

45th EIBA Annual Conference 2019

**The changing dynamics of global value chains: the manufacturing location
decision in the UK textile and apparel industry**

Patrizia Casadei* and Simona Iammarino**

London School of Economics

Department of Geography & Environment

* Dr Patrizia Casadei, London School of Economics, Department of Geography & Environment, Houghton Street, London, WC2A 2AE, E: p.casadei@lse.ac.uk.

** Professor Simona Iammarino, London School of Economics, Department of Geography & Environment, Houghton Street, London, WC2A 2AE, E: s.iammarino@lse.ac.uk.

PRELIMINARY DRAFT – NOT FOR CIRCULATION

Abstract

The aim of this paper is to examine the changing geographies and configuration of a highly complex and fragmented global value chain – that of the textile and apparel industry – with a focus on the United Kingdom and the reshoring phenomenon. The empirical analysis draws upon a mix methodology based on descriptive statistics and regression analyses performed on survey data collected by the authors, key statistics and indicators on the industry in the period from 1997 to 2017, and semi-structured interviews conducted with key actors of the sector. Preliminary results show that few manufacturing firms have planned or implemented a reshoring strategy, whereas there is an increase in UK-based retailers/designers that are now shifting to some extent their supply networks from foreign to domestic manufacturing firms.

Keywords: global value chains; textile and apparel industry; manufacturing; reshoring.

INTRODUCTION

Since the early 1990s, firms in developed countries have begun to strategically offshore manufacturing activities to lower labour costs economies in order to support their competitive advantage, while retaining value-adding, knowledge-intensive and innovation-related functions anchored locally. Over time, several trends like the removal of trade barriers, the increased competitiveness of overseas workers and the decrease of information, telecommunication and transportation costs have contributed to further enhancing this phenomenon. This has given rise to dispersed production networks within the so-called global value chains (GVCs) phenomenon (e.g., Gereffi, 1994; Gereffi & Fernandez-Stark, 2011), where the subsequent phases of the production process contributing differently to the overall division of value are located across different countries and coordinated by lead firms through contractual relationships with offshore suppliers (Gereffi et al., 2005; Coe et al., 2008; Bailey & De Propris, 2014; Bettiol et al., 2017). Over the last three decades, this model of organizing production has become the most widespread cost-saving strategy to survive in highly competitive markets, resulting in a dramatic loss of manufacturing firms and jobs in the most advanced economies (e.g., Di Mauro et al., 2018).

In the wake of the 2008 economic crisis, a counter trend involving a complex process of geographical reconfiguration of GVCs has emerged. A growing number of firms has started repatriating manufacturing activities that were previously offshored. This backward phenomenon, which is most commonly referred as to 'reshoring' or 'back-shoring' (Fratocchi et al., 2016), has been defined in broad terms as 'moving manufacturing back to the country of (the firm's) parent company' (Ellram, 2013). Although it is neither a widespread nor a consolidated trend, it has gained substantial momentum, drawing the increasing attention of international scholars, policy makers and economic press in several countries (Wiesmann et al.,

2017). A wealth of reshoring motivations has been identified by the literature. Some of these include the correction of previous erroneous location choices (e.g., poor performance at the offshore site) and changing conditions of low labour cost countries (e.g., exchange and labour rates, transportation costs, country-specific regulations). Other drivers are associated with evolving dynamics in industrialised countries, such as technological improvements or the growing importance of co-location of research, innovation and manufacturing (Fratocchi et al., 2016). The discourse on reshoring has been generally positioned within a broader debate on how to re-balance the economy through a combination of manufacturing, service activities and new technologies in the shift to Industry 4.0. In this regard, policy initiatives around reshoring, as those implemented in the US and the UK, have tried to promote such a reversal trend as a strategy to raise employment rates, support re-industrialization and foster local economic growth (De Backer et al., 2016; Vanchan et al., 2018).

Within the current phase of globalization, the strategic decision of where locating and sourcing production has become increasingly complex, involving many different dimensions and strongly contributing to the profitability and competitiveness of firms. Nowadays, there is growing awareness of the importance of combining local and global production networks to optimize the trade-off between cost savings and flexibility along the value chain (Macchion et al., 2015). As an example, firms may decide to manufacture products with a predictable demand in low-labour cost countries and draw upon domestic manufacturing for products requiring more intensive R&D and innovation activities. Hence, reshoring, in addition to the well-established offshoring strategy, represents a new viable option for reconfiguring supply networks and remain competitive in a continuously evolving global value chain (Johansson et al., 2018).

Despite the rising interest by the mass media in reshoring, this phenomenon is still on the making and therefore only partially investigated. The small body of research that has been

produced since 2007 has mainly focused on the definition of the phenomenon (Ellram, 2013; Fratocchi et al., 2016), its main motivations (Martínez-Mora & Merino, 2014; Wiesmann et al., 2017) and the establishment of its geographical boundaries (Vanchan et al., 2018). Scholars have addressed the phenomenon mostly drawing upon qualitative analysis (Bailey & De Propriis, 2014; Bettioli et al., 2017), and quantitative empirical evidence on the extent and motivations behind reshoring is scarce and fragmented. To date, there are huge difficulties in tracking manufacturing processes that have been reshored, due to lack of data in official statistical sources and to the ‘confidential’ nature of that strategy. Moreover, to the best of our knowledge, very little research has sought to explore this phenomenon through the lens of a global value chain approach. In fact, such a reversal trend is profoundly affecting contemporary GVCs through significant changes in terms of division of value across international and local boundaries, which certainly deserve further investigation.

The aim of the paper is to examine the dynamics, configuration and geography of a highly complex and geographically fragmented global value chain in this changing scenario characterised by the rising importance of the co-evolution of global and local production networks and the consequent restructuring of value chains in terms of supply networks, products and production systems. The focus is on the textile and apparel (T&A) industry which has a potential to move manufacturing back to the home countries, due to the rising significance of more flexible value chains. Moreover, the discourse on reshoring is particularly prominent in the UK, which over the last thirty years has experienced a dramatic loss of manufacturing firms and jobs and is therefore an ideal candidate for restoring domestic production of an industry symbolising historically the 1st industrial revolution from offshore locations. To date, only a few studies have looked at the globalization dynamics facing the textile and apparel industry in terms of offshoring and reshoring strategies from a GVC approach, and there is no

empirical research available on the specific UK context (Martínez-Mora & Marino, 2014; Macchion et al., 2015; Robinson & Hsieh, 2016; Pal et al., 2018).

More specifically, the paper seeks to answer the following research questions:

RQ1: What is the evolution and current significance of the UK textile and apparel production? Has the geography of production changed over time?

RQ2: What are the supply networks, products and production systems, as well as actors involved, competences and skills along this value chain?

RQ3: What is the extent of manufacturing offshoring and reshoring in the industry? Is there a correlation between particular factors (e.g., geography, size and characteristics of firms) and their propensity to offshore/reshore?

RQ4: What are the main factors driving firms to produce domestically, offshore and reshore?

The contribution of the paper is threefold and has both conceptual and policy implications. First, it contributes to a more comprehensive understanding of GVCs of traditional labour-intensive industries in terms of changes in the configuration and geography of supply networks driven by the most recent globalization dynamics. Second, it contributes to a more comprehensive understanding of the recent and still poorly investigated phenomenon of manufacturing reshoring, providing additional empirical evidence of this reversal trend in an under-researched industry and geographical context. Third, it raises key questions for academics and policy makers in relation to support for firms' internationalisation.

The paper is organised as follows. The first section provides a brief overview of the globalization dynamics facing the UK textile and apparel industry from a GVC approach, with a particular focus on offshoring, reshoring and the specific UK geographical context. The second section describes the data employed for the analysis and gives details on the

methodology. Preliminary empirical findings are discussed in the third section, whereas the last section interprets results in the broader contexts of changes affecting GVCs and provides details on the next stages of the research.

THE TEXTILE AND APPAREL INDUSTRY VALUE CHAIN

The textile and apparel industry can be regarded as the ideal candidate for reshoring (Wilkinson et al., 2015). It is one of the oldest, most globalised and leading export industries in the world, as well as a significant engine for economic growth. In particular, due to its low fixed costs, low technology-intensity and high labour-intensive manufacturing, it has been deeply affected by the global slicing up of production stages, a long term steady increase in offshore production, a serious loss of manufacturing jobs in Western countries and a consolidation at the retail end of the value chain (Macchion et al., 2015). The economic model involving the relocation of production overseas and the retention of high-value activities locally (e.g., design, innovation, marketing, branding) has become dominant in this type of industry and has gradually redrawn the boundaries of traditional fashion industrial districts typically located in advanced countries (Gereffi & Frederick, 2010; Fernandez-Stark., 2011; Leslie et al., 2014; Bettioli et al., 2017).

The GVC of the textile and apparel industry, defined as ‘buyer-driven’, is highly complex, geographically fragmented and characterised by large power asymmetries. Lead firms (e.g., retailers, marketers, branded manufacturers) have played a key role in the organization of global production, acting as strategic brokers in linking dispersed networks of overseas suppliers with product niches in final consumer markets (Bair & Gereffi, 2001; Gereffi & Memedovic, 2003; Pickles et al., 2015). Between 1974 and 2004, the ability of developing countries to enter the T&A industry was limited by a complex system of quotas on the volume of exported items. These trade restrictions, part of the Multi-Fibre Arrangement (MFA), were aimed at protecting

the domestic industries in Europe and the United States from highly competitive low-cost suppliers in developing countries such as China (Pickles and Godfrey, 2013; Soon & Yoon, 2014).

Later, the gradual removal of quota-constrained trade under the World Trade Organisation (WTO)'s Agreement on Textile and Clothing (ATC), in addition to changes in host countries' labour costs and the saturation of mature and traditional markets, have led to a rationalization and consolidation of the value chain through the development of longer-term relationships with a restricted number of more efficient and strategically located suppliers (Gereffi & Frederick, 2010; Pickles et al., 2015). The business model of fast fashion, which is based on quick turnaround times, lean manufacturing systems and globalised production networks, has added additional pressures not only for reducing manufacturing costs but also for favouring suppliers located in geographical areas close to the principal markets. Textile and apparel suppliers from developing economies have faced a growing competition, which has led many of these firms to upgrade production towards higher value-added activities in order to improve their position along the value chain and survive in a growingly competitive industry (Gereffi et al., 2005; Fernandez-Stark et al., 2011; Bettiol et al., 2017).

More recently, several trends like the growing importance of proximity with costumers, production control, flexibility, shorter lead times and skilled workers, together with the increased automation of low value processes and the rising concern for environmental and ethical standards, have further challenged the competitive advantage enjoyed by low-cost manufacturing suppliers, triggering a new reconfiguration of the textile and apparel value chain (Wilkinson et al., 2015; Di Mauro et al., 2018; Grappi et al., 2018). Domestic production in original home countries has become increasingly appealing and a growing number of firms have started returning some of their manufacturing activities to the home locations (Macchion et al., 2015). In this type of industry, the backward phenomenon has been particularly

intensified by the need for meeting a growingly sophisticated consumers' demand that searches for higher-quality and innovative, customised and crafted products, thus requiring more flexible, agile and responsive production networks (Pal et al., 2018; Robinson & Hsieh, 2016). The 'country of origin' and 'made-in effect' have become growingly important drivers for firms' competitiveness. Furthermore, the complexity of this value chain makes negotiation and coordination costs higher than in other industries, favouring shorter distances between design and manufacturing activities. Investments in manufacturing-integrated technologies (i.e. computer-aided design and modular systems) have also encouraged reshoring strategies in the industry (Macchion et al., 2015).

The decline of the UK textile and apparel industry: Towards a manufacturing regeneration?

The discourse on textile and apparel manufacturing reshoring is particularly prominent in the UK, where many initiatives have been recently promoted to encourage and support the revitalisation of domestic production. The T&C industry was at the heart of the industrial revolution that pushed the UK to the leadership of the global economic scenario in the late 18th and 19th century, representing for many decades one of the largest sources of employment in the country (Toms & Zhang, 2016). Starting from 1980s manufacturing in the sector has suffered a 'catastrophic' decline, with firms massively offshoring and outsourcing production to low-wage countries, particularly China, Bangladesh and India, and manufacturing jobs almost disappearing from the UK regions that were once the core of the industry (Evans & Smith, 2006). This decline was symbolically underlined by the decision of Marks & Spencer - one of the country's loyal retailers of British-made fashion - to licence production overseas in 1999 (Robinson & Hsieh, 2016). The removal of trade restrictions under the ATC further

intensified the collapse of the industry, which has particularly suffered from large differences in labour costs compared to newly industrialised countries specialised in labour-intensive sectors (Froud et al., 2017). Between 1980 and 2016, employment in the industry decreased from nearly 550,000 to 50,000 people (Office for National Statistics).

Nowadays, the UK has world leading capabilities in both fashion design and retailing but not in domestic apparel production. In 2018, the UK dominated the European ranking of top ten clothing retailers by turnover with six firms in the list (i.e., Marks and Spencer, Primark, Next, JD Sports, Arcadia and New Look). Manufacturing in the sector mainly consists of SMEs and micro businesses, 80% of which employing less than 10 people in 2016 (Froud et al., 2017). The UK textile and apparel industry is now characterised by a complex relationship between own brand retailers self-manufacturing or outsourcing/offshoring production, retailers selling designers' branded items, designers self-manufacturing or outsourcing/offshoring production, manufacturers producing for other designers/retailers or for their own brand through upgrading strategies, and a number of intermediaries (e.g., import/export agencies) sourcing from different suppliers in low cost countries, Europe and the UK (Gornostaeva & Barnes, 2015). The resulting highly globalised and fragmented industry has shown major difficulties in competing with countries with more consolidated production chains.

However, mass-market and high-end branded retailers as well as apparel brands have displayed a certain potential to backshore manufacturing activities (Robinson & Hsieh, 2016; UKFT, 2018). Several global brand owners (e.g., Barbour, Burberry, Mulberry) and large retailers (e.g., John Lewis, Marks & Spencer, River Island, Top Shop, Asos) have started moving parts of production back to the UK. A growing demand for UK-produced garments and 'made-in Britain' labelsⁱⁱⁱ, in addition to the recent decision of the country to leave the European Union, have strongly contributed to encouraging a reconfiguration of the textile and apparel value chain (The Economist, 2017). On the other hand, despite the growing attention to domestic

manufacturing, there are still significant barriers preventing the repatriation of textile and apparel production, such as a shortage of skilled workers, asymmetry between large retailers and micro manufacturing firms, and lack of adequate knowledge of local suppliers (The Alliance Project, 2017).

DATA AND METHODOLOGY

In order to disentangle such a novel, complex and multifaced phenomenon, an original and exploratory survey was designed to investigate the actual configuration of the UK textile and apparel industry in terms of supply networks, products and production systems, as well as the extent of domestic production, offshoring, reshoring and their main driving factors. The survey was designed in accordance with the general guidelines of survey research (Malhotra & Grover, 1998; Forza, 2002).

Using and cross-referencing different sources of data from the Orbis database published by Bureau van Dijk, other online databases from industry associations (i.e., British Fashion Council, UK Fashion and Textile Association and Make It British) and additional online information, a population of UK manufacturing firms, private label retailers and fashion designers was identified. Due to the explorative nature of the survey, we decided to target the entire population of interest to become more familiar with the topic. The target group of manufacturers and designers^{iv} consisted of the following 3-digit Standard Industrial Classification (SIC) categories: 13.1 Preparation and spinning of textile fibres, 13.2 Weaving of textiles, 13.3. Finishing of textiles, 14.1 Manufacture of wearing apparel, except fur apparel, 14.2 Manufacture of articles of fur, 14.3 Manufacture of knitted and crocheted apparel, 15.1 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness; dressing and dyeing of fur, 15.2 Manufacture of footwear (SIC 2007). The category 13.9

Manufacture of other textiles was excluded to focus the analysis on the fashion-related industry. Retailers were identified according to the 4-digit codes 47.71 Retail sale of clothing in specialised stores, 47.72 Retail sale of footwear and leather goods in specialised stores and 47.82 Retail sale via stalls and markets of textiles, clothing and footwear (SIC 2007). Two more conditions have been applied when defining the population of retailers/designers of interest: only retailers owning a private label and subsidiary companies controlled by a parent firm based in the UK were included. The definition of the final population, which is represented by 15,602 firms (4,040 manufacturers and 11,562 retailers), was strongly constrained by the difficulties in associating email addresses to firms from the available databases. According to official statistics from the Inter-Departmental Business Register (IDBR), manufacturing firms under the same SIC 2007 codes account for 5,825 whereas retailers for 14,415 firms (Office for National Statistics, 2019).

The survey areas were identified on the basis of the existing literature on the topic to ensure a high level of validity of the questions and was tailored to target both branded retailers/designers (lead firms) and manufacturing firms (suppliers). The on-line questionnaire covers firms' characteristics (e.g., year of establishment, size, turnover, market position and structure), type of products, organization and phases of production, ownership and supply chain relationships, offshoring strategies (e.g., offshore location, offshored products/production phases, service delivery model adopted, drivers) and planned or implemented reshoring initiatives (e.g., reshored products/production phases, re-entry mode). The section of the survey tailored for manufacturing firms includes also other questions on skills, competences, innovation-related activities, type and location of clients, minimum order quantity as well as Brexit. Moreover, all respondents have been asked to leave comments regarding the main difficulties and strengths of the industry, as well as suggestions for future policy initiatives.

Through Likert-scale questions based on perceptual measures assessed on a three-point scales, respondents have been asked to rate the importance of a variety of factors driving their decision of producing locally (whether a firm has never offshored) or reshoring manufacturing back to the UK (whether an offshoring strategy was implemented). These drivers have been identified on the basis of the existing literature on offshoring and reshoring motivations (Macchion et al., 2015; Wilkinson et al., 2015; Fratocchi et al., 2016; Di Mauro et al., 2018; Grappi et al., 2018; Pal et al., 2018) and have been grouped into four categories: cost-related factors (e.g., country-specific conditions, labour and transportation costs), quality-related factors (e.g., access to skills and knowledge, proximity to R&D activities, utilization of advanced machinery and technologies), productivity-related factors (e.g., operational flexibility, shorter lead times, control of supply chains) and other factors (e.g., environmental and social sustainability, economic and political factors, support from local institutions).

The survey was pre-tested with several industry experts and a sample of ten target respondents amongst manufacturing firms, retailers and designers to ensure the validity, quality and accuracy of the questionnaire. The pilot, which was conducted through face-to-face or telephone interviews, suggested only a few minor corrections. The survey distribution was supported and sponsored by the UK Fashion and Textile Association. Offline data collection was executed on 29th and 30th July 2019 during the Make It British event, a trade show that hosted many UK manufacturing firms from our population. Online data collection started in June 2019 and will last for four months. In order to accurately monitor the response rate, the survey was distributed electronically to randomized samples from the population of interest in different periods of time and non-respondents were solicited with three reminders. We asked that the survey was completed by entrepreneurs, production managers or employees in charge of supply chain management.

To date, 993 responses have been collected (358 are still uncompleted surveys from responses in progress), achieving a response rate of 6.4%, which is a reasonable percentage for an in-depth large-scale survey of this kind. Preliminary survey data are being examined through descriptive statistics, and logistic regression analyses will be then executed on the final sample to assess which factors affect the decision of producing locally or reshoring manufacturing back to the UK. Moreover, text mining techniques will be adopted to analyse the content of the large amount of text originating from open-ended questions. The final sample will be also tested for non-response bias by comparing responses (randomly selected) obtained at early stage and late stage of data collection using a t-test comparison of means (Armstrong & Overton, 1977; Lambert & Harrington, 1990). The final sample will be also compared to the entire population of firms and tested for Common Method Variance (CMV) using Harman's one factors test (Podsakoff et al., 2003).

In a later stage of the research, survey data will be complemented with micro-data on the UK textile and apparel industry collected from the Office for National Statistics^{vi} and analysed through the production of key temporal and spatial statistics and indicators to assess changes in the nature of manufacturing firms (e.g., foreign ownership, expenditures and investments, value of purchases of goods, materials, services and stocks, R&D activities, education and training of the labour force) and contribution of production to the national economy in the period from 1997 to 2017 (e.g., enterprises/local units, value of employment, GVA, imports/exports). Moreover, semi-structured interviews will be executed with managers or senior figures of lead firms from the sample that have implemented an offshoring/reshoring strategy as well as with representatives of industry associations, local governments and industry experts to further investigate the potential for manufacturing revitalisation and future opportunities for policy initiatives in support of domestic production.

PRELIMINARY RESULTS

In this section, we provide a descriptive analysis of the information collected on the preliminary sample. Due to missing values in the ‘responses in progress’, the analysis is based on 635 observations including 197 manufacturing firms and 438 retailers/designers. Figure 1 shows geo-located respondents from the preliminary sample. While manufacturers are mostly concentrated around the regions of London and North West, retailers are more evenly spread across the regions of London, South East, West Midlands and North West. This picture reflects the same geographical distribution of both manufacturers and retailers in the sectors as according to official statistics (ONS, 2019).

Table 1 summarises the main characteristics of the preliminary sample. Most manufacturing companies are micro firms, established in the 1990s and earlier, with less than 10 employees and an annual turnover lower than £2 million. The majority of retailers in the sample, that are mostly represented by micro fashion retailers and independent designers with an annual turnover lower than £2 million, focus on product design, development and delivery of womenswear apparel positioned in the middle and premium market. Concerning the distribution of firms from the sample skewed towards micro firms, we can observe that data from IDBR show that 82% of manufacturers and 90% of retailers under the same SIC 2007 codes are represented by micro firms (ONS, 2019).

Insert table 1 around here

Manufacturing firms, which are mainly specialised in the production of textiles and high-end womenswear and menswear apparel, focus on the activities of product design and sample development, in addition to prototype preparation and garment making (Table 2). Most of these

firms define themselves as Original Design Manufacturers (ODM) and Cut Make Trim (CMT) manufacturers and indicate product quality as their main source of competitive advantage. The majority of firms have a low Minimum Order Quantity (MOQ) (less than 10 units), supply UK-based independent fashion designers and retailers and have never outsourced phases of production process to external domestic manufacturers. Their innovation-related investments are mainly focused on the acquisition of new machinery and equipment, as well as on design and products.

The majority of the respondent firms, over the last years, have experienced an increase both in production and in UK clients that were previously sourcing production from suppliers mainly located in Asia (particularly China) but also United Kingdom. The increase in production has mostly been attributed to the growing awareness of quality, innovativeness and sustainability of UK-based manufacturing, shorter lead times in producing domestically, and higher agility and flexibility of production processes. However, most firms report that they are already facing the negative consequences of Brexit in terms of market uncertainty, increased price of imported raw materials, higher levels of inventory from stockpiling, and lower orders from international clients. Some firms claim to have seen an increase in orders from UK retailers, which have started bringing manufacturing back to the UK in order to shelter from future negative repercussions.

Insert table 2 around here

Table 3 provides information on firms that offshored phases of production since their establishment. Amongst manufacturing firms (24% of total manufacturers) and retailers/designers (43% of total retailers/designers) that implemented an offshoring strategy, the majority outsourced the phases of garment making to Asia and Oceania (mainly China), due

to easier access to skills and knowledge as well as labour costs savings. Regarding the service delivery model adopted for the offshoring implementation, manufactures and retailers/designers have mostly relied upon local third-party providers offshore.

Insert table 3 around here

Amongst the firms that offshored phases of production, only 21% of manufacturers and 23% of retailers/designers have planned or implemented a reshoring strategy. Retailers/designers mostly brought back to the UK the production phases of garment making, pressing/finishing/packaging and sample development by both using own domestic facilities and outsourcing these phases to other domestic manufacturers. The main consequences of these reshoring strategies have been an increase in product quality and innovation-related activities, whereas 32% of this group has not implemented the strategy yet. The majority of manufacturers that reshored production brought back the phase of garment making by using their own domestic facilities, and this choice seems to have mainly affected the quality of their products.

Insert table 4 around here

Results of Likert-scale questions asking respondents to rate the importance of a variety of factors driving their decision of producing locally (Table 5) show that both manufacturers and retailers rate as the most important factors for producing or outsourcing manufacturing locally the brand's reputation through the Made-in-Britain image, followed by shorter lead times and the possibility of monitoring production. Access to skills and knowledge, lower purchase order rigidity and environmental and social sustainability are also perceived as significant drivers of domestic production. Manufacturers also consider the possibility of developing their own brand

as well as product innovation, higher quality and customisation as important factors for retaining the entire production process locally. Both manufacturers and retailers regard as scarcely important the proximity to universities and research centres, which is the less significant factor driving their decision of producing in the UK. The support from local governments and labour cost conditions in low-labour cost countries are evaluated as not very significant by manufacturers. A similar picture emerges from respondents that have planned or implemented a reshoring strategy (Table 6).

Insert table 5 around here

Insert table 6 around here

DISCUSSION AND CONCLUSIONS

The descriptive analysis of the preliminary sample provides a first overview of the configuration of the UK textile and apparel value chain in terms of local/global supply network, main actors involved and their relationships, as well as the new changing dynamics facing the industry under observation. Most manufacturers included in the sample are represented by micro firms producing high-end products, operating through CMT and ODM models and requiring minimum orders of less than 10 units to meet the needs of the large number of micro independent fashion designers and retailers populating the industry. Offshoring has mainly been implemented by lead firms, which in the sample are represented by small retailers and fashion designers that moved phases of production offshore to gain better access to raw materials and for labour cost savings. Few manufacturing firms have planned or implemented a reshoring

strategy, whereas there is an increase in UK-based retailers/designers that are now shifting to some extent their supply networks from foreign to domestic manufacturing firms. The growing importance of a Made-in-Britain image, productivity-related factors, access to skills and knowledge and environment and social sustainability, which are perceived as the main strengths of domestic manufacturing, point to a potential revitalisation of domestic manufacturing. The Brexit uncertainty seems to have further encouraged domestic retailers and designer to move production back to the UK.

This is only a tentative picture emerging from a preliminary sample of our population of interest. Respondents leaving uncompleted surveys and non-respondent firms with more than 50 employees will be solicited by telephone to further raise the response rate. In addition to descriptive statistics, regression analyses will be run on the final sample of firms to explore which factors affect the decision of solely producing domestically, offshoring and reshoring. Micro-data on the UK textile and apparel industry will be analysed through the production of key statistics and indicators to assess changes in the nature and value of manufacturing firms over time. Moreover, semi-structured interviews will be carried out with representatives of key firms from the population, industry associations, local governments and industry experts to further investigate the potential for a manufacturing renaissance and opportunities for policy initiatives in support of domestic production.

- i In the US, over 576,000 jobs have been brought back home from offshore since 2010 (Reshoring Initiative, 2018), whereas the potential value of reshoring to the UK was estimated at 15.3 billion of GDP and 315,000 jobs and has become even more important with Brexit (Wilkinson et al., 2015).
- ii Most of them have shifted from low-value and high-volume Cut Make Trim (CMT) assembly models to more integrated forms of manufacturing like Original Equipment Manufacturing (OEM), Original Design Manufacturing (ODM) and Original Branding Manufacturing (OBM), which respectively include full-package production, design development and branding (Gereffi & Frederick, 2010).
- iii The 'Made in Britain' label has become particularly attractive to consumers from Japan, China and Qatar and now represents an important selling point for designers and retailers focusing on high quality, authenticity and tradition in fashion. In the wake of a revival of the country brand, several UK retailers such as John Lewis, Debenhams and Marks & Spencer have recently launched their 'made-in Britain' ranges (Froud et al., 2017).
- iv To date, there are no SIC codes associated with fashion design activities, that are included amongst the SIC 2007 categories dedicated to textile and apparel manufacturing (13, 14 and 15) (DCMS, 2016).
- v The first question of the survey directs respondents to different sets of questions according to the nature of their firm (i.e., manufacturer or branded retailer/designer).
- vi Data will be retrieved from the Business Structure Database (1997-2017), Annual Respondents Database (1973-2008), Annual Business Survey (2008-2016), UK Innovation Survey (1994-2016), Business Expenditure on Research and Development (1994-2016) and Quarterly Labour Force Survey (1992-2018).

REFERENCES

- Armstrong, J. S., & Overton, T.S. 1977. Estimating nonresponse bias in mail surveys. *J. Market. Res.*, 14 (3), 396-402.
- Bailey, D., & De Propriis, L. 2014. Manufacturing reshoring and its limits: the UK automotive case. *Cambridge Journal of Regions, Economy and Society*, 7: 379-395.
- Bair, J., & Gereffi, G. 2001. Local clusters in global chains: The causes and consequences of export dynamism in Torreon's blue jeans industry. *World Development*, 29 (11): 1885- 1903.
- Bettiol, M., Burlina, C., Chiarvesio, M., & Di Maria, E. 2017. From delocalization to backshoring? Evidence from Italian industrial districts. *Journal of Regional Research*, 39: 137-154.
- Coe, N.M., Dicken, P., & Hess, M. 2008. Global production networks: realizing the potential. *Journal of Economic Geography*, 8 (3), 271-295. coming-back-capability-and-precarity-in-uk-textiles-and-apparel-march-2017.pdf. Accessed 7th January 2019.
- De Backer, K., Menon, C., Desnoyers-James, I., & Moussiégt, L. 2016. Reshoring: Myth or Reality? OECD Science, Technology and Industry Policy Papers, No. 27, OECD Publishing, Paris. <https://doi.org/10.1787/5jm56frbm38s-en>. Accessed 11th December 2018.
- Department for Culture, Media and Sport (2016) DCMS Sector Economic Estimates. London: Department for Culture, Media and Sport (DCMS). <https://www.gov.uk/government/statistics/dcms-sectors-economic-estimates-2016>. Accessed 28th October 2016.
- Di Mauro, C., Fratocchi, L., Orzes, G., & Sartor, M. 2018. Offshoring and backshoring: A multiple case study analysis. *Journal of Purchasing and Supply Management*, 24: 108-134.
- Ellram, L.M. 2013. Offshoring, reshoring and the manufacturing location decision. *Journal of Supply Chain Management*, 49 (2): 3-5.
- Ernst, D., & Kim, L., 2002. Global production networks, knowledge diffusion, and local capability formation. *Research Policy*, 31(8): 1417-1429.
- Evans, Y., & Smith, A. 2006. Surviving at the margins? Deindustrialization, the creative industries, and upgrading in London's garment sector. *Environment and Planning A: Economy and Space*, 38 (12): 2253-2269.
- Fernandez-Stark, K., Frederick, S., & Gereffi, G. 2011. The apparel global value chain. Economic upgrading and workforce development. Center on Globalization, Governance & Competitiveness, Duke University.
- Forza, C. 2002. Survey research in operations management: a process-based perspective. *Int. J. Oper. Prod. Manage*, 22 (2): 152-194.
- Fratocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M. & Zanoni, A. 2016. Motivations of manufacturing reshoring: an interpretative framework. *International Journal of Physical Distribution & Logistics Management*, 46 (2): 98-127.
- Froud, J., Haves, S., Wei, H., & Williams, K. 2017. Coming back? Capability and precarity in the UK textiles and apparel. <https://foundationaleconomycom.files.wordpress.com/2017/02/>.
- Gereffi, G. 1994. The organization of buyer-driven global commodity chains: how US retailers shape overseas production networks. In: G. Gereffi & M. Korzeniewicz (Eds.), *Commodity Clains and Global Capitalism*: 95-122. Praeger, Westport.

- Gereffi, G. and Frederick, S. 2010. The global apparel value chain, trade, and the crisis: Challenges and opportunities for developing countries. Policy Research Working Paper No. 5281, World Bank. <http://documents.worldbank.org/curated/en/100641468339015732/The-global-apparel-value-chain-trade-and-the-crisis-challenges-and-opportunities-for-developing-countries> Accessed 12th March 2018.
- Gereffi, G., & Fernandez-Stark, K. 2011. *Global Value Chain Analysis: A primer*. Durham, NC: Center on Globalization, Governance and Competitiveness (CGGC), Duke University.
- Gereffi, G., & Memedovic, O. 2003. The global apparel value chain: What prospects for upgrading by developing countries? Sectorial studies series Vienna: United Nations Industrial Development Organization (UNIDO). <http://www.ids.ac.uk/ids/global/pdfs/AppareF1.pdf>. Accessed 24th February 2018.
- Gereffi, G., Humprey, J., & Sturgeon, T. 2005. The governance of global value chains. *Review of International Political Economy*, 12: 78-104.
- Gornostaeva, G., & Barnes, D. 2015. Offshoring and Backshoring in the British Fashion and Apparel Industry: A Literature Review. 20th International Symposium on Logistics: Reflections on Supply Chain Research and Practice. Bologna, Italy, July 2015, Centre for Concurrent Enterprise.
- Grappi, S., Romani, S., & Bagozzi, R.P. 2018. Reshoring from a demand-side perspective: Consumer reshoring sentiment and its market effects. *Journal of World Business*, 53: 194-208.
- Johansson, M., Olhager, J., Jussi Heikkilä., & Stentoft, J. (2018). Offshoring versus backshoring: Empirically derived bundles of relocation and their relationship with benefit. *Journal of Purchasing and Supply Management*, 25 (3): 1-9.
- Lambert, D.M., & Harrington, T.C. 1990. Measuring non response bias in customer service mail surveys. *J. Bus. Logist*, 11 (2): 5-25.
- Leslie, D., Brail, S., & Hunt, A.M. 2014. Crafting an antidote to fast fashion: The case of Toronto's independent fashion design sector. *Growth and Change*, 45 (2): 222-239.
- Macchion, L., Moretto, A., Caniato, F., Caridi, M., Danese, P., & Vinelli, A. 2015. Production and supply network strategies within the fashion industry. *Int. J. Production Economics*, 163: 173-188.
- Malhotra, M.K., & Grover, V. 1998. An assessment of survey research in POM: from constructs to theory. *J. Oper. Manag.*, 16 (4), 407-425.
- Martinez-Mora, C., & Merino, F. 2014. Offshoring in the Spanish footwear industry: A return journey? *Journal of Purchasing and Supply Management*, 20: 225-237.
- Pal, R., Harper, S., & Vellesalu, A. 2018. Competitive manufacturing for reshoring textile and clothing supply chains to high-cost environment. *The International Journal of Logistics Management*, 29 (4): 1147-1170.
- Pickles, J. and Godfrey, S. 2013 Economic and social upgrading in global apparel production networks. Capturing the Gains, Revised Summit Briefing No 6.2. http://www.capturingthegains.org/pdf/ctg_briefing_note_6.2.pdf. Accessed 12th March 2018.
- Pickles, J., Plank, L., Staritz, C., & Glasmeier, A. 2015. Trade policy and regionalisms in global clothing production networks. *Cambridge Journal of Regions, Economy, and Society*, 8 (3): 381-402.

Podsakoff, P.M., MacKenzie, S. B., Lee, J.Y., Podsakoff, N.P. 2003. Common method biases in behavioural research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88 (5), 879-903.

Robinson, P.K., & Hsieh, L. 2016. Reshoring: a strategic renewal of luxury clothing supply chains. *Operations Management Research*, 9 (3-4): 89-101.

Son, Y. M., & Yoon, N. 2014. Paradigm change in the Asian fashion industry: in terms of production, consumption, and trade. *International Journal of Human Ecology*, 15(2): 1-12.

The Alliance Project and NBrown – National Textiles Growth Programme. Realising the growth potential of UK fashion and textile manufacturing. <http://www.ltma.co.uk/wp-content/uploads/2017/05/The-Final-Alliance-Project-Report-Oct-2012-to-May-2017.pdf>. Accessed 16th January.

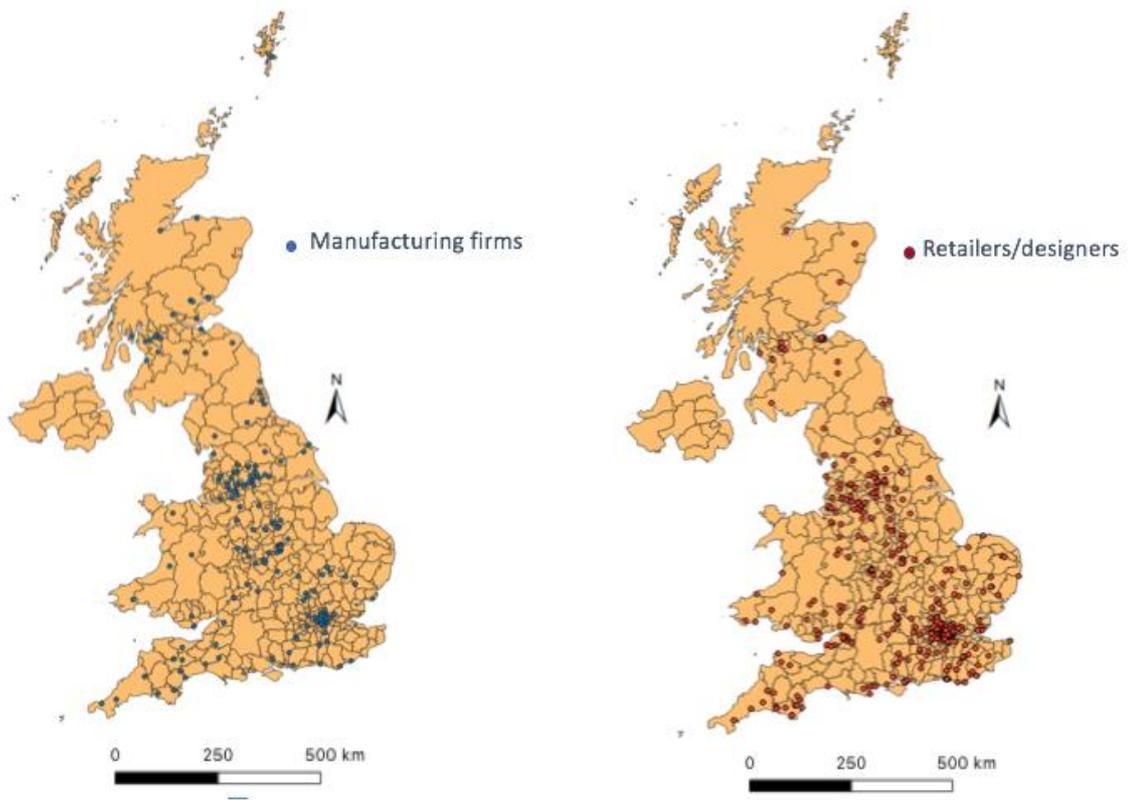
Toms, S., & Zhang, Q. 2016. Marks & Spencer and the Decline of the British Textile Industry, 1950-2000. *Business History Review*, 90 (1): 3-30.

Vanchan, V., Mulhall, R., & Bryson, J. 2018. Repatriation or reshoring of manufacturing to the U.S. and UK: Dynamics and global production networks from here to there and back again. *Growth and Change*, 49 (1): 97-121.

Wiesmann, B., Snoei, J.W., Hilletoft, P., & Eriksson, D. 2017. Drivers and barriers to reshoring: a literature review on offshoring in reverse. *European Business Review*, 29 (1): 15-42.

Wilkinson, S., Gregory, M., & Arnold, P. 2015. *Reshoring manufacturing: The economic opportunity for the UK to reshore and the implications for Government and businesses*. London: Ernst & Young.

Figure 1 – Geo-located respondents from the preliminary sample



Source: Authors' own elaboration

Table 1 – Preliminary sample’s characteristics: manufacturing firms and retailers/designers

Variable	Category	Manufacturing firms (N=197)	Retailers/Designers (N=438)
		Percent Frequency	Percent Frequency
Year of establishment	1990s and earlier	57.87 (114)	24.66 (108)
	2000 - 2009	17.26 (34)	20.32 (89)
	2010 - 2014	14.21 (28)	19.41 (85)
	2015 - 2018	10.66 (21)	35.62 (156)
Number of employees	0 - 9 (micro)	53.81 (106)	86.30 (378)
	10 - 49 (small)	30.46 (60)	11.87 (52)
	50 - 249 (medium)	13.20 (26)	0.68 (3)
	250 + (large)	2.53 (5)	1.14 (5)
Annual turnover (in GBP)	≤ 2 (million)	75.63 (149)	93.84 (411)
	3 - 9 (million)	16.24 (32)	3.88 (17)
	10 - 49 (million)	6.60 (13)	0.46 (2)
	50 + (million)	1.53 (3)	1.83 (8)
Typology of products	Womenswear	13.39 (139)	18.42 (313)
	Menswear	12.04 (125)	11.18 (190)
	Childrenswear	7.51 (78)	6.30 (107)
	Textiles	8.29 (86)	5.18 (88)
	Apparel	9.92 (103)	14.77 (251)
	Underwear	1.25 (13)	3.41 (58)
	Outwear	5.78 (60)	7.53 (128)
	Bridalwear	1.64 (17)	3.53 (60)
	Footwear	0.96 (10)	6.47 (110)
	Leather goods	2.50 (26)	4.71 (80)
	Accessories	5.68 (59)	11.71 (199)
	Sportswear	3.47 (36)	4.24 (72)
	Swimwear	1.73 (18)	2.53 (43)
	Other	4.72 (49)	-
Typology of company	Retailer	-	21.68 (95)
	Independent Designer	-	23.06 (101)
	Boutique	-	13.47 (59)
	Fashion House	-	2.51 (11)
	Brand manufacturer	-	11.64 (51)
	Other	-	27.63 (121)
In-house functions/processes	Fibres to yarns	2.07 (19)	-
	Yarns to fabrics	5.98 (55)	-
	Colouring and finishing	4.78 (44)	-
	Textile inspection and evaluation	7.93 (73)	-
	Product design and development	15.76 (145)	23.71 (307)
	Prototype preparation	11.30 (104)	11.89 (154)
	Sample development	15.33 (141)	13.28 (172)
	Garment making	12.07 (111)	9.73 (126)
	Pressing/finishing/packaging	11.52 (106)	13.44 (174)
	Product delivery	11.74 (108)	20.31 (263)
	Other	1.52 (14)	7.64 (99)
Market position	Mass-market	12.69 (25)	6.16 (27)
	Accessible/Middle-market	37.06 (73)	38.58 (169)
	Premium	-	33.56 (147)
	High-end	50.25 (99)	21.69 (95)

Source: Authors’ own elaboration

Table 2 - Preliminary sample's characteristics: manufacturing firms

Variable	Category	Manufacturing firms (N=197)	
		Percent	Frequency
Production model adopted	Cut Make and Trim Manufacturing	20.30	(40)
	Full Production Package	12.18	(24)
	Original Design Manufacturing	38.07	(75)
	Original Brand Manufacturing	14.72	(29)
	Other	14.72	(29)
Source of competitive advantage	Product quality	24.81	(167)
	Product or process innovation	12.04	(81)
	Efficiency	10.85	(73)
	Short lead times	16.64	(112)
	Specialised production	19.17	(129)
	Ethical and sustainable production	13.52	(91)
	Other	2.97	(20)
Type of innovation-related investments	Acquisition of machinery and equipment	15.74	(99)
	Acquisition of other external knowledge	4.13	(26)
	Design	14.79	(93)
	Training	8.74	(55)
	Marketing	7.79	(49)
	Materials	13.20	(83)
	Brand	7.47	(47)
	Distribution	2.86	(18)
	Product	14.79	(93)
	R&D	9.54	(60)
	Other	0.95	(6)
Minimum order quantity	1 - 9	48.22	(95)
	10 - 24	9.14	(18)
	25 - 49	2.54	(5)
	50 - 99	8.63	(17)
	100 - 249	6.60	(13)
	+ 250	8.63	(17)
	Metres	16.24	(32)
UK-based clients	Yes	45.69	(90)
	No	0.51	(1)
	Both UK and internationally	53.81	(106)
Outsourced production	Yes	30.46	(60)
	No	69.54	(137)
Increase in UK-based clients over the last years	Yes	56.35	(111)
	No	43.65	(86)
Previous manufacturing location of these clients	Asia and Oceania (without China)	10.27	(19)
	China	20.54	(38)
	Eastern Europe	12.97	(24)
	Latin America and Caribbean	1.08	(2)
	Middle East and North Africa	1.08	(2)
	North America	2.70	(5)
	Western Europe	11.89	(22)
	United Kingdom	19.46	(36)
	Don't know	20.00	(37)
Increase in production over the last years	Yes	53.58	(115)
	No	41.62	(82)
Impact of Brexit	Yes	60.91	(120)
	No	39.09	(77)

Source: Authors' own elaboration

Table 3 - Offshoring in the preliminary sample

Variable	Category	Manufacturing firms (N=197)	Retailers/Designers (N=438)
		Percent Frequency	Percent Frequency
Offshored production	Yes	23.86 (47)	42.69 (187)
	No	76.14 (150)	57.31 (251)
Functions/processes offshored	Fibres to yarns	5.59 (9)	5.53 (42)
	Yarns to fabrics	11.80 (19)	8.29 (63)
	Colouring and finishing	9.94 (16)	10.13 (77)
	Textile inspection and evaluation	8.07 (13)	6.58 (50)
	Product design and development	4.35 (7)	5.92 (45)
	Prototype preparation	7.45 (12)	10.13 (77)
	Sample development	11.80 (19)	15.13 (115)
	Garment making	19.25 (31)	19.87 (151)
	Pressing/finishing/packaging	13.04 (21)	12.24 (93)
	Product delivery	6.83 (11)	5.79 (44)
	Other	1.86 (3)	0.39 (3)
	Host country	Asia and Oceania (without China)	25.71 (18)
China		31.43 (22)	24.73 (70)
Eastern Europe		18.57 (13)	14.13 (40)
Western Europe		15.71 (11)	20.85 (59)
Latin America and Caribbean		2.86 (2)	1.77 (5)
Middle East and North Africa		5.71 (4)	4.24 (12)
North America		-	1.77 (5)
Sub-Saharan Africa		-	1.77 (5)
Offshoring motivations	Access to skills and knowledge offshore	25.93 (28)	27.53 (128)
	Labour cost savings	34.26 (37)	26.24 (122)
	Trade facilitations	5.56 (6)	6.67 (31)
	Country-specific conditions	6.48 (7)	5.38 (25)
	Access to new markets for products and services	1.85 (2)	2.37 (11)
	Access to raw materials	9.26 (10)	14.19 (66)
	Access to advanced machinery and equipment	9.26 (10)	10.54 (49)
	Risk diversification	2.78 (3)	1.72 (8)
	Other	4.63 (5)	5.38 (25)
Service delivery model adopted	Captive	18.97 (11)	22.47 (51)
	Outsourced to an international third-party provider offshore	22.41 (13)	20.26 (46)
	Outsourced to a local third-party provider offshore	32.76 (19)	29.96 (68)
	Partnering	15.52 (9)	10.57 (24)
	Through intermediaries like trading agencies	5.17 (3)	13.22 (30)
	Other	5.17 (3)	3.52 (8)

Source: Authors' own elaboration

Table 4 - Reshoring in the preliminary sample

Variable	Category	Manufacturing firms that have offshored (N=47)	Retailers/Designers that have offshored (N=187)
		Percent Frequency	Percent Frequency
Planned/implemented reshoring	Yes	21.28 (10)	22.99 (43)
	No	78.72 (37)	77.01 (144)
Functions/processes reshored	Fibres to yarns	4.55 (1)	1.84 (3)
	Yarns to fabrics	-	4.91 (8)
	Colouring and finishing	-	7.98 (13)
	Textile inspection and evaluation	-	4.91 (8)
	Product design and development	9.09 (2)	9.82 (16)
	Prototype preparation	9.09 (2)	7.98 (13)
	Sample development	9.09 (2)	11.04 (18)
	Garment making	36.36 (8)	22.09 (36)
	Pressing/finishing/packaging	18.18 (4)	12.88 (21)
	Product delivery	9.09 (2)	9.82 (16)
	Entire manufacturing plant	-	4.91 (8)
	Other	4.55 (1)	1.84 (3)
	Re-entry mode	Owned domestic-based facilities	80.00 (8)
Outsourced		20.00 (2)	48.84 (21)
Consequences of reshoring	Increase in levels of production	-	8.45 (6)
	Increase in product quality	38.46 (5)	21.13 (15)
	Recruitment of new skilled workforce	15.38 (2)	8.45 (6)
	Investments in new competences and skills	7.69 (1)	11.27 (8)
	Increase in innovation-related activities	7.69 (1)	15.49 (11)
	Acquisition of new clients	15.38 (2)	7.04 (5)
	Not implemented yet	-	19.72 (14)
	Other	15.38 (2)	8.45 (6)

Source: Authors' own elaboration

Table 5 – Likert scale responses in the preliminary sample: drivers and barriers to domestic production

Type of drivers/barriers	Drivers and barriers to produce domestically (Three point Likert scale - Level of importance)	Manufacturing firms that have never offshored (N=150)					Retailers/Designers that have never offshored (N=251)				
		Percent			Mean	Std. Dev.	Percent			Mean	Std. Dev.
		Low	Mod.	High			Low	Mod.	High		
Cost-related factors	Country-specific conditions	42.00	32.00	26.00	1.84	0.81	25.90	34.66	39.44	2.14	0.80
	Coordination, transaction and logistic costs	33.33	32.00	34.67	2.01	0.82	23.11	36.65	40.24	2.17	0.78
	Wages, energy and transportation costs in low-labour cost countries	53.33	29.33	17.33	1.64	0.76	36.25	36.25	27.49	1.91	0.79
Quality-related factors	Access to skills and knowledge	18.00	28.67	53.33	2.35	0.77	23.90	29.88	46.22	2.22	0.81
	Proximity to R&D activities and product development	33.33	34.00	32.67	1.99	0.81	37.45	33.07	29.48	1.92	0.81
	Proximity to universities and research centres	66.00	26.00	8.00	1.42	0.64	66.53	25.10	8.37	1.42	0.64
	Threat of losing know-how and intellectual property	34.67	32.67	32.67	1.98	0.82	38.25	29.48	32.27	1.94	0.84
	Utilization of advanced machinery, equipment and technologies	42.00	33.33	24.67	1.83	0.80	46.61	35.46	17.93	1.71	0.75
	Product innovation, higher-quality and customisation	18.67	31.33	50.00	2.31	0.77	28.69	29.08	42.23	2.14	0.83
	Development of your own brand	22.67	20.00	57.33	2.35	0.82	-	-	-	-	-
	Collaboration with home market suppliers, customers and strategic stakeholders	18.67	34.67	46.67	2.28	0.76	30.68	33.47	35.86	2.05	0.81
	Brand's reputation through Made-In-Britain image	9.33	19.33	71.33	2.62	0.65	16.33	22.71	60.96	2.45	0.76
Productivity-related factors	Operational flexibility and responsiveness	15.33	32.67	52.00	2.37	0.73	20.32	39.04	40.64	2.20	0.75
	Lower purchase order rigidity	20.00	22.67	57.33	2.37	0.80	15.14	26.69	58.17	2.43	0.74
	Shorter lead times, delivery reliability and lower inventory levels	14.00	23.33	62.67	2.49	0.73	15.94	27.89	56.18	2.40	0.75
	Control of supply chains and monitoring of production	14.00	23.33	62.67	2.49	0.73	19.52	23.51	56.97	2.37	0.79
Other factors	Political, financial and economic factors	39.33	39.33	21.33	1.82	0.76	31.47	33.47	35.06	2.04	0.81
	Environmental and social sustainability	15.33	32.67	52.00	2.37	0.73	20.32	24.30	55.38	2.35	0.80
	Physical and cultural proximity	24.00	37.33	38.67	2.15	0.78	27.09	40.24	32.67	2.06	0.77
	Availability of infrastructure	25.33	48.00	26.67	2.01	0.72	35.06	42.23	22.71	1.88	0.75
	Support from local institutions	48.67	35.33	16.00	1.67	0.73	39.84	33.07	27.09	1.87	0.81

Source: Authors' own elaboration

Table 6 – Likert scale responses in the preliminary sample: drivers and barriers to reshoring

Type of drivers/barriers	Drivers and barriers to reshore production (Three point Likert scale - Level of importance)	Manufacturing firms that have planned or implemented reshoring (N=10)					Retailers/Designers that have planned or implemented reshoring (N=43)				
		Percent					Percent				
		Low	Mod.	High	Mean	Std. Dev.	Low	Mod.	High	Mean	Std. Dev.
Cost-related factors	Country-specific conditions	30.00	50.00	20.00	1.90	0.70	32.56	30.23	37.21	2.05	0.83
	Coordination, transaction and logistic costs	40.00	20.00	40.00	2.00	0.89	16.28	44.19	39.53	2.23	0.71
	Wages, energy and transportation costs in low-labour cost countries	40.00	30.00	30.00	1.90	0.83	41.86	34.88	23.26	1.81	0.79
Quality-related factors	Access to skills and knowledge	20.00	0.00	80.00	2.60	0.80	16.28	32.56	51.16	2.35	0.74
	Proximity to R&D activities and product development	40.00	50.00	10.00	1.70	0.64	16.28	37.21	46.51	2.30	0.73
	Proximity to universities and research centres	50.00	40.00	10.00	1.60	0.66	65.12	23.26	11.63	1.47	0.69
	Threat of losing know-how and intellectual property	60.00	20.00	20.00	1.60	0.80	37.21	27.91	34.88	1.98	0.85
	Utilization of advanced machinery, equipment and technologies	50.00	30.00	20.00	1.70	0.78	37.21	44.19	18.60	1.81	0.72
	Product innovation, higher-quality and customisation	40.00	20.00	40.00	2.00	0.89	9.30	37.21	53.49	2.44	0.66
	Development of your own brand	50.00	30.00	20.00	1.70	0.78	16.28	41.86	41.86	2.26	0.72
	Collaboration with home market suppliers, customers and strategic stakeholders	50.00	20.00	30.00	1.80	0.87	23.26	39.53	37.21	2.14	0.76
	Brand's reputation through Made-In-Britain image	40.00	30.00	30.00	1.90	0.83	13.95	32.56	53.49	2.40	0.72
Productivity-related factors	Operational flexibility and responsiveness	40.00	40.00	20.00	1.80	0.75	9.30	23.26	67.44	2.58	0.66
	Lower purchase order rigidity	30.00	50.00	20.00	1.90	0.70	9.30	25.58	65.12	2.56	0.66
	Shorter lead times, delivery reliability and lower inventory levels	40.00	30.00	30.00	1.90	0.83	6.98	23.26	69.77	2.63	0.61
	Control of supply chains and monitoring of production	30.00	10.00	60.00	2.30	0.90	4.65	25.58	69.77	2.65	0.57
Other factors	Political, financial and economic factors	50.00	10.00	40.00	1.90	0.94	30.23	39.53	30.23	2.00	0.78
	Environmental and social sustainability	40.00	30.00	30.00	1.90	0.83	13.95	37.21	48.84	2.35	0.71
	Physical and cultural proximity	50.00	40.00	10.00	1.60	0.66	13.95	44.19	41.86	2.28	0.69
	Availability of infrastructure	40.00	30.00	30.00	1.90	0.83	20.93	39.53	39.53	2.19	0.76
	Support from local institutions	40.00	20.00	40.00	2.00	0.89	46.51	34.88	18.60	1.72	0.76

Source: Authors' own elaboration