.38 | 0.32 | 0.42 | 0.30 | 0.39 | 1 | | | | | |
| | (4) | 0.31 | 0.44 | 0.50 | 0.29 | 0.25 | 0.23 | 0.28 | 0.29 | 1 | | | | |
| Local supplier-seeking factors | (1) | 0.42 | 0.39 | 0.50 | 0.33 | 0.39 | 0.31 | 0.45 | 0.33 | 0.30 | 1 | | | |
| | (2) | 0.42 | 0.48 | 0.39 | 0.30 | 0.27 | 0.31 | 0.31 | 0.27 | 0.47 | 0.30 | 1 | | |
| | (3) | 0.22 | 0.28 | 0.32 | 0.11 | 0.50 | 0.20 | 0.29 | 0.40 | 0.39 | 0.35 | 0.44 | 1 | |
| | (4) | 0.54 | 0.47 | 0.40 | 0.39 | 0.43 | 0.41 | 0.47 | 0.50 | 0.29 | 0.46 | 0.34 | 0.42 | 1 |

*Source*: Authors' elaboration

*Efficiency Seeking* (1) Investment in automation, (2) Opportunities to digitalise the production process, (3) Establishing partnership with key suppliers, (4) Adoption of favourable public policies, (5) Proximity to the final market; *Knowledge Seeking* (1) Tacit knowledge in the territory, (2) Opportunity to leverage Made In, (3) Working environment with a shared culture, (4) Availability of competent workforce; *Local Supplier Seeking* (1) Opportunity to co-create the final product with suppliers, (2) Possibility to customise the final product, (3) Proximity to R&D centre, (4) Proximity to local specialised suppliers.

**Supplementary Information** The online version contains supplementary material available at https://doi.org/10.1057/s42214-024-00207-1.

**Acknowledgements** The authors would like to acknowledge the comments provided on early versions of this article by attendees and anonymous reviewers at EIBA 2022, AIB 2023, and also by David Bailey. We would also like to thank the associate editor Carlo Pietrobelli and Editor in Chief Ari Van Assche, and two anonymous reviewers for their feedback and guidance. This research was supported by the European Commission under the Horizon 2020-Marie Skłodowska-Curie Actions project MAKERS: Smart Manufacturing for EU Growth and Prosperity (Grant Number: 691192).



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**Diletta Pegoraro** is Assistant Professor of International Business, Politecnico di Milano (IT). She is an active member of the Academy of International Business (AIB) serving as an officer at the Research Methods Shared Interest Group (RM-SIG), European International Business Association (EIBA) and Regional Studies Association (RSA). Her research interests lie at the intersection of international business strategies and economic geography of innovation.

**Agnieszka (Aggie) Chidlow** is Full Professor of International Business at the University of Birmingham (UK). A former Secondee to the Principles for Responsible Management Education (PRME), she is a Working Board Member of the Responsible Research in Business and Management (RRBM) global network and the Responsible Research Lead for the British Academy of Management's International Business/International Management Shared Interest Group (BAM IB/IM-SIG). She co-founded the Academy of International Business Research Methods Shared Interest Group (AIB RM-SIG), serves on international advisory boards like CARMA and Qual+, and holds editorial roles with leading journals. She is also an accreditation review panellist for the Association of MBAs (AMBA). Her research on firms' internationalisation and methodology, combined with her dedication to knowledge exchange and capacity building, solidifies her standing as an advocate for responsible research and management education.

**Lisa De Propris** is Professor of Regional Economic Development in the Birmingham Business School. She has expertise in innovation and technological change; Industry 4.0 and twin transitions; manufacturing clusters and global value chain; industrial and innovation policy. She has extensively published in top academic journals such as *Regional Studies, Research Policy, Cambridge Journal of Economics, Journal of Economic Geography, Cambridge Journal of RES.* She sits on the Editorial Boards of *Regional Studies*, *Journal of Industrial and Business Economics*, and *Progress in Economic Geography*.