LUISS

Dipartimento di International Business

Cattedra
Entrepreneur innovation and technology

OFFSHORING, RESHORING AND AGRICULTURAL ECONOMY IN ITALY

Prof. Giuseppe D'Alessandro
_____
RELATORE

Prof. Emanuele Viglierchio
_____
CORRELATORE

Francesco Mikhael 250621
_____
CANDIDATO

Anno Accademico 2022 - 2023

INDEX

INTRODUCTION

After decades of implementing manufacturing offshoring strategies, in the last few years, companies have been critically evaluating their earlier location decisions. Due to a variety of motivations (Fratocchi et al. 2016; Srai and Ane 2016; Barbieri et al. 2018), companies are modifying these decisions, thus relocating activities either to their home country (Relocation to the Home Country, RHC) or to a third country (Relocation to a Third Country, RTC), different from the previous one (Barbieri et al. 2019). Moving back to the home country is not an easy journey. In fact, depending on the specific choices made by the firm over the previous offshoring period (Johansson and Olhager 2018), many things might have changed in the home country over time and the firm might not be ready to undertake such a journey (Nujen and Halse 2017; Nujen et al. 2018b, a). To add difficulty, even if researchers have dug into the reasons that drive a company to relocate to the home country, little is known about how companies take such decision and the difficulty they face along with its implementation (Barbieri et al. 2018; Boffelli and Johansson 2020; Boffelli et al. 2020).

Reshoring (alternatively called in literature as "backreshoring" or "back-shoring") has been defined as "a voluntary corporate strategy regarding the home-country partial or total relocation of (in-sourced or out-sourced) production to serve local, regional, or global demands" (Fratocchi et al. 2014; Barbieri et al. 2019). This recent phenomenon has been increasingly attracting scholars (for detailed literature reviews we refer to Stentoft et al. 2016; Wiesmann et al. 2017; Barbieri et al. 2018). Many scholars recognize a major differentiation between reshoring decisions assumed as a result of a "strategic shift" (Baraldi et al. 2018; Di Mauro et al. 2018), triggered by changes either in the external or internal environment (Martinez- Mora and Merino 2014; Fratocchi et al. 2016), and the ones made as a reaction to a "managerial mistake" (Kinkel and Maloca 2009; Ellram et al. 2013; Kinkel 2014). However, while several works have provided cases of decisions due to changes in the overall strategy, no study has yet considered cases of failure of previous relocation decisions. This is due to the difficulty in getting access to information related to unsuccessful decisions since companies are often not much willing to share their bad experiences. Nevertheless, the analysis of the unsuccessful cases, as well as their

comparison with successful ones, can be extremely helpful to shed new light on the reshoring phenomenon and to develop useful managerial implications (Silva and Silva 2012).

Starting from these premises, this paper aims to explore the kind of mistakes that companies can do when addressing a relocation decision.

Specifically, we aim to:

i) understand what types of mistakes, committed by the people involved in the reshoring process (independently of their role within the company), can occur along with the relocation processes – i.e., both offshoring and reshoring –

ii) whether the mistakes occurred in the company's history of relocation decisions may affect the outcome, in terms of failure or success, of reshoring. In alignment with these objectives.

iii) More specifically, the framework conceptualizes both offshoring and reshoring processes as made of three building blocks: decision-making, implementation, and outcome. Based on the collected data, we argue that the success of a reshoring decision depends more on whether it was correctly implemented rather than why it was taken (i.e., mistake vs. strategic shift in response to internal or external changes).

Sadly, the humanitarian crisis we are witnessing these days is badly affecting an already very severely compromised scenario endangered even more by the two-year pandemic and the climate emergency, with significant repercussions on the agricultural sector. The effects involve severe economic and social shocks, especially for the farming community, further amplifying inequalities and undermining the proper functioning of international agri-food value chains. Indeed, the impact of this conflict will reverberate across continents and populations, posing a risk to global food security and severe consequences for the community of farmers worldwide. It is vital to identify priority actions to protect farmers' livelihoods and food production. A global response is needed to address the impact on the farming business created by the market disruptions. It is essential to support the farming communities who feed us by ensuring access to agricultural inputs, natural resources and agricultural infrastructures in the areas impacted by the conflict. There is a strong urgency to encourage the adoption of sustainable agricultural practices by promoting soil health,

agricultural innovation, and restoration of degraded land. Equally, we need to invest in resilient and conflict-sensitive food systems, which involve the ability to withstand and recover from disruptions so that everyone has access, on an ongoing basis, to an adequate amount of food. Last and most important, farmers are calling for the international community's support to enable them to work in the fields safely and peacefully.

The remainder of this document is structured as follows:

- Section 1 contains the literature review about offshoring.
- Section 2 regards the Reshoring phenomenom.
- Section 3 is focused on agriculture data analysis - post Covid 19 - and Urkraine Crisis and short substainable supply chain as a new challenge of the Italian Agriculture.

CHAPTER 1

OFFSHORING

1.1. THE OFFSHORING PHENOMENON

Over the last few decades there has been a more and more radical change of the organization of the industrial activities: from a single great agency that manages the numerous activities of which the *supply chain is composed*, to the creation of a network of many interconnected businesses with the aim of bringing on the market the final product.

The set-up of the corporate productive process had a very important modification, only the fundamental parts to the creation of value have remained inside, while the others have been outsourced in order to take advantage of the specialization process and the higher quality in foreign countries. *Global factory* (Buckley, 2004, 2009, 2018), *international supply chain* (Casson, 2013) or *global value chain and development* (Gereffi and Korzeniewiez, 2019) are some of the terms used in order to define the international configurations of the industrial process (Frattocchi *et al*., 2014/2016).

The coordination between the various components of the *supply network* has not proved to be easy, especially if the components are geographically dispersed (De Falco, 2012). Regarding this issue, o*utsourcing* and *offshoring* are the terms that are respectively used to define the choices of externalizing the allocation of part of the industrial process; we therefore want to first define the exact meaning of the two terms in order to avoid misunderstandings.

Secondly, the intent is to deeply investigate about the phenomenon of *offshoring*, being a very important variable inside of the choices concerning any internazionalization process. Furthermore, the full understanding of this phenomenon is very important to go and analyze the *reshoring* trend and consequently the reasons that lead the companies to change their strategy concerning the localization choices assumed previously.

1.1.1 DEFINITIONS AND DIMENSIONS

With the objective to seek more efficiency and to obtain potential economies of scale in the industrial process, *outsourcing* and *offshoring* operations have been increasing remarkably in the last decades.

In fact, driven by factors such as low labor costs and the proximity to large emerging markets, companies have begun to look beyond national borders, more towards country that are still developing their full potential.

Outsourcing can be defined as: "that particular externalization of production that is focused on dislocation of entire areas of activity, strategic and otherwise, and which is based on establishment of a collaboration between the company that outsources and a company already present on the market as a specialist "(Arcari, 1996). It therefore provides the delegation of certain functions or services beyond company boundaries, it is a real one choice of “where” and “how” to produce, in which the company chooses to outsource certain activities to third parties, usually those that are not part of the *core business*.

This decision allows the company to focus on internal activities with greater added value and on their own skills, while at the same time, allows a greater degree of efficiency thanks to the cost containment obtained precisely through specialization and the consequent economies of scale. Boin instead defines *outsourcing* as “the process by which companies permanently assign to external suppliers (possibly with transfer of the entire business sector), for a contractually defined period, operational management of certain functions that where in precedence carried out inside of the company".

It is clear how *outsourcing* differs from other forms of externalization of the production process, as it presupposes a very structured relationship between customer and supplier: the relationship between the company that outsources (*outsourcee*) and the company to which the business is sold (the *outsourcer*) is based on both market and collaborative relationships, in fact, a key prerequisite is the stipulation of a contract that provides the strategic involvement of the supplier in the client's medium to long-term business development programs (ISFOL, 2011). The main principle behind *outsourcing* is quite simple and intuitive: “*let other people do it, if they can do it better than us*”, in order to reduce costs and improve the quality level and the necessary services, thus having the

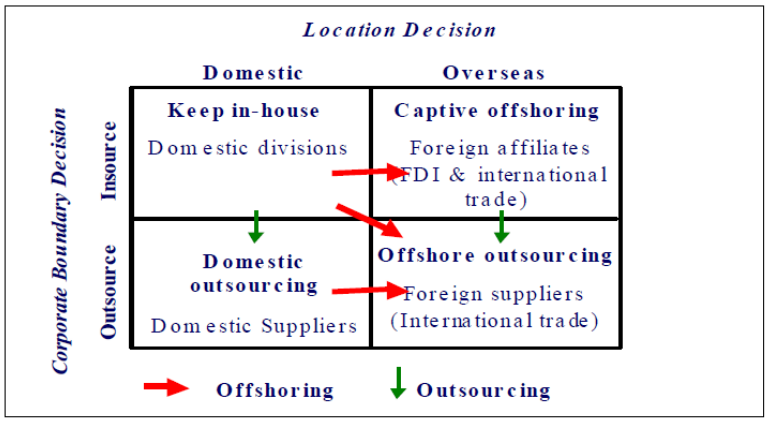
resources necessary for the development of what constitutes the real business of the company (ISFOL, 2011).

Furthermore, on the base of the *theory of the costs from transaction*, outsourcing is cheap when the benefits resulting from the outsourcing of production, are greater than the transaction costs arising from the relationship with suppliers.

We speak instead of *offshoring*, when the company moves part of the company functions beyond national borders, whether it establishes collaborations with foreign suppliers, or it leads directly such activities through a own branch.

Often, the two terms are mistakenly used, but in reality, the two concepts refer to different organizational and strategic choices. In fact, offshoring refers to a geographical boundary, therefore consists in the choice of where to locate the activity, independently from the property of the itself.

Figure 1.1: "Outsourcing and Offshoring"



Source Elaborazione di Sako, 2006:

It is possible to define *outsourcing* and *offshoring*, using two dimensions, i.e., ownership and location; identify themselves respectively four categories (Sako, 2006):

- *keep in-house:* the company realizes internally the activity doing reference to own resources;
- *domestic outsourcing:* the company outsource determined functions, entrusting them to national companies;
- *offshore outsourcing:* Part of particular activities can be transferred to an independent corporate entity, localized in a foreigner country;

- *captive offshoring:* the activity can be delocalized at a country foreigner, remaining under the legal control and management of the parent company.

In order to be able to give a more exact definition of the meaning of offshoring, it is considered appropriate to describe the difference between the concept of nearshoring and overseas, in relation to the reference country.

These two relocation models, while both belonging to the broader and more generic category of offshoring operations, refer to two different modes, which have as a discriminating factor the geographical distance.

Nearshoring, means relocating or outsourcing a certain activity, beyond the national borders, but to a relatively close country. This solution allows to obtain numerous advantages, such as a greater coordination between the parent company and foreign subsidiaries, a better control on the delocalized activity, thanks to the optimization of the communication, and the reduction of transportation times, but also thanks to less logistical effort required.

Using the term overseas, we refer instead to the relocation or outsourcing of certain operations, in countries located in more remote areas, in order to seek the greatest possible cost benefits, or to access particularly important skills or markets. This solution makes monitoring and coordination by the parent company more difficult, but it can allow better access to certain markets.

It's important to point out that the two solutions are not necessarily substitutes, but rather empirical evidence shows that they are often complementary. This depends first of all on the objectives that the headquarters intends to pursue, and on the type of activity intended to be delocalized. Having specified the exact distinction between the two strategies, it is now important to define them according to the country of origin that is undertaking them. In particular, the United States and Italy will be examined. When we talk about nearshoring projects, undertaken by US companies, the geographical area to which we are referring is very clear, that is, we are talking about initiatives started mainly in Mexico and Canada, member countries together with the U.S.A of the NAFTA Free Trade Area. In the case of overseas projects, however, reference is made to countries which do not belong to the American continent, especially those in Europe and Asia. As for Italy, however, the distinction is not so clear, and in addition to the different geographical location, one of the main reasons may be the fact that, compared to the United States, our country's companies

have started offshoring projects much more recently, and therefore do not have a background as defined as the American ones. On the basis of the observations made, it is possible to speak of nearshoring strategies on the part of Italian companies when certain activities are relocated to Europe, especially in the Balkan countries and Romania, Turkey and the Maghreb countries bordering the Mediterranean, such as Tunisia. When we talk about overseas projects, we refer mainly to the countries of the Middle East, Asia and America (Mariotti and Multinelli, 2010).

1.1.2 THE DEVELOPMENT AND EVOLUTION OF THE PHENOMENON

The shift of part of the industrial production Process or activities towards developing or newly industrialized countries has already been present for decades in the processes of corporate reorganization of Western enterprises. The changes that have affected the last decade concern the total displacement of production capacity in low-cost countries, redesigning the value chain of entire industrial sectors (Baronchelli, 2008).
The competitive advantage of the multinational companies outsourcing a large part of their activities was the ability to manage the contributions of the different actors and partners identified in the value chain in the foreign country, maintaining the leader position in the industrial process itself (Tracogna and Nanut, 2003,2011).
Offshoring refers to the process of outsourcing and coordinating certain functions across national borders. With such term, we refer in wide sense to the so-called captive offshoring, but also to the activities that are externalized towards specialized suppliers in a foreign country. The main discriminating factor is therefore spatial localization (Dunning, 1998, 2009).
In fact, the results confirm that offshoring initiatives motivated by cost reduction and located mainly in developing countries, lead to better operational performance if implemented through outsourcing offshoring strategies.
On the contrary, the projects driven by the desire to seek synergies and local skills in centers of excellence, achieve greater performance if made through captive models.
The relocation activity can be carried out both with the intention of trying to monitor more

a market abroad, and to seek more favorable conditions in order to be more competitive in the country of origin. Relocation occurs if the production, marketing and supply of the company crosses national borders and takes place in a foreign country (Segnana and Bernard, 2010).

However, it is important to underline that about 70% of relocation operations are based on the relocation of assets to a captive center or a so-called 100% subsidiary, located in a country where there is a lower labor cost then the country of origin.

Companies like Lufthansa and Philips have adopted this model by identifying some activities, such as accounting and IT, in some centers in Poland (Boston Consulting Group, 2005). This example is very important, as it denotes the phenomenon of relocation has evolved considerably over the years. In fact, not only manufacturing and manual production activities are outsourced, this model is also used for services.

Historically, the term was used to refer solely to activity directly related to production, while recently, the new wave of offshoring involves in an important way the technical and administrative services (Caniato et al., 2013, 2022).

The first phenomenon from relocation can lead back to 1911, year when the Ford Motor company, USA, transferred the business of assembling the Ford T vehicle to Trafford Park in England, in order to reduce expensive transport costs and better serve the European market (Stringfellow, 2008). The phenomenon of relocation undergoes a significant increase after the Second World War, it is in fact since the 1960s that there is a growing activity of relocation implemented by large American companies (Gereffi, 2005).

In this first phase, the reasons that push companies to undertake offshoring strategies are the reduction of production costs, the attempt to guarantee access to new markets thanks to the direct presence on the territory and the possibility of exploiting favorable government policies (Lewin and Peeters, 2006).

The second phase, however, begins from the second half of the 90s, from this period onwards, the offshoring is no longer linked to production-related activities, but begins to affect services (Metters and Verma, 2008).

Through control mechanisms, such as standardization, companies are also able to relocate service activities, even though they are intangible. It is necessary to emphasize how this has been made possible thanks to the role played by new communication technologies.

The third and final phase is expanding the offshoring activity, also to high value-added services: engineering, IT and R&D. Offshoring affects not only repetitive or low value-added activities, but is also carried out some specific skills needed for core activities.
The increasing delocalization of such functions has been a consequence to the strong changes that have characterized the world-wide economic context, this has involved a strong reduction of the so-called “time to market” and consequently the enterprises, with the aim of maintaining their competitivity, had to respond to market needs and products more quickly.
New factors such as the need to find new ideas and human capital outside the company boundaries, could be also an added value in the offshoring strategies.
It is considered very important to underline, once again, how during the three phases of development of the offshoring strategies, the increasing evolution of the IT has played a decisive role. In fact, they have allowed an intra-enterprise and inter-enterprise communication faster and cheaper than ever, the exchange of information, represents the glue of the entire supply chain (Evans and Wurster, 1999).
The separation of physical components, thanks to the development of communication and information technologies, has allowed companies to rethink and reconfigure their value chains, in order to maximize their total added value (Youngdahl et al., 2008).
Developed countries in which medium and large companies need to carry out their activities at a lower cost, offshoring therefore represented, especially in the early stages, the right strategy to push many manufacturing companies in the western world to move their activities to strong emerging countries, such as China and India.
Initially, therefore, the phenomenon of offshoring, appeared as a huge migration of jobs, from developed countries, to emerging countries.
With the passing of the years, however, there has been a great evolution of the world scene and it immediately became evident that the offshoring was a much more complex phenomenon than it appeared.

1.2. THE DRIVERS

Offshoring is a strategy that was initially adopted by companies in order to reduce operating costs (Lewin et al., 2006): goods and services should be produced in countries where their implementation is less expansive. Following Dunning's approach, offshoring then takes place in order to pursue an efficiency/low cost seeking strategy. As noted in the previous paragraph, however, the offshoring has undergone over the years a process of evolution that has significantly changed its strategic objectives.

Consequently, the drivers and the motivations that push the enterprises to adopt a strategy of delocalization are also changed. Recent studies show that 66% of offshoring agreements are aimed at supporting corporate growth strategies, and 32% of these initiatives involve R&D, design and product innovation.

Cost reduction continues to be undoubtedly the main factor motivating relocation decisions. However, a new trend is emerging and more and more offshoring strategies are driven by factors such as the search for new growth opportunities, competitive pressure and better access to highly qualified personnel (Lewin and Peeters, 2006). It is clearly shown that the determining factor for relocation decisions is still linked to the search for greater efficiency; 91% of the companies surveyed, stated that among the reasons for which they carried out the offshoring there is the minimization of labor-related costs.

The wage difference between developed and emerging countries is still very large, just think that for example the hourly wage of an American telephone operator is 12.57$ while that of an Indian operator is 1$ (Bardhan and Kroll, 2003).

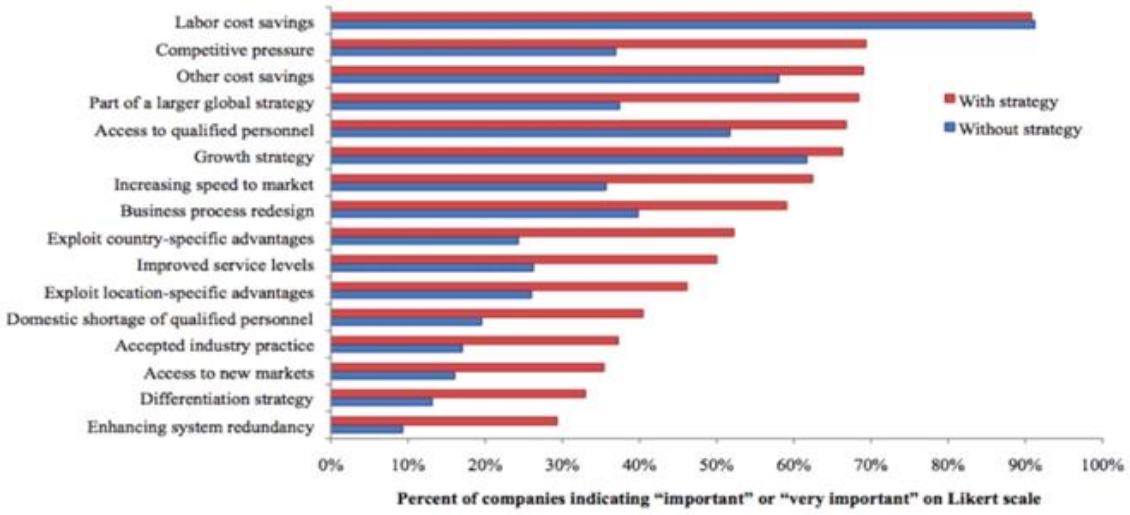
72% of companies have instead implemented an offshoring project in order to minimize other costs; usually the countries where you choose to relocate, have more favorable tax conditions.

In fact, the respective governments adopt special policies aimed at attracting foreign direct investment; in 2009, in Indonesia, for example, the government abolished the state monopoly on the transmission and distribution of electricity, initiating a privatization process that can also be open to foreign investors, while in India the so-called Consolidated FDI policy has been introduced, bringing together in a single document the previous measures concerning foreign direct investment, in order to simplify and make more transparent the relevant rules (Caroli, 2012).

The third driver, with 67%, is in fact access to highly qualified personnel; the new

technology clusters of Bangalore, Bombay, Delhi and Hyderabad in India (software), Dublin in Ireland (IT), Tel Aviv in Israel (software and It) and Taiwan (microelectronics) these are just some of the examples of centers where there is access to highly skilled human resources (Torrisi, 2002).

Figure 1.2: "O*ffshoring* drivers"



Source: Lewin (2010)

The most important factors for American and Western European companies are therefore cost savings, labor savings, and access to qualified personnel (Manning et al., 2009). Consequently, the localization choices reflect the motivations that have pushed the companies to adopt offshoring plans (Lewin and Couto, 2007).

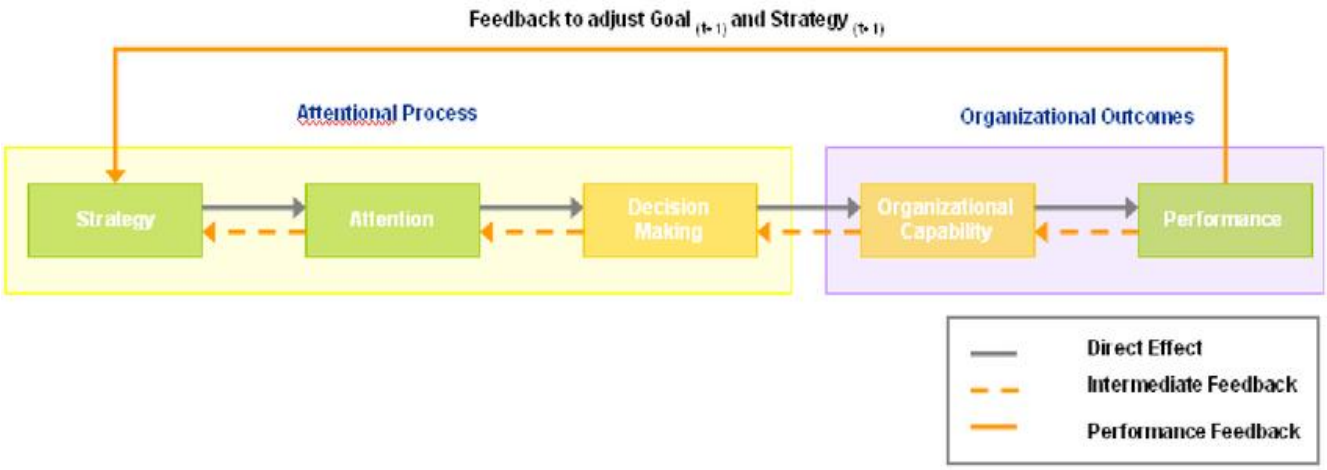
The advantages on the cost of labor and the access to qualified resources are very important criteria for the choice of location. In fact, thanks to the possession of these requirements, countries such as India and China have been very successful in attracting foreign direct investment.

The different drivers that are the basis of the offshoring choices, contribute to ensure that there are different consequences on the company's performance. More specifically, the drivers related to the search for cost advantages will have effects on the operating performance: productivity, efficiency and quality. While the search for knowledge and skills will have a stronger impact on strategic performance: innovation, growth and competitiveness (Manning et al.,2009).

1.3. INDUSTRIAL PROCESSES AND ORGANIZATION

Top-down and bottom-up organizational design are used to design and manage the international network.

Figure 1.3: "Coevolutionary Framework of Organization"



Source: Lewin (2010)

The top-down logic sees the parent company as the main actor. Starting from the objective, it defines the best strategy necessary to achieve it; every decision-making step is fully motivated, selecting the best opportunities. For example, a company seeking to achieve greater efficiency may decide to undertake relocation initiatives to reach their goal. It will be necessary to identify a number of countries that have the desired characteristics and select the area in which it is most appropriate relocating. In the event that a particular mandate is entrusted, the initiative starts from the foreign branch and in this case, we speak of bottom-up logic. For example, a foreign branch could identify a market opportunity in the region in which it operates and bring it to the attention of the parent company, in order to launch a strategy to exploit this favorable situation.

1.3.1. ENTRY METHODS AND FDI

The internationalization strategies adopted by companies take into consideration different

configurations, which can be alternative or complementary.

In implementing its own process of foreign expansion, the company can choose different entry modes, each of which presupposes a different organizational and financial commitment, resulting in the level of rootedness in the foreign area. Offshoring strategies involve the most expensive investments, both economically and in terms of organizational design.

The strategic agreements allow the company to decentralize some activities in the value chain to certain foreign countries, sharing the risks with local partners. Foreign Direct Investment (FDI) is defined by the UNCTAD as a long-term international investment by a resident in a given country to a company located abroad, in order to gain control of the same.

This allows the investing company to manage the activities in an integrated and functional way to those that carry them out in their home country or elsewhere.

In fact, FDI presupposes the investor's intention to acquire a significant level of influence over the management of the investor, establishing a long-term relationship that guarantees the investor a lasting interest.

These investments constitute the most advanced mode of international expansion in terms of the positioning of the company at international level and the consistency of the competitive strategy in geographic markets other than that of origin (Caroli, 2012).

Dunning categorizes the reasons behind foreign direct investments according to their purpose: market seeking investments, aimed at entering developing markets where the demand for certain goods/services is growing strongly; natural resource seeking investments, aimed at the search for certain productive factors, which are more accessible in certain geographical areas; efficiency/low cost seeking investments; to establish certain activities in the value chain in countries where it is less expensive to carry them out, namely in developing countries.

If a company decides to place production activities in a foreign country, the entry modes can be strategic alliances or FDI.

Such methods of entry are very important even if a company produces in the country of origin, but intends to develop abroad a part of the resources and skills necessary to compete.

It is possible to notice as the strategic alliances are subdivided in two groups:

a) the strategic agreements;

b) the joint ventures.

Strategic agreements have a contractual nature and have differentiated content, the production contract, in particular, is very important in the context of offshoring projects. Joint ventures, on the other hand, differ from other agreements by creating new Co.'s with the local contractors, with the aim of achieving common objectives.

Figure 1.4 "Entry Methods"

Theoretical frameworks explaining the EM choice (adapted from Andersen, 1997; Canabal and White, 2008; Schellenberg et al., 2017; Surdu and Mellahi, 2016).

Theory	Key assumptions / concepts	Adoption in EM studies (examples)
Transaction cost theory (TCT)	The rationality of actors is limited and their behaviour may be opportunistic. The proper form for governing transactions is influenced by assets specificity, uncertainty, and frequency.	Firms adopt EMs which minimise production and transaction costs. EM choice is affected by asset specificity, uncertainty, and need to protect brand name (Anderson and Gatignon, 1986; Zhao et al., 2004).
Resource-based view (RBV)	Firms are bundles of tangible and intangible resources/capabilities (assets, knowledge, and capabilities). To provide sustainable competitive advantage, these resources/capabilities should be valuable, rare, imperfectly imitable, and non-substitutable.	Firms with distinctive resources/capabilities (e.g., proprietary technologies, tacit know-how, extensive geographic-industry experience) tend to adopt equity EMs (Brown et al., 2003; Ekeledo and Sivakumar, 2004; Mutinelli and Piscitello, 1998).
Institutional theory	Organisations must conform to the rules and beliefs prevailing in the environment. Coercive, mimetic and normative pressures generate institutional isomorphism.	EM decisions are affected by coercitive, mimetic and normative forces (Canabal and White, 2008; Davis et al., 2000; Yiu and Makino, 2002).
Eclectic paradigm	The propensity of firms to engage in foreign production depends upon Ownership, Location, and Internalisation (OLI) advantages.	EM decisions are based on the analysis of Ownership (e.g., intangible assets, skills, new products), Location (e.g., institutional or productive factors available in a geographic area), and Internalisation (e.g., transaction and coordination costs) factors (Schellenberg et al., 2017).
Uppsala internationalisation model	Firms: a) tend to internationalise first to geographically close countries and gradually move to more psychically distant markets; b) start from a low resource commitment mode and move to higher commitment modes as knowledge and experience rise.	EM decisions are affected by the experience of the company in the foreign country and the cultural distance between the home and host country (Arora and Fosfuri, 2000; Blomstermo et al., 2006; Mutinelli and Piscitello, 1998).
Path dependence	History matters: initial decisions can restrain present and future choices. Examples of self- reinforcing mechanisms that narrow the range of (managerial) discretion are: economies of scale and scope, network externalities, learning effects, durability of capital equipment, technical interrelatedness.	Firms tend to adopt the same EM adopted in previous locations (Amburgey and Miner, 1992).

Source: Journal of purchasing and supply management (June 2019)

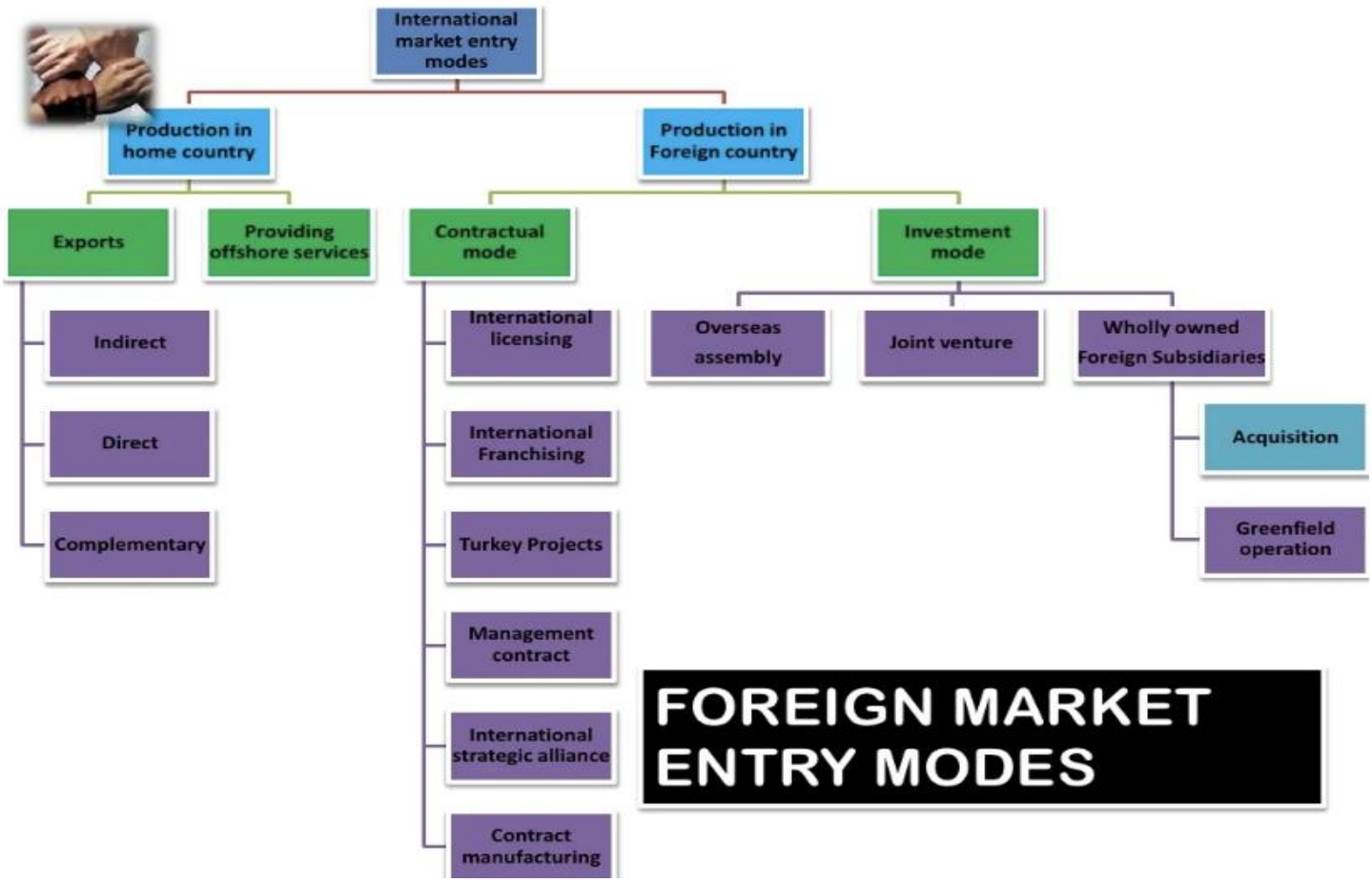
Foreign direct investment can be greenfield or brownfield.

The adoption of a greenfield modality allows the enterprise to penetrate in a foreign market using the most opportune localization, starting the activity ex novo and therefore with the structural and organizational characteristics established directly by the parent company (Comacchio, 2013).

This model may, however, involve two types of weaknesses: liability of newness, due to the fact that it is at an early stage and therefore to the fact that it has not yet developed relationships of trust; and liability of foreignness, linked to the lack of specific knowledge on the new market and in general on the cultural and institutional scenario.

To overcome these obstacles, we can consider the adoption of a brownfield model, or the acquisition of pre-existing assets.

Figure 1.5: "The different modalities of entry into a market abroad"



Source: International Entry Modes by Amir Kumar and Avanika Babel, Sep. 2011 "

1.4. LOCALIZATION CHOICE

Making the correct localization choice is the key element of offshoring strategies (Manning, 2009). The most important drivers for American and Western European companies are savings on labor costs and access to qualified personnel.

The localization decisions therefore reflect the aforementioned drivers (Lewin & Couto, 2007).

There are many characteristics of a given geographical area, which are considered in order to evaluate where it is most convenient to carry out an offshoring project.

The factors of attractiveness must be weighted according to the importance that each assumes in the perspective of the corporate strategy, aimed at strengthening the competitive

advantage.

As a result, the point of view from which companies consider the territorial offer is modified: this appears not so much as a set of factors objectively considered, but mainly as a set of conditions that affect competitive opportunities (Caroli, 2012).

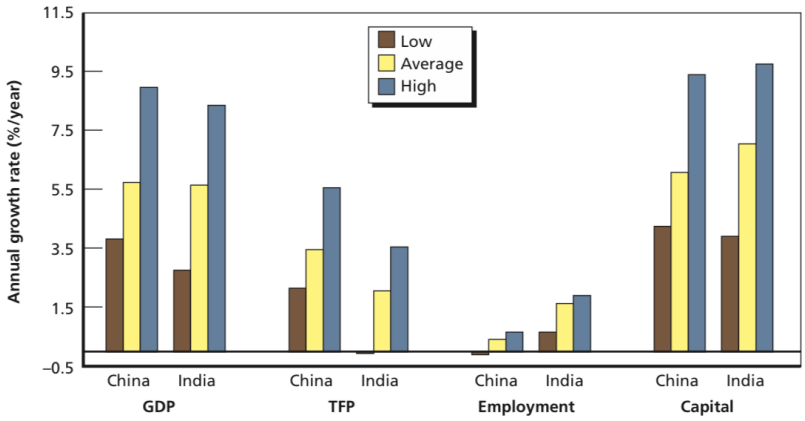
The factors considered within these decisions are grouped into eight different sets; the level of wages, the educational level of the workforce, the state of infrastructure development and cultural differences, these are just some of the specific factors within sets.

Depending on the type of relocation you intend to undertake, these factors will have a different importance.

If you undertake a manufacturing offshoring project, it will be important to choose a destination that, for example, guarantees lower labor costs, a good transport network and physical infrastructure and availability of raw materials.

In many developing countries, investment in infrastructure to improve transport and thus attract more FDI is growing at a very high rate; just think that the total spending on these projects in China has passed from 9.2 billion dollars in 2000-2004 to $26.4 billion in 2005-2009, while Indian spending increased from $2.9 billion to $29.4 billion over the same time frame.

Figure 1.6: "Cina / India perspectives estimated for 2025"



Source: " by Rand Corporation, 2011 " (TFP: Total Factor Productivity)

For the offshoring of services, however, there will be elements such as the degree of

development of telecommunications and a high quality of human resources, to attract the attention of management; graduates in the world are increasing more and more and, according to a note published by the OECD, the percentage will be less and less European and American, while the proportion of those coming from emerging countries, especially Asians, will rise.

In 2010, among the OECD and other G20 member countries (Argentina, Brazil, China, India, Indonesia, Federation of Russia, Saudi Arabia and South Africa), there were about 129 million people between 25 and 34 years old with a university level education, rising from 91 million 10 years earlier. Most of them, 66 million, already belong to emerging countries, as a result of population growth and investment in the education system in recent years; if the trend continues, estimates the OECD, in 2020 in the same countries graduates will be over 200 million, most of them from China (29%) and India (12%), while only a quarter will be students from Europe or the United States (the BO, 2012).

Table 1.7: "Criteria for assessment of the the attractiveness of a territory:taxonomy "

Market	- Size and growth rate of the question - Features qualitative of the request - Proximity to other markets
Resources Human	- Dimension of the workforce - Quality of human resources making up the workforce - Cost of labor - Flexibility of the work - Relations industrial
Infrastructure	- Transportation - Telecommunications - Infrastructure logistics - Infrastructures for research and innovation - System university and of higher education - Services from public utility
Tissue Economic	- Access and availability of raw materials - Quality And size of local suppliers - System distributive - System financial - Structure of the system industrial local - *Country specific* resources
Institutions And policies public	- Publish administration central e local - Institutions economic locals - Policies economic and industrial - Policies for the company - Policies for the investments foreigners

System regulatory	- Laws and regulations in administrative and environmental matters - Laws and regulations on contractual and corporate matters - Regulations tax - Regulations sectoral
Social quality and environmental	- Cohesion social - Safety - Quality environmental and urban planning - Quality cultural, artistic and recreational
Image and reputation	- General reputation of the place - Reputation of the place as headquarters of productive activities - Policies from image

Source: elaboration by Caroli M., 2012, "Management of international companies "

1.5 FDI IN FIGURES

Global FDI flows bounced back in 2021, growing by 88% to USD 1 815 billion, and 37% above pre-pandemic levels. However, the outlook remains uncertain given the current geopolitical context.

This growth was driven by OECD area earnings on inward and outward FDI reaching some of their highest levels since 2005; of those earnings, less was distributed to shareholders, resulting in unprecedented levels of reinvestment of earnings. Inflows to the OECD area exceeded pre-pandemic levels by 5% and outflows reached a seven-year record-high, boosted by high levels of reinvestment of earnings.

FDI inflows to non-OECD G20 economies were 47% above pre-pandemic levels. FDI outflows to non-OECD G20 economies were 20% above pre-pandemic levels.

In 2021, the United States was the top FDI destination worldwide, followed by China, Canada and Brazil.

The United States was also the largest source of FDI outflows, which peaked in 2021, boosted by high levels of reinvestement of earnings. Germany, Japan, China and the United Kingdom followed, with more than USD 100 billion outflows in 2021.

Completed cross-border M&A deals exceeded pre-pandemic levels by 50% in advanced economies and by 25% in emerging and developing economies.

The rebound in greenfield investment activity was less even, increasing in advanced economies to surpass pre-pandemic levels by 16%, but remaining subdued in emerging and

developing economies.

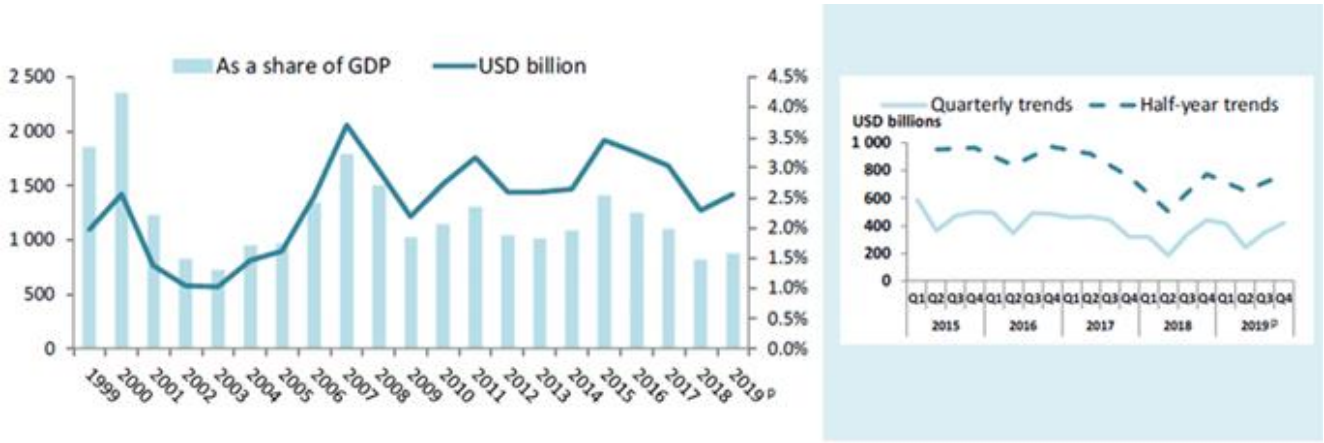
1.5.1. RECENT DEVELOPMENT

After a steady decline in 2020 further accelerated by the COVID-19 crisis, global FDI flows surged 88% in 2021, reaching USD 1 815 billion, surpassing their pre-pandemic levels by 37%. The United States and China saw the biggest increases but many other economies also recorded increases. The driving force of the increase in FDI flows can be attributed to a significant upswing in OECD earnings on FDI, which peaked in 2021. Fewer of those earnings were distributed back to parent companies, resulting in higher levels of reinvested earnings, which spurred the rebound. OECD FDI equity inflows also increased by 25%, exceeding pre-pandemic levels by 4% and slightly reverting the declining trend observed since 2016.

In contrast, OECD intra-company debt flows remained negative for the second consecutive year. While new investment activity was generally strong in 2021, the prospects for 2022 remain uncertain with the war Russia is waging in Ukraine. Greenfield investment in emerging and developing economies remains weak. The annual global FDI flows from 1999 to 2021 as well as quarterly and half-year trends from 2017 to 2021.

Looking at half-year values, FDI flows went up by 98% in the first half of 2021, before dropping slightly by 4% in the second half of the year. Looking at quarterly values, the rebound of global FDI flows was mainly concentrated in the first quarter of 2021, when they grew by 90% over the previous quarter before dropping 12% in quarter two of 2021 and remaining almost stable throughout the rest of the year.

Figure 1.8: "Global FDI Flows, 1999/2021"



Source: " OBCD international Direct Investment data base OECD 4/2022 "

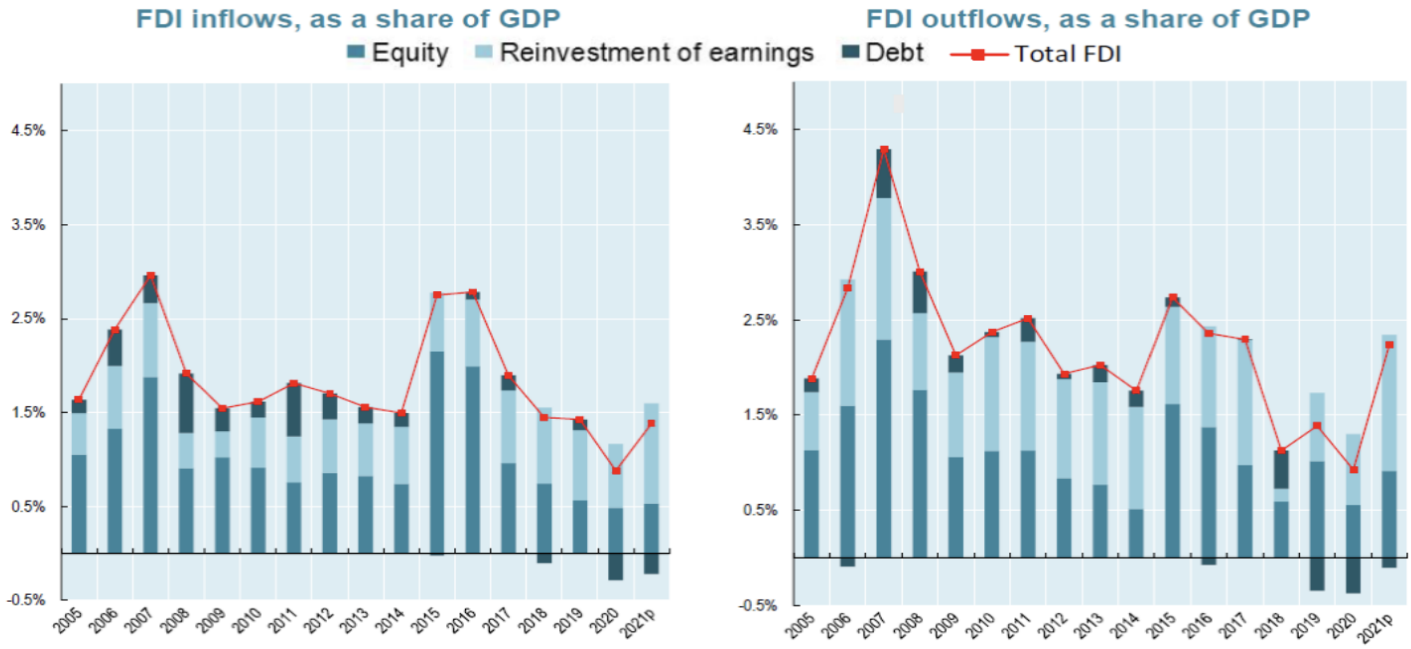
1.5.2 OECD EQUITY CAPITAL FDI FLOWS

In 2021, FDI equity inflows in OECD countries increased by 25%, only 4% above pre-pandemic levels and slightly reverting the declining trend that was observed since 2016.

FDI equity flowing into the United States was largely responsible for the overall results, inverting a downward trend and growing by 54% over 2020 values, largely driven by significant M&A transactions. France, Japan and the United Kingdom also recorded more than USD 10 billion increase in FDI equity inflows. In contrast, Luxembourg recorded large decreases of FDI equity inflows from peak levels reached in 2020, while divestments were recorded in Belgium, Ireland, the Netherlands and Switzerland for the third and fourth consecutive years, respectively. In 2021, the United States was the main OECD recipient of FDI equity flows, followed by the United Kingdom, Germany and France. FDI equity outflows from OECD countries increased by 83%, but remained 3% below pre-pandemic levels. The surge was mostly driven by increased FDI equity outflows from Canada, Ireland and Japan. Increases from Canada and Ireland were influenced by major M&A deals completed in 2021. FDI equity outflows from the Netherlands and the United Kingdom also increased, up from the negative values recorded in 2020 due to major divestments. By contrast, FDI equity outflows from the United States dropped from record-high levels in 2020, and equity outflows from Germany and Luxembourg decreased by more than USD 10 billion. Investors from France and Spain divested from their affiliates abroad.

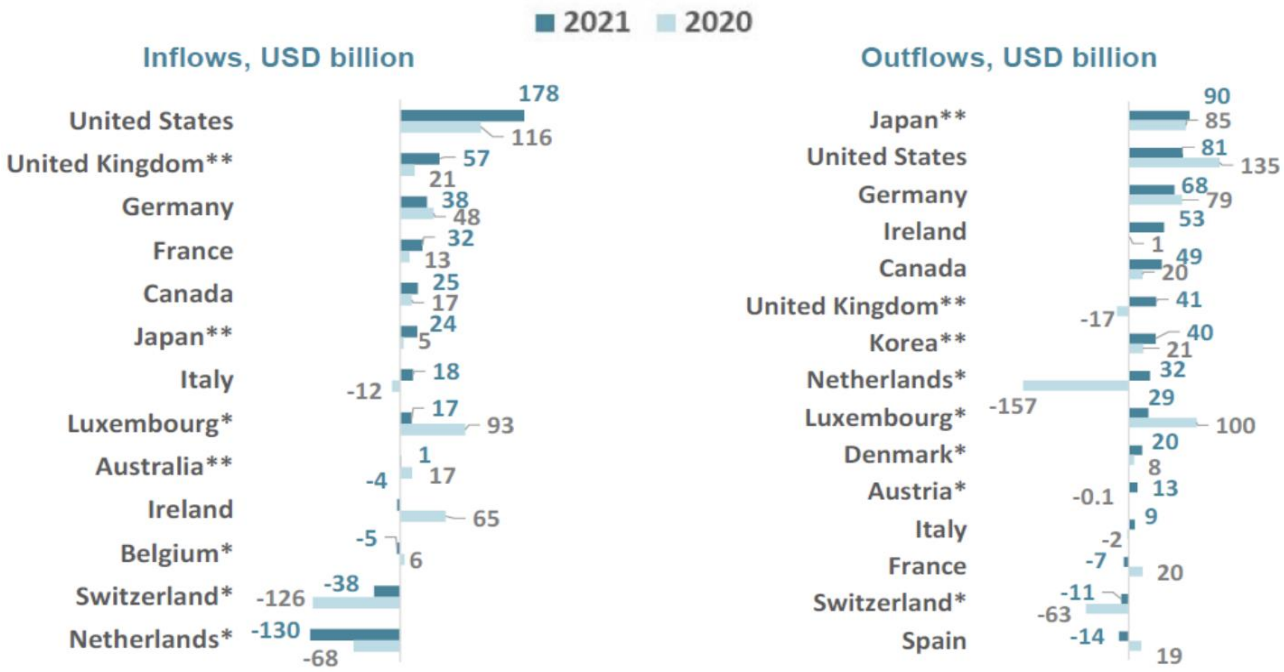
Among OECD countries, Japan was the largest source of FDI equity outflows in 2021, followed by the United States, Germany and Ireland.

Table 1.9: "OECD FDI Flows by instruments, 2005-2021"



Source: " OBCD international Direct Investment data base OECD 4/2022 "

Table 1.10: "FDI Equity Flows of selected OECDCountries , 2020-2021"



Source: "OBCD international Direct Investment data base OECD 4/2022"

1.5.3 RECENT TRENDS IN FDI INCOME OF OECD COUNTRIES

FDI income consists of a foreign investor's share in the earnings of its affiliates and net interest from intercompany debt. Changes in earnings reflect changes in profitability of the investment. Earnings are further broken down into dividends and reinvested earnings. FDI income and its components are estimated using data reported by OECD countries.

In 2021, OECD area FDI income payments increased by 39%, representing 2.2% of OECD area GDP, slightly higher than in 2018 when they peaked (Figure 1.11) OECD FDI income receipts increased by 29%, accounting for 3% of OECD GDP (Figure 1.11). While there were widespread increases of inward and outward FDI income in many OECD countries in 2021, the outlook for 2022 remains uncertain given the war in Ukraine, particularly for FDI earnings.

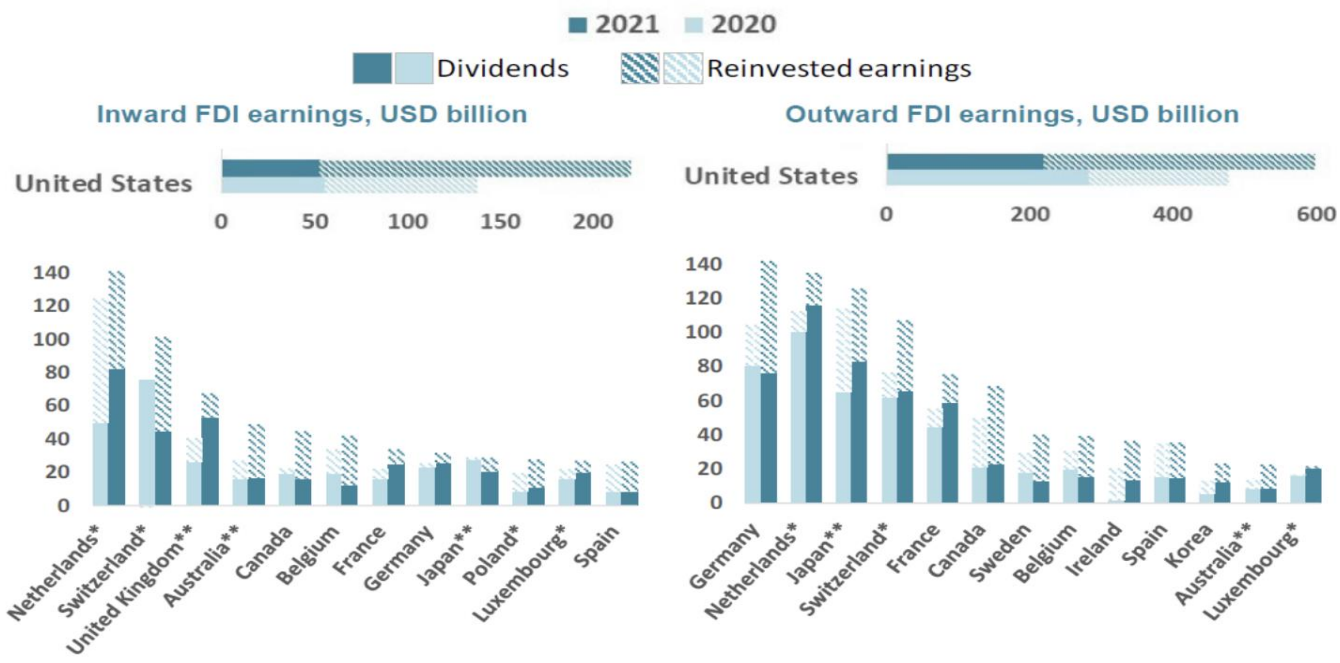
In 2021, OECD earnings on inward FDI grew by 41% and exceeded pre-pandemic levels, largely driven by the United States although this increase was felt across most OECD countries as well.

Overall, only 48% of OECD earnings on inward FDI were distributed to foreign parents, compared to more than 55% in 2016-2020. Zooming in on the United States, in 2021, manufacturing and financial services represented 39% and 23% of total earnings of foreign affiliates, respectively; wholesale trade accounted for 16% of total earnings but recorded the most significant expansion, reaching record levels in 2021.

Earnings on outward FDI also increased by 31% in 2021, mainly led by the United States, and followed by many OECD countries.

Overall, just half of those earnings were distributed to OECD parents, compared to more than 70% in 2019-2020. FDI earnings reached a peak in 2021 but the part distributed to United States parents dropped by 22% and represented 37% of total earnings, compared to 74% and 59% in 2019 and 2020, respectively. This could indicate that US parents started to repatriate less earnings than they did following the 2018 US tax reform. This has led to particularly high levels of reinvested earnings, contributing to the surge in total flows.

Table 1.11: "FDI Earnings of selected OECD Countries, 2020-2021"



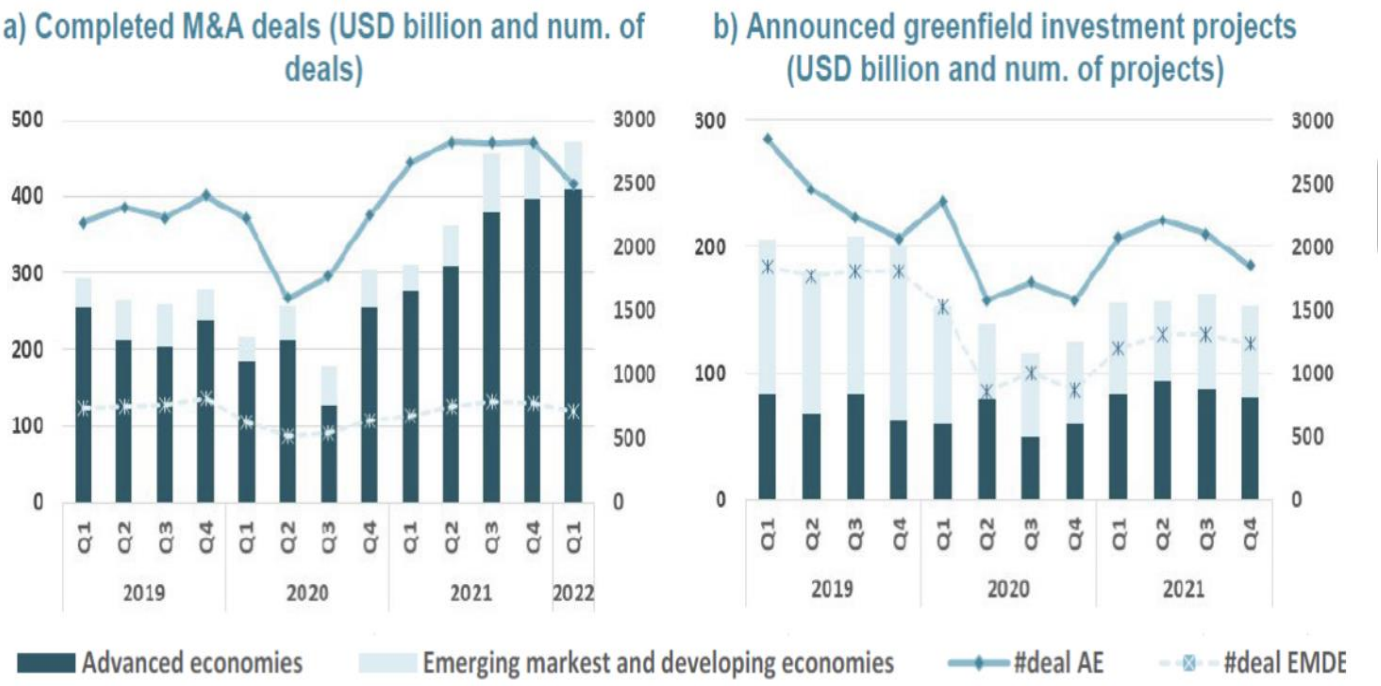
Source: "OBCD international Direct Investment data base OECD 4/2022"

1.5.4 CROSS-BORDER M&A AND ANNOUNCED GREENFIELD PROJECTS

Equity capital flows are closely tied to new investment, regardless of the mode of entry (cross-border M&A and greenfield investment) and divestment by foreign direct investors. Data on cross-border M&As from the Refinitiv database show a 76% increase in completed deal values in advanced economies (AE) in 2021 compared to 2020, and 50% higher than pre-pandemic levels, whereas the number of completed deals increased by 42%, a 20% increase in the number of deals closed in 2019. Most of the increase in completed deal values occurred in the second half of 2021.

Completed M&A deal values in emerging markets and developing economies (EMDE) increased by 30% in 2021 due to a rebound in M&A activity in the second half of the year, while the number of completed deals also increased by 29%. Compared to pre-pandemic levels, the value of cross-border company transactions in EMDE was 25% up, but the number of deals targeting these economies was slightly lower.

Table 1.12: “Recent Cross-border investment activity, 2018-2021"



Source: “OBCD international Direct Investment data base OECD 4/2022"

Overall, cross-border M&A values were driven by few large deals, such as Altimeter (United States) merging with technology company Grab Holdings (Singapore), Canadian Pacific Railway merging with Kansas City Southern (United States) in the transportation sector, and the AerCap (Ireland) acquiring GE Capital Aviation Services (United States) offering aircraft leasing services.

Finally, technology, industry and energy were the sectors that recovered the most from pre-pandemic levels (with total deal values in 2021 being 194%, 77% and 41% larger than in 2019, respectively). A greater number of deals were concluded in the technology and healthcare sector in 2021, compared to pre-pandemic levels.

Cross-border M&A activity continued to rise in the first quarter 2022, both in advanced economies and in emerging markets and developing economies, although the number of deals declined slightly, indicating fewer but more significant deals.

The latest data on announced greenfield FDI projects from the Financial Times FDI Markets database show signs of recovery from the COVID-19 pandemic for greenfield investment

(GI) for some economies.

In 2021, capital expenditures increased by 38% in advanced economies (AE), while it remained nearly flat in EMDE.

Compared to pre-pandemic levels, capital expenditure in AE increased by 16%, however, greenfield investment going to EMDE was still below 2019 values (by 43%).

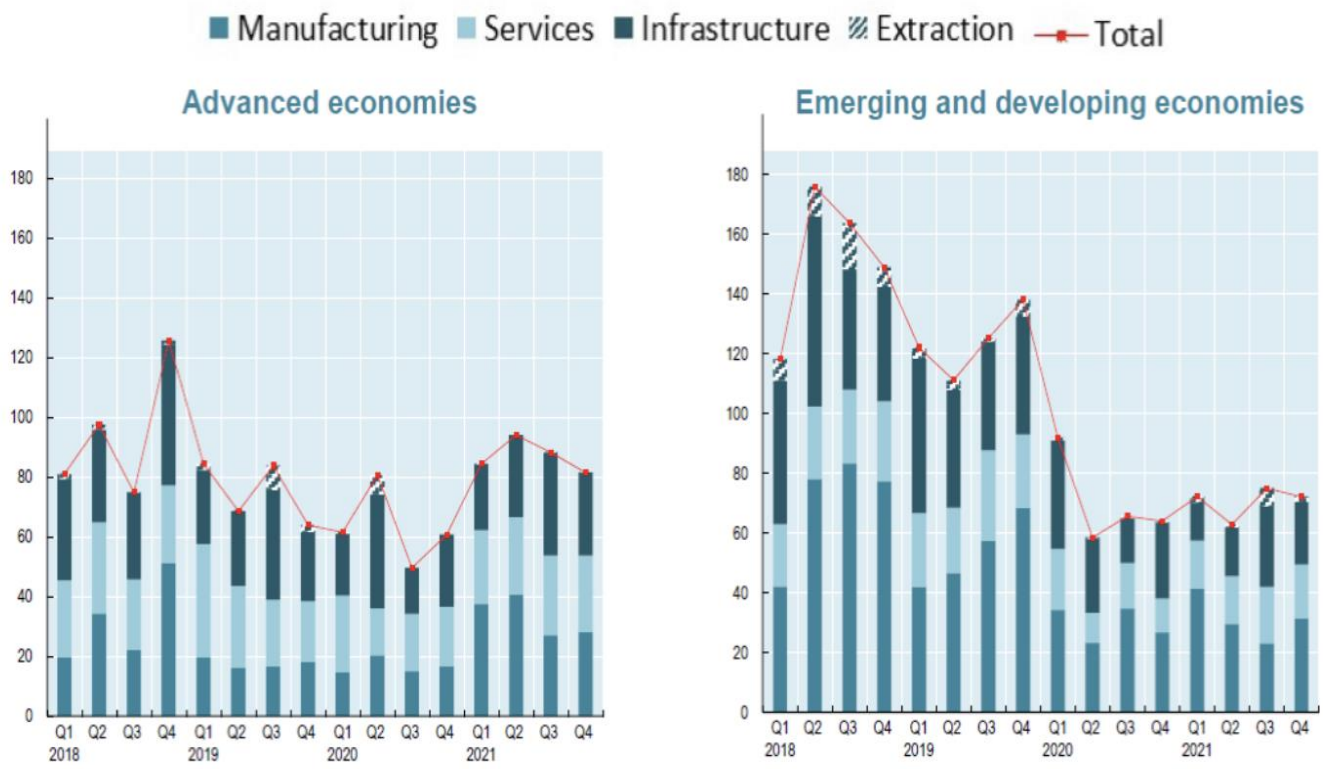
In AE, capital expenditures increased in manufacturing, services and infrastructure but they dropped by 96% in extractive industries (mainly coal, oil and gas) in 2021 compared to 2020.

The largest boost in GI activity was in the manufacturing sector, where capital expenditures more than doubled compared to 2020 and exceeded 2019 values; much of the growth came from semiconductors, where the value of greenfield investment projects in 2021 more than tripled the amount in 2020.

Large-scale projects were also announced in the communications sector13, which was up 61% in advanced economies and by 14% in EMDE in 2021 over the previous year.

In 2021, greenfield activity in the biotechnology sector also surged by 49% in advanced economies, while it declined by 31% in EMDE.

Table 1.13: "Announnnced greenfield projects by sector, 2019-2021"



Source: " OBCD international Direct Investment data base OECD 4/2022 "

1.5.5 A FOCUS ON ITALY

The theme of how Italy fits into the world scenario deserves a great deal of Attention. "As a starting point, one cannot escape a disheartening, but unavoidable one evidence: Italy's degree of internationalization is lower than that of its people major European partners, both on the side of investments abroad and on the side of investments from abroad " (Mariotti, 2010).

Table 1.14: "Stock from FDI in exit In percentage's/ GDP, 2018/2020"

2018	2019	2020		
1	1	**1**	United States	**2.26**
2	3	**2**	Canada	**2.20**
3	2	**3**	Germany	**2.15**
6	6	**4**	Japan	**2.14**
7	5	**5**	France	**2.09**
4	4	**6**	United Kingdom	**2.06**
8	9	**7**	Australia	**1.98**
5	7	**8**	China	**1.95**
10	8	**9**	Italy	**1.94**
9	13	**10**	Switzerland	**1.89**
15	11	**11**	Spain	**1.88**
12	10	**12**	Singapore	**1.87**
16	19	**13**	New Zealand	**1.85**
13	12	**14**	Netherlands	**1.85**
14	15	**15**	Sweden	**1.81**
21	18	**16**	Belgium	**1.75**
18	17	**17**	South Korea	**1.72**
19	20	**18**	Ireland	**1.69**
—	—	**19**	United Arab Emirates	**1.69**
20	14	**20**	Denmark	**1.69**
22	—	**21**	Portugal	**1.67**
25	—	**22**	Brazil	**1.65**
—	23	**23**	Finland	**1.65**
23	24	**24**	Norway	**1.65**
—	22	**25**	Taiwan (China)	**1.62**

Source: "A.T.Kearney foreign direct investment confidence index, 2020"

The justifications according to which the internationalization ways of the Italian industrial system would be different, which is based on more "light" forms of relocation, are not acceptable. In fact, they do not consider the factor that also companies of others countries resort to such solutions, which are often complementary to, and not substitutes for IDE. Italy is characterized by a dense industrial fabric of SMEs, but this data does not justify the huge gap with the other economies (Mariotti, 2010).

After a series of reforms implemented since 2011, Italy has now been ranked 7th globally and 3th in the EU in the "2020 FDI Confidex Index". Gaining 3 ranks in a year (6 in 2 years), it is now ahead of the Netherlands and Sweden.

The data concerning the numbers coming from projects from FDI greenfield confirms this situation described earlier. If we limit the comparison to the main European competitors, we can see that in the whole period the number of Italian initiatives was less than half of those activated by France and about a third of those in the United Kingdom and Germany (Mariotti, 2010).

Moreover, Mariotti (2010) highlights how the great majority of new Italian projects abroad involve investment in distribution networks and stores in traditional activities made in Italy but also, above all, they involve the fashion sector.

Tabella 1.15: "Progetti di IDE *greenfield* con origine dai principali paesi europei, 2003-2009"

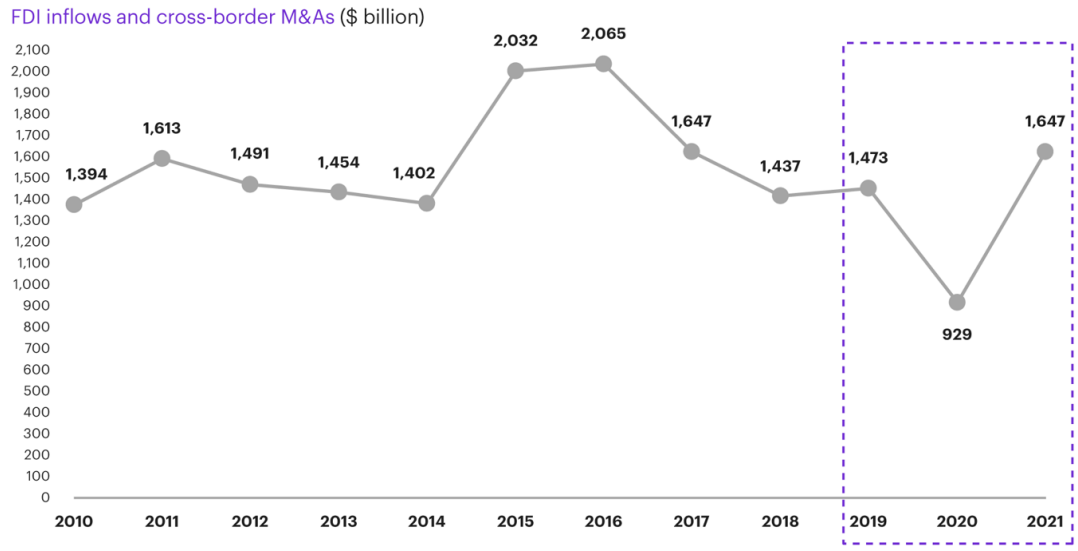
	2003	2004	2005	2006	2007	2008	2009
	Numero di progetti						
Francia	498	571	648	682	911	1.024	961
Germania	830	882	1.026	1.259	1.275	1.447	1.294
Italia	276	355	321	283	335	489	433
Regno Unito	697	768	834	1.049	1.021	1.332	1.315
Spagna	171	267	182	230	461	588	597
	Investimento medio (stima, miliardi USD)						
Francia	71,9	62,9	51,3	70,0	60,8	85,6	70,2
Germania	67,3	59,9	59,4	59,8	59,8	66,8	55,2
Italia	43,8	43,8	51,3	56,6	76,1	87,5	68,7
Regno Unito	99,2	58,8	70,6	53,7	78,8	82,8	57,8
Spagna	134,6	77,9	61,7	96,5	81,2	74,8	67,6

Fonte: database fDi Markets^{tm}, Financial Times, elaborazione di Mariotti S.

1.6 PERSPECTIVES IN TUMULTUOUS MOMENTS

Even in tumultuous times such as these, encompassing a persistent pandemic as well as renewed geopolitical volatility, there is still reason for guarded investor optimism. The surge in global FDI in 2021 surpassed pre-pandemic levels, reflecting not only strength leading into the current period of uncertainty, but also the capacity for FDI to rebound rapidly when exogenous shocks and dislocations occur. Further, UNCTAD finds that investor confidence was particularly strong in infrastructure sectors, an area that is likely to see more gains in the year ahead. In addition to the aforementioned $1.2 trillion package passed in the United States, there are signs of growing infrastructure investment elsewhere in the world.
The Middle East, for example, is expected to see a wave of infrastructure investment from China, including large potential investments in Oman, Abu Dhabi, and Israel.
And Japan is heavily investing in Southeast Asian infrastructure. In total, the country has $259 billion invested in unfinished projects in Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

Figure 1.16: "FDI inflows and cross-border M&A 2010-2021"



Source: "A.T.Kearney foreign direct investment confidence index , 2022 "

The offshoring strategies have had great importance,

They are a key element for companies that want to position themselves decisively on the international competitive scenario and, in order to seek greater efficiency and new growth opportunities, relocation activities have exploded in recent decades.

Factors that have contributed to the rapid progress of this phenomenon have been, for example, the development of ICT technologies and the facilitation of the movement of people, capital and goods. The companies that are strongly present on the international markets and have adopted strategies of offshoring, are characterized by a high organizational flexibility, however, the coordination between the various activities, dispersed geographically, has not always been so easy.

The offshoring projects, in most of the cases, are started in order to pursue a logical cost reduction, mainly addressing the countries in which the labor cost is definitely inferior. Low cost seeking, therefore, continues to be the prevailing motive, even if in recent years, factors such as the search for qualified personnel, new talents and growth opportunities have been very important drivers.

Undoubtedly, the offshoring strategies, bring considerable benefits to the companies that undertake them, however, we must not underestimate the possible elements of criticality that may emerge. Some empirical evidence, in fact, brings various witnesses of companies that have had to revise their offshoring strategy and in the most extreme cases have had to undertake reshoring projects. There are many reasons for this change of course.

The change in the conditions that motivated the decision to relocate certain activities across national borders and the underestimation of indirect costs are just some of these.

At the managerial level, short-term decisions have often been taken in contrast to the medium to long-term corporate strategy. Following the great financial and economic momentum, the governments of the most developed countries have begun to launch programs aimed at encouraging the return of demoralized activities, in order to increase the level of employment. In addition, cultural distance and loss of quality control have also had a significant influence in pushing companies to reconsider their position beyond national borders. The offshoring is an activity generating of great advantages, but in order to benefit of it, it is necessary to consider all the aspects connected to it and above all the possible scenarios of criticalities that could emerge. In an international competition scenario, all

factors can be relevant, and it is of paramount importance not to neglect any of them. We need an in-depth analysis in order to make the most appropriate decisions and not make errors of assessment because of the rush. "A lot of chief executives offshore too quickly and too much" with these words Porter summarizes the problems related to the phenomenon of offshoring (The Economist, 2013).

In the next chapter, our attention will be focused on the phenomenon of reshoring, in particular on its evolution and on the decisive drivers for the conversion of offshoring project.

CHAPTER 2

RESHORING

2.1 THE RESHORING PHENOMENON

The phenomenon of return to the country of origin of previously offshored companies has been defined in various different ways over the years.
It is important to understand what these different terms and definitions are to have a more in-depth vision of such reconsideration of the internationalization strategy. We intend – through the research by Frattocchi et al. (2014) – to clearly define such terms to avoid possible misunderstandings.
We may find the following terms:

- return relocation: the first expression used by Jungnickel (1990) to mean both the return to the country of origin of certain operations and the full/partial shutdown of the delocalized unit;

- in-shoring: Skipper (2006) used this term to identify the opposite of delocalization; others used it to describe both the return to national plants of delocalized operations and the creation of new business activity in the country of origin (Dholakia et al., 2012);

- back-shoring: an expression mainly used by German academics. Holz (2009) is said to have coined its initial definition, namely "*the relocalization in the in the country of origin of value-adding activity previously delocalized internationally*";

- reshoring: a term recently used by US scholars including Ellram and Gray (2013) to define the decision to bring production activity "back home".

Moreover, Ellram and Gray (2013) conducted a more in-depth analysis considering a broader definition of offshoring, including both externalized and internalized operations. They classified the reshoring phenomenon into four different types: a) outsourced re

shoring, where the operations previously assigned to foreign suppliers are allocated to national suppliers; b) in-house reshoring, where the operations previously performed by foreign branches are handed to national, but still privately owned, branches; c) reshoring for outsourcing, where operations previously performed by privately owned foreign branches are handed to national suppliers; d) reshoring for insourcing, where the production activity by foreign suppliers is handed to privately owned branches.

Kinkel (2014) has also attempted to analyse the reshoring mechanisms, subdividing the relocalization operations into two categories: outsource backshoring, where production was performed by third parties; and captive backshoring, where the foreign plants were owned by the business itself. According to the German scholar, in the first case the main issues are related to product quality and logistics costs, and in the second case, the issues include coordination between the headquarters and the foreign branch.

Frattocchi et al. (2014), defined reshoring as "*a voluntary corporate strategy regarding the home country's partial or total relocation of value activities to serve the global, rather than regional, demands of existing or totally new products that rely on internal (captive) and/or external (outsourcing) governance modes*".

2.1.1 REASONS FOR RESHORING

Both reshoring and offshoring are particularly common among developed countries, such as the United States and those comprising the European Union. By moving to low-cost manufacturing countries, these companies have historically been able to cut production costs on factors such as labor, raw materials, and processed components.

In deciding whether to offshore their operations and where & how best to offshore them, companies typically consider trade-off transport costs, scale economies, and other cost-based variables (Mac-Cormack et al., 1994), as well as strategy, risk management, flexibility, and supply chain reliability (Tate, 2014).

In recent years, a lot of these factors have shifted away from favoring offshoring, leading companies to bring their operations back or otherwise invest in operations in their home countries.

This concept is known as reshoring. Unlike offshoring, reshoring globally is much less

studied, and data on the phenomenon is scarce.

While there are various definitions of the term “reshoring,” working off of a modified definition combining those utilized by Backer et al. and by the Reshoring Initiative, this paper defines it as the reverse decision with respect to a previous offshored process resulting in the transfer of activities to the home country of a company.

Crucially, reshoring does not have to include the repatriation of all previously offshored activities. In fact, under the Reshoring Initiative's definition, reshoring also includes a domestic manufacturer taking market share from a foreign manufacturer, as well as the domestic production of entirely new products that replace the function of different products that had previously been imported.

Depending on the industry and the home country of a company, a company's decision to reshore operations is based on a variety of factors and has been explained through a multitude of theories.

According to Backer et al., some of the major reasons that lead to reshoring include the changing cost structure in emerging countries, growing digitalization of manufacturing in developed economies, miscalculation and underestimation of the full costs of offshoring, the co-location of R&D, innovation, and production, potential threats to intellectual property when offshoring, the balancing of costs savings and risk dispersion, proximity to markets and increased flexibility of production, and finally, specifically in the United States , a weakening dollar and the shale gas / oil revolution.

Though there has definitely been a rise in reshoring in recent years, especially in developed countries such as the United States, the significance of the effects of reshoring on national economies is still highly debated.

Anecdotal evidence in the form of news headlines points to the growing importance of the phenomenon, but studies point out that reshoring creates a limited number of jobs and that these jobs are increasingly meant for high-skilled workers (Backer et al., 2016).

Further, experts continue to point to the fact that though reshoring seems to be growing in terms of absolute numbers in recent years, offshoring doesn't seem to be slowing down.

As highlighted in a 2015 report published by the Peterson Institute for International Economics, "discussions of reshoring generally focus only on movement in one direction ... proponents of reshoring do not take into account the many firms that have expanded

offshoring over the same period, a substantial number of which are the same firms with highly publicized reshoring efforts "(Oldenski, 2015).

Even under President Trump, who pledged the return of manufacturing jobs back to the US as part of his campaign and during his presidency, the Labor Department signed 2,095 "petition for help under a federal designed to aid those harmed by trade covering 202,151 workers who lost jobs that moved abroad "(Aeppel, 2021).

The number of such applications filed and the number of workers they cover serve as some of the more commonly used measures of offshoring.

During the Trump administration, they amounted to only slightly less than the number of petitions covered (2,170) and workers covered (209,735) during the last four years of the Obama administration, pointing to the notion that offshoring doesn't seem to be significantly decreasing in recent years.

As such, though it is important to examine available data on reshoring and identify reshoring trends among various counties and industries, it is also important to keep in mind how limited this data really is, and how (relatively) few studies measuring aggregate economic effects of reshoring have been conducted.

It is also worth noting that more recently, protectionist trade policies in nations such as the United States, and tech wars between large countries such as the US and China, coupled with the COVID-19 pandemic, have contributed to unreliability surrounding companie’s dispersed global value chains and have further contributed to a rise in companies' interests in reshoring, as well as to a rise in reshoring itself.

The recent nature of these developments and the data associated with them further complicated performing research that factors such developments into measuring the importance of the effects of reshoring.

Table 2.1: "Factors that generate the need to reconsider manufacturing location and advantages of nearshoring or reshoring "

Factor indicating need to reconsider location
Strong domestic customer base is being served by offshore manufacturing
Very sensitive IP
Increasing shortages and price increases of local, routinely needed services, like transportation, warehousing, and labor as indicated by factor market rivalry. Generally increasing price levels significantly faster than global averages.
Repeated environmental and/or human rights violations
Regional financial instability in manufacturing location
Labor costs are a decreasing factor in manufacturing due to automation, or could be due to potential automation
Potential advantage of nearshoring or reshoring
Reduced inventory and transport costs, especially with the lowest global fuel costs in North America
Domestic and nearshore locations offer greater protection and enforcement. Easier to monitor closer locations
More predictable pricing and availability
Greater visibility, commonality, and enforcement of sustainability laws
Locating in the same region as customer may create a more balanced financial flow, stability in currency exchange
Since cheap labor is generally a major advantage of low cost countries, it might be worth reanalyzing the situation

2.1.2 RECENT TRENDS

As mentioned previously, data on reshoring, even in countries where it is relatively more available, is still quite limited. As such, companies and organizations have created their own definitions, metrics, and data collection methodologies in order to gauge reshoring trends over the last several years.

These range from broad metrics extracted from general economic data, and trends observed through surveys of company executives. The summary below utilizes a variety of such data to provide an overview of recent reshoring trends among US companies.

According to the 2020 US Reshoring Index published by Kearney, COVID-19 played a significant role in disrupting recent reshoring trends.

The report utilizes the US manufacturing import ratio (MIR) as one of its primary metrics in assessing the country's reshoring trends, specifically examining US imports from 14 Asian low-cost countries (LCCs) as a percent of US domestic gross manufacturing output.

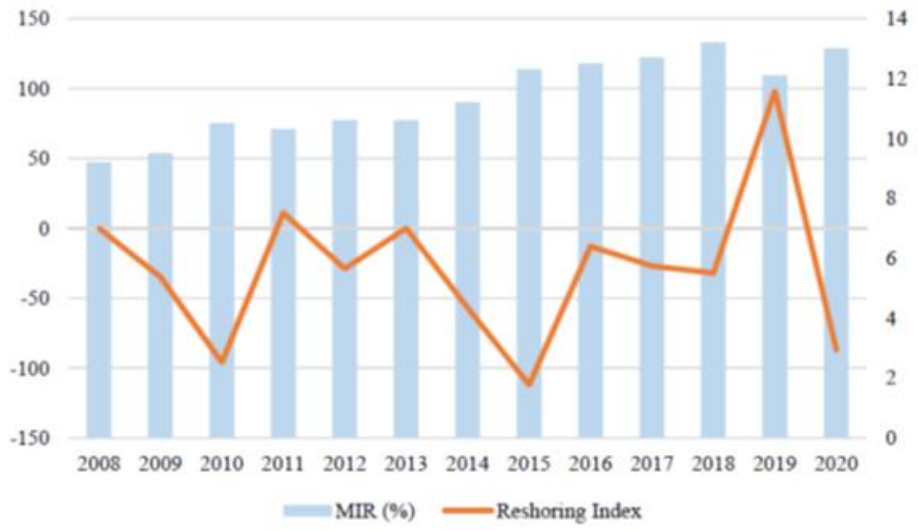
The change in basis points among this metric annually composes the Reshoring Index, and sheds light on whether the US is increasingly or decreasingly relying on imports from these countries.

The US domestic manufacturing import ratio experienced a steady climb between 2011 and 2018, indicating an increasing reliance on LCCs. However, in 2019, the MIR sharply dropped, leading to a positive Reshoring Index, before increasing again in 2020.

As the Kearney Index explains, the 2020 increase is more nuanced than it seems, and reflects a decrease in domestic manufacturing due to COVID-19, which then increased reliance on LCC imports. The data is particularly interesting with respect to China. Though recent political and trade tensions point to a rise in decoupling among the two countries, US reliance on Chinese imports actually increased in 2020. Kearney explains this discrepancy by pointing to the timing of the pandemic: "In March 2020, just as COVID-19 hit hard in the US and neighboring countries, China was moving out of its lockdown period to restart manufacturing. Many US companies, seeking sources of supply to replace halted domestic production, turned to Asian imports, particularly from China" (Van den Bossche, 2021).

The report also notes that as US manufacturing recovered, US reliance on Chinese imports declined Apart from analyzing more broad economic data, the Kearney 2020 US Reshoring Index also sheds light on reshoring perspectives through surveys of 120 US manufacturing executives from a range of company sizes and more than a dozen industry categories.

Figure 2.2: "US Reshoring Index"



Source: Kearney 2020 US Reshoring Index

The survey found that 41% of executives said their companies reshored at least some parts of their operations to the US over the previous three years, and that 22% said their companies plan to do so over the next three years.

Other findings included (1) 49% of respondents agreeing that the benefits of production in the US outweigh higher labor costs, (2) 52% reporting that COVID-19 caused their companies to increase domestic manufacturing, (3) 48% agreeing that current domestic and international trade policies sufficiently encourage reshoring, (4) 47% stating that their company will seek to reduce dependence on a single country or manufacturing location through diversification of supply chains, and (5) 41% specifically stating they will seek to reduce dependence on China for manufacturing.

Though these findings point to continued interest and intent towards reshoring, Kearney notes that companies expressed an even greater interest towards nearshoring to Mexico or Canada, especially in larger companies and those with existing offshore facilities.

As such, the report predicts that companies will explore nearshoring in parallel with reshoring in coming years.

Another prominent source of reshoring data and its analysis is the US Reshoring Initiative, an organization dedicated to the promotion of reshoring by US companies.

The US Reshoring Initiative compiles its data by tracking, compiling, and analyzing articles about companies' reshoring decisions, as well as through privately submitted reshoring case studies and other privately documented cases.

In its 2020 report, the organization found that jobs created through reshoring in 2020 totaled over 109,000, bringing the cumulative total of jobs created between 2010 and 2020 to over one million. Further, the report noted a record number of companies reporting reshoring and foreign direct investment: 2 decisions in 2020, amounting to 1,484 such companies.

In citing the factors that contribute to companies' reshoring and foreign direct investment decisions, the US Reshoring Initiative cites the prevalence of positive domestic factors over negative offshoring factors. In terms of positive influencing factors, between 2010 and 2020, companies overwhelmingly listed: proximity to customers and market, government incentives, skilled workforce availability and training, eco-system synergies, and image/brand.

Negative offshoring factors, on the other hand, included quality, rework and warranty, freight cost, supply chain interruption risk / natural disaster risk / political instability, total cost, and tariffs.

Notably, in 2020 alone, COVID-19 was the single most cited influencing factor, and supply chain disruption as a factor experienced a 1000% increase in reporting.

The US Reshoring Initiative provides a thorough analysis of reshoring trends by industry though it also provides this data as a combined result of reshoring and FDI.

In 2020, the organization found that the industries with the largest increases in jobs as a result of reshoring were the following: Transportation Equipment (29,185 jobs, 19% of jobs added), Medical Equipment & Supplies (21,421 jobs, 14% of jobs added), Chemicals (20,120 jobs, 13% of jobs added), Electrical Equipment, Appliances & Components (19,677 jobs, 19% of jobs added), and Computer & Electronic Products (13,989 jobs, 9% of jobs added).

Transportation Equipment, as noted by the Reshoring Initiative, likely leads the pack because it is an industry in which the size and weight of the products that are typically manufactured suggest that offshoring did not offer significant total cost savings to begin with.

As companies have realized this, they have started to shift their operations back to the United States. Further, as explained by the report, as a result of COVID-19-driven need for PPE, vaccines, and treatments, the category of Medical Equipment and Chemicals experienced the largest relative increase as percent of total jobs added by reshoring and FDI.

Though the US Reshoring Initiative reports the countries from which US companies reshore their operations, they note that this data is incomplete because only roughly a third of reshoring cases report this information.

Cumulatively, from 2010 to 2020, the organization reports that China was the source of 46% of reshoring in cases where the original country of operations was reported.

The US Reshoring Initiative predicts the actual rate of reshoring from China is in reality significantly higher, but companies do not indicate the country for fear of retaliation.

More broadly, in cases where companies report the region from which they are reshoring, 61% of jobs in these cases come from Asia. The Reshoring Initiative also notes that this rate is likely to be higher in reality, but because the number of companies reshoring from China is underreported, so is the total number of companies reshoring from Asia.

As a result of the limitations of data related to reshoring by country, it is difficult to measure

the true effects of the US-China trade tensions and the countries' trade war in recent years.
Another study by Zhai et al. (2016) analyzed 139 cases of reshoring of American manufacturing from China between 2009 and 2015.
The study revealed that although factors related to cost were the most important as a group factor, the most important single factor for reshoring in the cases analyzed was the decision by companies to put a greater focus on quality. The authors further found that 18% of all companies analyzed in the study that chose to reshore were part of the electronic industry, 14% fell under fabricated metal products, and 12% fell under measuring, analyzing & controlling instruments.
It's worth noting that this analysis was performed before the commencement of the Trump presidency and the escalation in trade tensions and the tech war between the United States and China, all of which have increased the incidence of reshoring from China.

2.1.3 PREDICTION FOR THE FUTURE OF RESHORING

Numerous surveys and reports predict the increase of reshoring in subsequent years. The Reshoring Initiative, for example, predicts that 200,000 jobs will be added to the US economy as a result of reshoring and FDI in 2021, approximately two-thirds of which will come directly from reshoring.
The 2020 Kearney Reshoring Index report predicts that as the effects of the pandemic begin to subside and the world moves towards pre-pandemic economic levels, the US phenomenon of decreasing its reliance on LCC imports will continue, and the Reshoring Index will once more take on a positive value, i.e., imported manufactured goods from LCCs will form a smaller percentage of total domestic output.
In line with the findings from Kearney's survey of 120 US manufacturing executives discussed earlier, a 2020 survey conducted by global research and advisory company Gartner of 1,300 supply chain professionals revealed that 87% of those surveyed plan to invest in their companies' resilience within the next two years.
Similarly, the 2021 BDO Manufacturing CFO Outlook Survey revealed that 25% of the 100 manufacturing industry CFOs surveyed plan to conduct a supply chain risk assessment, 24%

plan to relocate to another country, and 22% explicitly stated that they plan to reshore operations to the US.

Lastly, the May / June 2020 Thomas Industrial Survey revealed that "Two in three (69%) manufacturing companies are looking into bringing production to North America (compared to 54% in February) "(Ma, 2020). As demonstrated by the above, a multitude of surveys conducted in the last year point to a heightened interest in reshoring in coming years.

However, the aforementioned growth in reshoring will not be without its nuances. As noted by the Reshoring Initiative, COVID-19 will have dual effects on reshoring: on one hand, the pandemic has highlighted vulnerabilities in companies' global supply chains and created motivations for reshoring. On the other, reshoring growth will largely depend on the recovery of the economy following the disruptions caused by the pandemic.

In a similar vein, the Reshoring Initiative points to the dual nature of the effects that Biden's presidency may have on the growth of reshoring in the United States.

Among other policies, some of the Biden administration's proposed plans that support reshoring include the targeted goal of the creation of five million manufacturing jobs, the potential provision of novel tax incentives, and possible implementation of a 10% offshoring tax penalty on overseas production sold in the US on the other hand, Biden's administration has vowed to keep the dollar strong, raise the minimum federal wage to $ 15 / hour, and raise the corporate tax rate from 21% to 28% - all proposed policies that would increase company costs and disincentivize the moving of operations back to the United States.

Significantly, the Biden administration has also endorsed the implementation of a 15% minimum global corporate tax rate (Wilkies 2021).

If adopted, a global minimum corporate tax rate would act as a safeguard measure and would discourage United States companies to keep operations in countries that have historically acted as tax havens for these firms. Also, as noted by the Reshoring Initiative, “the biggest challenge [to increasing reshoring] will be bolstering our skilled workforce, which is not adequate to support a much higher rate of reshoring "(Reshoring Initiative 2021).

Finally, when thinking about the future of reshoring and the above predictions, it is important to keep them in perspective. Specifically, as discussed previously, a rise in reshoring (1) does not at all point to a corresponding decrease in offshoring and (2) creates economic effects that are difficult to measure and potentially limited, especially in the context

of the aggregate global economy.

Regardless, it is undeniable that the pandemic, as well as US-China political tensions, have exposed uncertainties in companies' global supply chains, encouraging more executives to consider reshoring their operations. As such, it will become more and more critical to monitor the phenomenon and measure its effects in the coming years.

Though growing in recent years, the future of reshoring isn't as straightforward as it seems. Despite its rise, the number of companies bringing operations back home remains relatively low, and studies have not yet been able to show that reshoring contributes to the creation of a significant number of jobs domestically.

On one hand, some research cites increased unreliability of global supply chains as a factor that will continue to motivate the increasing of reshoring (The Reshoring Initiative 2021). On the other hand, research has shown that in 2020, increased unreliability from COVID-19 had actually shut down domestic manufacturing and increased the United States' reliance on imports, plunging reshoring for the year, as measured by the Reshoring Index (Van den Bossche, 2021).

Obtaining a better understanding of the direction reshoring will take in the future necessitates further research of the topic. It is critical to explore the concept of reshoring in order to understand how companies are thinking about the decision to bring operations home, how countries are thinking about the incentivization of this practice, and how people within developed and developing nations are and will continue to be affected by the phenomenon.

2.1.4 FOREIGN DIVESTMENT

Frattocchi broadened the definition of reshoring, making several observations on the concept of foreign divestment.

Considering the foreign partner as a whole, foreign divestment consists of a reduction of FDI shares (Boddewyn and Torneden, 1973). Such a definition is not applicable in the case of the return of a single operation, for instance manufacturing. Moreover, divesting does not mean transferring the business in concern to other facilities (McDermott, 1989). The reshoring phenomenon is distinct from the foreign divestment concept in that it implies the transfer of certain operations to the country of origin. Furthermore, this event does not necessarily

involve the full transfer of FDI shares but is based on the return of even a single production line.

In this regard, in his analysis of the various definitions offered in literature, Frattocchi (2014) listed the three main features of reshoring:

1. it is the opposite decision to the one made in the past, namely offshoring;
2. it does not necessarily imply the repatriation or shutdown of all delocalized activities or entire plants;
3. it is essentially relocalization towards another site in the country of origin.

2.1.5 NEARSHORING

In the previous chapter, this term was used to describe certain offshoring strategies. Nevertheless, such a concept may be used inversely in this scenario. Indeed, nearshoring strategies define the relocalization of operations previously delocalized overseas in nations relatively close to the country of origin of the parent company. A common example may be a US company that had previously launched a plan to offshore to China, then decides to move a part of the same operations to Mexico.

Such decisions are made to improve control and to save on management costs. Moreover, they allow a considerable reduction in the so-called time-to-market. Such a result turns out to be quite relevant for products with a short lifecycle.

2.2 DRIVERS AND NUMBERS

Numerous variables have pushed businesses to reconsider their internationalization strategies and corporate structures. A growing number of firms are implementing reshoring strategies. Conditions are volatile, and the drivers behind offshoring strategies are the same that currently guide a return to the home country of previously delocalized operations. Dachs and Kinkel (2013) agree that reshoring may be caused by a deterioration, in time, of the conditions existing when the decision to offshore was made (Frattocchi, 2014).

Research and analyses concerning the repatriation of previously delocalized operations are still limited and focused on the manufacturing field. A database was created through secondary sources thanks to the Italian initiative "Uni-CLUB MoRe Back-Reshoring". About 500 cases of reshoring operations were documented. It is important to underline that the latter include production activity alone and not the service sector.
Moreover, given the limited sample, the data shall be interpreted cautiously and comparatively. You may observe what the motivations behind corporate return strategies are. The reasons include the increase in delivery costs and time, the reduction in labour cost gap, the "made in" effect, and the improvement in customer service.

Table 2.3: "Motivations behind reshoring decisions"

Factor	Motivation	# of businesses
Costs	Logistics	95
	Reduction in labour cost gap	70
	Reduction in total cost gap	54
	Re-import duty	3
Logistics (other than costs)	Delivery time	78
	Minimum purchasable quantity	13
Effects of world crisis	Impact of world crisis	26
	Labour union pressure on parent company	9
	Poor use of domestic production capacity	8
	Poor economic/financial results	5
Elements related to the country of origin	Positive "made in" effect	87
	Subsidies for relocalization	28
In-house and business-related elements	Global reorganization of the network	43
	Struggle to control delocalized plants	32
	Focus on innovation strategies	20
	Need for greater organizational flexibility	17
	Sentimental aspects (family businesses)	8
Marketing and sales	Improvement of customer service	53
	Closeness to the consumers	36

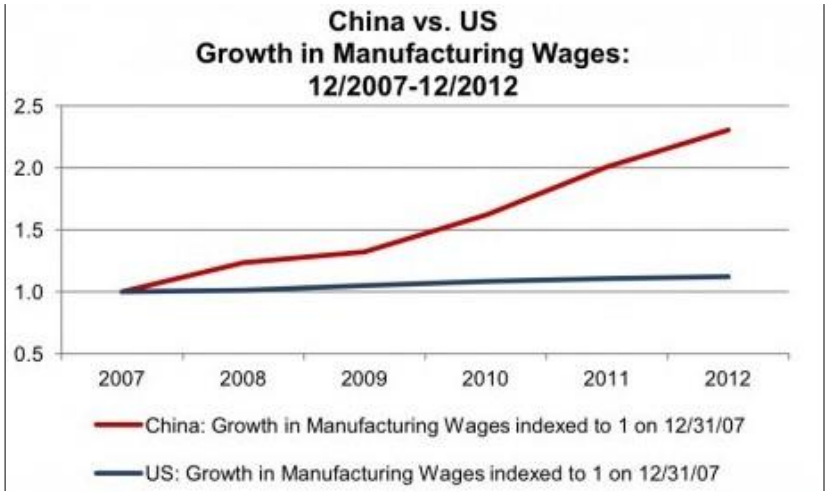
Source: Uni-CLUB MoRe Back-reshoring

The main reasons include the increase in delivery costs and time, the reduction in the labour cost gap, and the "made in" effect.
A fundamental driver was the reduced labour cost gap (Frattocchi et al., 2013). In the past few decades, we have witnessed an exodus of manufacturing activity mostly to Asian countries where businesses found qualified labour at a low cost (The Economist, 2015). The Boston Consulting Group estimated that in certain highly industrialized areas of China, such as the Yangtze River Delta, where trained staff is available, salaries have grown by a large margin. In fact, labour costs in such area are 70% of the US equivalent: a significant increase if you consider that the costs amounted to 31% in 2010. In 2003, the gross salary of a Chinese worker in an urban area was 13,696 yuan per month, whilst in 2013 it was

more than triple: 50,723 yuan (Il Sole 24 Ore, 2015).

Considering the whole of Asia, the International Labour Organization has estimated that between 2000 and 2008 real wages have grown by 7.1-7.8% per year. In emerging countries like China, salaries are on the rise even thanks to favourable government policies. Moreover, rapid industrialization and the enormous input of FDI shares have improved workers' quality of life, pushing them to request higher wages.

Figure 2.4: "Wage growth in the manufacturing sector, China vs. U.S.A, 2007-2012"



Source: U.S. National Bureau of Labor Statistics, Bloomberg

In MDCs like the United States, wages grow at a substantially lower pace or even remain stable. Such a situation strongly affects offshoring strategies and leads to a reconsideration of the organizational choices made. A factor linked to this is the high staff turnover and the struggle to find trained staff, implying a decline in productivity. The high concentration of businesses makes it so that the demand for trained and reliable staff is very high, competitors are willing to offer a higher wage to attract employees, and the latter are willing to abandon their companies for slightly higher pay. Such an unstable situation makes inspection and coordination costs inflate. Another crucial element is transportation, especially in terms of overseas delocalization.

Long delivery time and minimum quantities, depending on the size of the cargo containers, will causes a reduction in organizational flexibility (Ferreira and Prokopets, 2009).

The logistics factor is especially relevant in contexts where time-to-market is essential for

competitive advantage, as shown by Zara's recent decision to shift a part of supply previously from Asian countries to Portugal and the Mediterranean Basin (Frattocchi, 2014). Moreover, some of the international transportation routes have become riskier, such as parts of the Indian Ocean (UniClub MoRe Back-reshoring, 2014).

The wage gap between countries is still high, yet the growing transportation costs invalidate the advantages of producing where labour costs are lower (The Economist, 2013).

Businesses are only recently discovering the disadvantages of distance. Even innovation has heavily suffered from the separation between production – outsourced to low-cost countries – and R&D, normally located in the country of origin of the parent company (The Economist, 2013).

In nations like China, it is difficult to safeguard intellectual property, because the related laws are much more restrictive. Maintaining the desired quality standards is an issue, as both the cultural and physical distance make quality control complicated and costly.

For manufacturing companies from countries like Italy, a fundamental factor to consider in case of a transfer of production is certainly the so-called "made in" effect, thus the prestige and the possibility to set a higher premium price.

Two more crucial factors that cannot be underestimated are environmental protection and occupational safety.

In LDCs, companies often operate without respecting the environment, and – in most cases – working conditions are not the least bit acceptable.

Society is becoming growly responsive to such severe issues, and Western companies cannot afford to perform their activity without considering these factors: it would have negative repercussions on the company – bear in mind the sad story of Foxconn, nicknamed the "suicide factory", and one of the greatest Taiwanese contractors in the field of technological device (especially smartphones) manufacturing (La Repubblica, 2013).

Finally, a very important element to not underestimate is the "country risk" and the "foreign exchange risk".

Country risk is related to a situation of strong internal instability that may cause a breach in the supply chain (The Economist, 2013). Foreign exchange risk is related to currency trends and monetary policy, for instance the Chinese yuan which has recently recorded great appreciation.

As a consequence of the above, the drivers of reshoring decisions in the manufacturing sector may be listed as follows:

- increase in labour cost
- reduced productivity
- transportation costs and time
- negative effects on innovation
- struggle to protect intellectual property
- reduced quality standards
- high control and coordination costs
- cultural differences
- “made in” effect
- country risk
- environmental issues and work safety
- foreign exchange fluctuations
- government incentives

Micelli et al.(2015) have additionally subdivided the drivers into three different categories: economic, operational, strategic, and institutional. Economic drivers include, for instance, the increase in labour cost in LDCs and purchase price uncertainty. Operational factors consist, instead, of the lack of flexibility due, for instance, to a very long supply chain at an international level and slow transportation time. Strategic drivers include the positive effect of “made in” on the corporate image and reputation.

Finally, government incentives, country risk, environmental issues, and work safety are included among institutional drivers.

The academic world has only recently approached the reshoring phenomenon: available evidence is still limited, and, in most cases, it only focuses on production activity.

It is therefore useful to also resort to the contributions of the main economic operators, centring on the facets of a such phenomenon from a geographic perspective in terms of both the country of origin and the country from which businesses return (Frattocchi et al., 2014).

The Uni-CLUB MoRe Back-Reshoring project has given life to a database that describes the magnitude of the phenomenon. As at 2015, an estimated 500 businesses have reshored. Considering that only 64 cases were recorded in 2011, an exponential growth occurred in only 3 years.

Table 2.5: Decision to reshore by country/area abandoned"

Geographical area/Country	Back-reshoring	
China	299	80.8%
Asia (other than China)	64	17.3%
Asia (not specified)	4	1.1%
Japan	3	0.8%
Asia	370	72.1%
Eastern Europe & former USSR	51	56.0%
Western Europe	40	44.0%
Europe & former USSR	91	17.7%
North Africa & Middle East	10	
North Africa & Middle East	10	1.9%
North America	26	
Central & South America	8	
Americas	34	6.6%
Oceania	2	
Oceania	2	0.4%
Not available	6	1.2%
Total	513	100.0%

Source: Data processed by Uni-CLUB MoRe Back-reshoring

The countries recording the most cases of return were the United States, Italy, and Germany, respectively.

Italy is thus the country with the second most cases of reshoring after the U.S.A. Such data is coherent, in that US businesses in the manufacturing sector are the ones that have used offshoring the most, while Germany and Italy are the two greatest manufacturing nations in the European Union.

With 80% of the cases recorded, China is the country from which the greatest number of businesses have reshored, followed by other Asian countries and Eastern Europe.

This data is also in line with empirical evidence, in that China has always been the main destination in offshoring strategies.

Moreover, it is a country where labour cost has increased significantly and where the protection of intellectual property is difficult. As well as offering numerous market opportunities and infrastructure, it is a nation fraught with risks.

It is highlighted how about 60% of the return initiatives by Italian businesses refer to offshoring decisions made within the 10 years prior to relocalization, but only 25% have implemented them in less than 3 years (Frattocchi, 2014).

Such data differs from the results of previous research by the likes of Kinkel and Maloca (2009) who, upon analysing a sample of German companies, observed that return decisions were taken within a period between 3 and 5 years.

This result tells us that the reshoring phenomenon is a short-term correction of previous delocalization choices.

The analyses by the workgroup tell us, instead, that repatriation strategies are not only the consequence of management errors but that they also depend on medium/long-term changes in the reference context (Frattocchi et al., 2014).

Table 2.6: Italian businesses: subdivision by duration of the offshoring experience and country of delocalization

Interval	China	Asia (other than China)	Eastern Europe	Central and South America	North America	Western Europe	Total
Less than 3 years	17	3	2	1	1	2	26
3-5 years	40	5	8			3	56
6-10 years	32	12	4	1	1	2	52
Over 10 years	31	16	14	6	1	11	79
Not available	30	22	10	9	1	9	81

Source: Data processed by Uni-CLUB MoRe Back-reshoring, 2014

As we have previously seen, the United States and Italy are the countries where the most cases of reshoring have been recorded.

In the following paragraphs, we shall analyse the situation in the respective contexts, focusing on *how* such return operations have occurred. We shall do this by referencing the most emblematic case studies that allow an observation and analysis of the organizational decisions leading to a reshoring process.

2.3 RESHORING IN ITALY

Other than the United States, Italy is the country that has recorded the most cases of reshoring, especially by businesses that had delocalized to China or Eastern Europe. Despite the great Italian manufacturing tradition, numerous companies have chosen to offshore in the past few decades. Nevertheless, the growing costs, the distance issues, and an exponential request for "Made in Italy" products have pushed businesses to reconsider their international position. Companies with "sophisticated" customers have acknowledged that manufacturing delocalization may be counterproductive in terms of product quality and corporate reputation. On the other hand, complex sectors such as precision engineering require a mix of know-how, technology, and specialist work that are hard to source in emerging countries (Il Sole 24 Ore, 2015).

2.3.1 GOODBYE DELOCALIZATION, WELCOME TO RESHORING

The manufacturing sector is coming back home. After years of delocalization, the trend is reversing. As a consequence of market stagnation, logistics issues, an increase in production costs in the host countries and, in some cases, incentives to return, a growing number of companies are finally deciding to abandon foreign production and go back to their home country. The phenomenon is called back reshoring and, according to a research study by the UniCLUB MoRe Back-reshoring Research Group, Italy is experiencing it in full throttle.
In fact, our country is recorded to be in second place in terms of returning companies, after the United States and ahead of Germany, the United Kingdom, and France. The tendency to internalize can only be considered positive, as it brings resources, perspectives, tax revenue, and also a renewed consideration of the Made in Italy label: a topic that Stela has always based its activity and corporate philosophy on.
The question that we should ask ourselves is: "why return home?"
The reasons that are leading more and more companies – even in the most disparate sectors – to return to the country of origin are especially related to a renewed and general production advantage.
While at first companies tended to delocalize given the reduced labour and manufacturing

costs, the greater closeness to the end users, the less invasive bureaucracy and the facilitated tax regimes, things are changing nowadays.
According to a specific report drafted by ANIE-Confindustria (Italian association of electrical engineering companies), the main factors in the decision to relocate to the country of origin are: production quality, the closeness to Italian R&D centres, the reduction in logistics/transportation costs, and the substantial non-competitiveness of current foreign production and labour costs compared to local costs.
Such motivations are complemented by the shorter delivery time and a renewed perception of the quality of Made in Italy manufacturing: an indicator of quality, creativity, and top-notch production.

2.3.2 DATA AND NUMBERS

Diversification, replication, reshoring, and near-shoring are the four categories in which – according to UNCTAD – the readaptation strategies related to global value chains pursued by firms following the COVID period may be classified.
More specifically, the definition of diversification by the UN agency for trade and development is: the development of partnerships with businesses in countries where manufacturing and sales occur, aiming to increase the popular 'resilience' and offering greater customization of goods and services, though reducing the possibility to achieve economies of scale.
The second possibility is replication: in short, companies replicate a very substantial part of their value chain in the different countries of destination, fully sacrificing the chances of economies of scale; every supply chain would be independent, which is why Unctad considers this the less probable evolution.
The third possibility is near-reshoring, namely the transfer of production activity to the country of origin, which the UN agency considers the "most likely (albeit the most complex) for western businesses today", in that technological innovations allow them to reach growingly high production levels and the opportunity to use the advantages as a marketing tool (e.g., the use of the Made in Italy label). Nevertheless, according to Unctad,

this possibility is more realistic for supply rather than production.

The fourth and final possibility is near-shoring, namely the regionalization of value chains in which operations are not repatriated but transferred to the macro-region of the country of origin.

A scenario considered interesting by European businesses (because it offers greater diversification of risks, including geopolitical risks), even because it is the one promoted by the EU in its recent document "*Post Covid-19 value chains: options for reshoring production back to Europe in a globalised economy*", in which it discusses the topic of how to favour the return of value chains in certain strategic and high-tech sectors such as the medical, pharmaceutical, semiconductor, and solar energy sectors.

How are Italian businesses acting (that is, if they *are* acting) in this general framework? According to the report "Ruolo dell'Italia nelle catene globali del valore" (Italy's role in the worldwide value chains) drafted by Osservatorio Export Digitale (observatory on digital export) of the Milan Polytechnic with ALSEA (association of carriers and haulers of the Lombardy region), the scenario seems to be quite varied, but there are numerous cases of reshoring, especially in strategic sectors.

For instance, in a survey conducted by the Bank of Italy on a pool of 3,000 businesses, 60% of those with plants abroad have not reduced their international presence in the past 3 years and do not intend to.

Likewise, 78% of companies with foreign suppliers do not intend to change plans.

Nonetheless, despite the tendency of Italian businesses to maintain a high level of internationalization, a significant number of the ones interviewed (6%) are considering the possibility to bring back foreign production completely. 2% have already decided to return.

A research study conducted by The European House - Ambrosetti in October 2020 – involving 70 Italian businesses with foreign suppliers, customers, or branches abroad – has produced contrasting results.

Nearly 60% have stated that they do not consider the relocation of their activity (in Italy or abroad) strategic.

Some reasons include the unwillingness to adjust their internationalization choices, given they belong to sectors with quite complex global value chains (chemical, pharmaceutical, electronics), and a difficulty to relocate. Others have stated they are discouraged by the

possibility to return to the Italian context, which is less favourable than the foreign context. The research study has also proven that the worldwide health situation has underlined – according to 40% of the pool – the struggles related to having production activity abroad, such as: interrupted or delayed supply, struggle to find the necessary parts and materials, and even the termination of foreign sales. Considering such issues, 20% of the interviewed companies have said they are considering a reorganization of their value chain more locally to have greater control over the activities and processes performed abroad, reduce the exposure to international risk and foreign dependency, and boost their Made in Italy range. To better understand if such considerations may actually translate to a decision to relocate, the report has analysed the cases of return of Italian businesses before the outbreak of the pandemic, based on an investigation by various Italian universities through the "UniCLUB MoRe reshoring" database.

This analysis has attested that as at May 2020, 171 companies have reshored to Italy, which was thus recorded to be the second-best European country in this category (after France) by the number of returns.

Most cases concerned reshoring from other European countries (25% from Western Europe and 21% from Easter Europe and Russia), but a considerable number also returned from China (32%) and other Asian countries (11%).

The most involved sectors to this day have been garments, sewing of leather goods, machinery, electrical equipment, and computer/electronic/optical products, whilst the regions with the highest number of cases were Veneto (54), Emilia-Romagna (28), and Lombardy (22).

Table 2.7: Cases of reshoring to Italy recorded as at may 2020 by region and country origin

Regione	Europe	Asia	Africa & Middle East	Central & South America	North America	n.a.	Totale
Veneto	20	28	1			5	54
Emilia Romagna	17	11					28
Lombardia	10	10			2		22
Marche	6	8	1				15
Piemonte	6	4	1			1	12
Toscana	6	4	1				11
Friuli Venezia	5	1			1		7
Liguria	4	2				1	7
Puglia	2	2	1			1	6
Trentino Alto Adige		2					2
Campania	1	1					2
Lazio			1	1			2
Umbria	1	1					2
Abruzzo		1					1
Totale decisioni	78	75	6	1	3	8	171

Regione	Europe	Asia	Africa & Middle East	Central & South America	North America	n.a.	Totale
Veneto	37.0%	51.9%	1.9%			9.3%	100%
Emilia Romagna	60.7%	39.3%					100%
Lombardia	45.5%	45.5%			9.1%		100%
Marche	40.0%	53.3%	6.7%				100%
Piemonte	50.0%	33.3%	8.3%			8.3%	100%
Toscana	54.5%	36.4%	9.1%				100%
Friuli Venezia	71.4%	14.3%			14.3%		100%
Liguria	57.1%	28.6%				14.3%	100%
Puglia	33.3%	33.3%	16.7%			16.7%	100%
Trentino Alto Adige		100.0%					100%
Campania	50.0%	50.0%					100%
Lazio			50.0%	50.0%			100%
Umbria	50.0%	50.0%					100%
Abruzzo		100.0%					100%
Totale decisioni	78	75	6	1	3	8	171

Source: Data processed by Uni-CLUB MoRe Back-reshoring

It is interesting to notice how most returns to Veneto are from the Asian territory, most of the ones to Emilia-Romagna came back from Europe, and Lombardy recorded the same number of returns from both areas.

As for the main reasons to reshore, the most mentioned is the "made in" effect (78 cases), or the possibility to leverage on the Made in Italy label.

The importance given to the improvement of service quality is also relevant (35 cases), especially for companies returning to Veneto and Emilia-Romagna. For businesses in Lombardy, instead, the most relevant drivers are the need to be close to R&D activity to favour innovation and facilitate corporate restructuring. Production quality was mentioned mostly by Veneto-based businesses.

Table 2.8: Cases of reshoring to Italy recorded as at may 2020 by region and main motivation

Regione	Decisioni	Effetto made in	Miglioramento servizio al cliente	Riorganizzazione aziendale	Vicinanza R&S/Produzione per innovazione prodotto/ processo	Scarsa qualità produzioni delocalizzate
Veneto	54	35	16	6	9	7
Emilia Romagna	28	6	9	7	5	3
Lombardia	22	8	3	6	7	2
Marche	15	6		2	1	3
Piemonte	11	5	2	2	1	2
Toscana	11	2	1	1	2	2
Friuli Venezia	7	4	2			
Liguria	7	4	1	1	1	2
Puglia	6	3		2		1
Trentino Alto Adige	2	2	1			1
Campania	2					
Lazio	2	1		1		
Umbria	2	2				
Abruzzo	1					
Totale decisioni	**170**	**78**	**35**	**28**	**26**	**23**

Source: Data processed by Uni-CLUB MoRe Back-reshoring

Nowadays, the reshoring topic is also affecting Italian policymakers.

In particular, CAIE, the committee for attraction of foreign investment managed by the Italian Ministry of Economic Development, is drafting guidelines for the creation of certain policies, also in agreement with Confindustria (Italian confederation of industrial businesses), which has launched a new national survey.

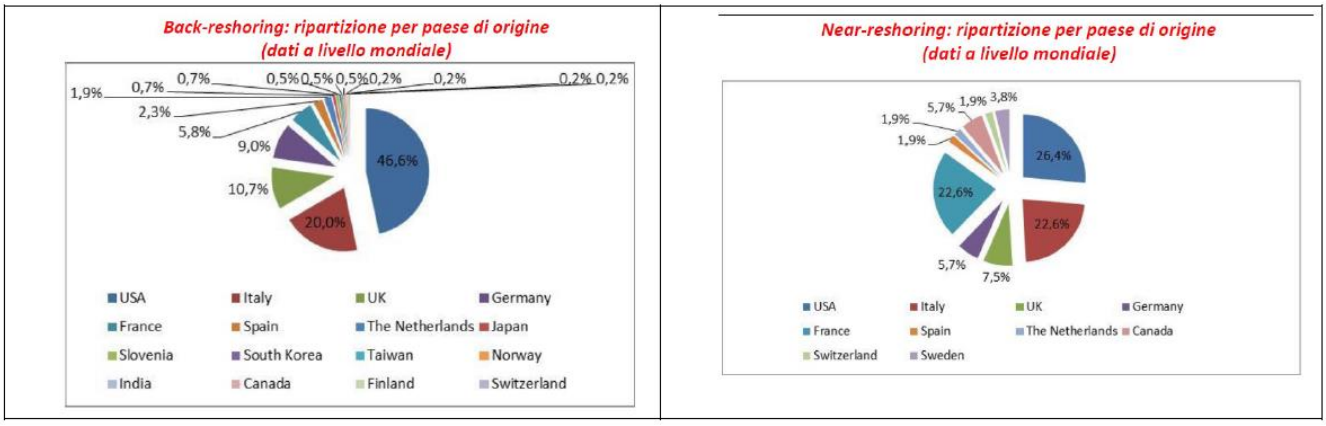
Preliminary data (concerning a pool of 327 firms) show that while, on one hand, the

intention to reshore production plants is rather limited (about 4% of businesses with plants abroad), on the other hand – as far as supply goes – reshoring has already been implemented by about 20% of firms availing themselves of foreign suppliers, and an additional 30% seems willing to consider making use of Italian suppliers rather than foreign ones. Nonetheless, this survey also points out how all not be understood as a form of protectionism or nationalism, but as an opportunity to make the Italian nation more attractive.

For SMEs in particular, it may be an opportunity to provide consumers a higher-quality, more sustainable product manufactured in Italy, thus enter new international markets by selling a more value-added product, "*thus generating a new demand for logistics and transportation services that does not only concern the import of intermediate/finished goods, but also the export of final products*".

According to the analysis, Italy may attract – along with the return of plants in Italy or locally sourced goods – near-reshoring by firms from other European countries: a perspective that once again falls under the strategy outlined in the aforementioned EU report aiming to create a European value chain.

Figure 2.9: Back-reshoring and Near-shoring for country of origin



Source: Uni-CLUB MoRe Back-reshoring Research Group (2016)

Regarding the main drivers, official data and statistics are lacking. This is due to the fact that often, the companies communicate with a lot difficulty data when deciding to produce. This is because many companies have never said they have gone. (Frattocchi, 2014).

The question who needs an answer is therefore the following: "How come various Italian companies choose to relocate their production to Italy, despite the known problems of our country, what high labor costs and taxation? " Uniclub, thanks to careful monitoring of the

network and the press, has identified the following main reasons:

- growing request from products "Made in Italy "
- loss of the check on the quality
- costs and times from transport
- distance between the centers R&D and the establishments productive
- increase cost of the work

The “Made in Italy” brand is the third known brand worldwide, immediately after a Google and Coca Cola. Consumers are more and more demanding, and above all they are more and more attentive to the quality and safety of the products they buy.
To Italian products are associated with characteristics of extreme quality and reliability. In large emerging countries, where the middle class is growing at a rapid pace, the demand for these products is increasingmore and more.
In the period 2005-2014, with the exception of the year in which the fort broke out crisis, Italian exports have had a growing trend and have driven manufacturing Italian.

Table 2.10: "The exports Italian in the period 2005-2014 "

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Export Italy	299.923	332.013	364.744	369.016	291.733	337.346	375.904	390.182	390.233	398.870

Source: Ministry of Economic Development, 2015.

Even the giant Amazon has noticed the potential of these products and at the end of 2015, has opened on its e-commerce site, a showcase dedicated exclusively to artifacts "Made in Italy" crafts. 285 millions of people are Amazon's customers, even for small businesses, this opens up a market with enormous potential, which it could attract new companies to relocate part of their production to Italy (Il Sole24Ore, 2015).
The companies that in the past decades have delocalized totally their productive activities abroad, in the vast majority of cases, they have maintained their R&D centers in the Italian territory.
This distance, however, made coordination difficult and, above all, the ability to innovate

for companies have suffered. To transport a container of goods from the extreme orient to Italy, serve in average give her four at five weeks from time,with all the consequences on operational flexibility. *"Basically, Italian companies they relocate for reasons linked above all to the quality of the workmanship, to the expertise of the workers employed, the opportunities for technological innovation and the will to supply a "tailor-made" service. They are the typical elements of the Italian industry, the real winning weaponson international markets: specialization, craftsmanship of the product, attention to customer, capacity from to improve, creativity"* (The Newspaper, 2015).

2.3.3 RESHORING CASES IN ITALY

The reshoring database contains factsheets with data on reshoring events reported in Italy. Active data collection for the reshoring monitor commenced in February 2016 and some earlier reshoring cases (2014-15) have been identified by Eurofound.
The database was updated monthly until the end of 2018 (end of the project).
Within the scope of this initiative, the following cases of reshoring are considered:

- Companies that reshore to their home country (within the EU) value chain activities previously offshored to another country.
- Companies that reshore to any EU country value chain activities previously offshored to a non-EU country

Table 2.11: "Reshoring cases in Italy"

Company name	Company country	Announcement date	Offshored to	Reshored to	Sector
Steelco Spa	Italy	14/02/2018	Germany	Italy	C27 - Manufacture of electrical equipment
Steelco Spa	Italy	14/02/2018	Austria	Italy	C27 - Manufacture of electrical equipment
Lino Manfrotto + Co., S.p.A.	Italy	20/10/2017	China	Italy	C26 - Manufacture of computer, electronic and optical products
Jacuzzi Europe SPA	Italy	01/03/2017	United States	Italy	C23 - Manufacture of other non-metallic mineral products

Vimec Srl	Italy	11/03/2017	China	Italy	C28 - Manufacture of machinery and equipment n.e.c.
Reno de Medici SPA	Italy	31/10/2017	Germany	Italy	C17 - Manufacture of paper and paper products
Angelini Beauty	Italy	30/05/2018	Spain	Italy	G46 - Wholesale trade, except of motor vehicles and motorcycles
Fastweb S.p.A.	Italy	08/05/2018	Romania	Italy	J61 - Telecommunications
Bomboogie	Italy	12/01/2015	Bangladesh	Italy	C14 - Manufacture of wearing apparel
Bomboogie	Italy	12/01/2015	China	Italy	C14 - Manufacture of wearing apparel
Azimut-Benetti Group	Italy	30/03/2015	Turkey	Italy	C30 - Manufacture of other transport equipment
Noonic	Italy	15/11/2016	India	Italy	J62.0 - Computer programming, consultancy and related activities
Diadora	Italy	14/06/2017	China	Italy	C15 - Manufacture of leather and related products
FIVE - Fabbrica Italiana Veicoli Elettrici	Italy	07/03/2017	China	Italy	C30 - Manufacture of other transport equipment
Calzaturificio Maritan SpA	Italy	09/12/2016	Moldova	Italy	C15 - Manufacture of leather and related products
Calzaturificio Maritan SpA	Italy	09/12/2016	Romania	Italy	C15 - Manufacture of leather and related products
Benetton	Italy	11/10/2016		Italy	C14 - Manufacture of wearing apparel
Natuzzi	Italy	30/08/2016	China	Italy	C31 - Manufacture of furniture
ABB	Switzerland	28/06/2016	United States	Italy	C27 - Manufacture of electrical equipment
Natuzzi	Italy	30/08/2016	Romania	Italy	C31 - Manufacture of furniture
Martini & Rossi	Italy	11/02/2016	Spain	Italy	C11 - Manufacture of beverages
Mango	Spain	20/07/2016	India	Italy	C14 - Manufacture of wearing apparel
Vittoria Assicurazioni	Italy	02/08/2016	Netherlands	Italy	K65 - Insurance, reinsurance and pension funding, except compulsory social security
Unicredit	Italy	21/01/2016	Austria	Italy	K64 - Financial service activities, except insurance and pension funding
Esaote	Italy	20/01/2015	Netherlands	Italy	C26 - Manufacture of computer, electronic and optical products
Comital	Italy	13/06/2014	Sweden	Italy	C24 - Manufacture of basic metals
Iccab	Italy	03/11/2015	China	Italy	C14 - Manufacture of wearing apparel
OVS	Italy	25/10/2015		Italy	C14 - Manufacture of wearing apparel
Turolla	Italy	08/12/2014	Slovakia	Italy	C28 - Manufacture of machinery and equipment n.e.c.

Falconeri	Italy	23/05/2015	Romania	Italy	C14 - Manufacture of wearing apparel
Safilo	Italy	25/07/2015	China	Italy	C14 - Manufacture of wearing apparel
Piquadro	Italy	15/04/2014	China	Italy	C15 - Manufacture of leather and related products
Gta Moda	Italy	10/12/2014	Romania	Italy	C14 - Manufacture of wearing apparel
Ciak Roncato	Italy	23/07/2015	China	Italy	C14 - Manufacture of wearing apparel
Prada	Italy	03/04/2014	China	Italy	C14 - Manufacture of wearing apparel
Rossi	Italy	14/05/2014	China	Italy	C28 - Manufacture of machinery and equipment n.e.c.
Artsana Group	Italy	22/07/2014	India	Italy	C32 - Other manufacturing
Artsana Group	Italy	22/07/2014	China	Italy	C32 - Other manufacturing
Nicos International	Italy	08/04/2016	Bulgaria	Italy	C31 - Manufacture of furniture
Giorgio Armani	Italy	26/02/2016	Switzerland	Italy	C14 - Manufacture of wearing apparel

Source: https://reshoring.eurofound.europa.eu/reshoring-cases

CHAPTER 3

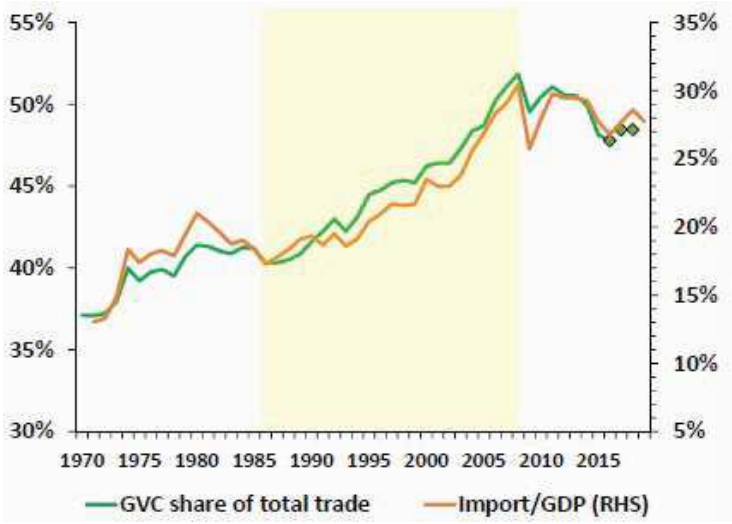
VALUE CHAIN ANALYSIS POST COVID-19 AND UKRAINE CRISIS

3.1 COVID-19 AND GLOBAL VALUE CHAIN

From the mid-1980s until the global financial crisis in 2008, the world economy went through a period of hyperglobalization, during which international economic integration accelerated and grew at a very rapid pace. In about two decades, the ratio of global trade to GDP jumped from around 17 to above 30 per cent. The increase was driven by the surge in cross-border movements of intermediate goods, with GVC related trade rising from around 40 per cent to more than half of total trade (Figure 1, shaded area). Gross cross-border capital flows rose even faster than global trade, growing from about 5 per cent of world GDP in the mid-1990s to about 20 per cent in 2007 (OECD, 2011).

Among them, foreign direct investment (FDI) inflows, a proxy for international investment, increased from about $200 billion in 1990, to a peak of about $1,890 billion in 2007; consequently, over the same period the stock of inward FDI went from almost $2,200 billion to more than $18,600 billion (UNCTAD, 2020). There is a broad consensus in the literature (World Bank, 2020; UNCTAD, 2020; Antr`as, 2020, among others) that such developments were the consequence of several long-term institutional, technological, political and economic drivers. To begin with, during the period 1986-2008, governments around the world gradually dismantled many existing trade barriers.

Figure 3.1: The growing role of trade and GVCs



Source: Update of Borin, Mancini (2019) and World Bank (2020).

The process, which had started with the General Agreement on Tariffs and Trade (GATT) in 1947, intensified in the 1990s and 2000s. The enlargement of the European Community and the establishment of the North America Free Trade Area (NAFTA), of Mercosur in South America and of ASEAN in Asia are remarkable examples of this. In parallel, the Uruguay Round created the World Trade Organization (WTO) in 1994, which China joined in 2001. As a consequence of these institutional developments, the world's weighted average tariff applied on traded manufactured goods almost halved, from 13.6 per cent in 1986 to 7.5 per cent in 2008 (Antràs, 2020).

The gradual removal of trade barriers went alongside the information and communication technology (ICT) revolution. The processing power and memory capacity of computers doubled approximately every two years, while their price in real terms dropped.

At the same time, the cost of transmitting a bit of information over an optical network decreased by half roughly every nine months and the number of internet users doubled roughly every two years. The ICT revolution allowed firms in developed countries to organize and manage the production process remotely and to separate the design and manufacturing processes, a key characteristic of GVCs production. For instance, many US companies increased their use of contract manufacturing, both within the US and in foreign countries where there was availability of skilled (and cheaper) workers (Fort, 2017).

Figure 3.2: International investment agreements signed 1980-2019

Source: UNCTAD (2020).

While the greater scope for fragmenting production across borders generated an increased demand for skilled labour by firms in advanced economies, some political developments in the world resulted in a massive labour supply shock, which permitted those firms to fulfil their demand with lower-cost foreign workers without quickly pushing up the wages in the host countries (Antr`as, 2020).

The fall of communist regimes in Eastern Europe and China's transition to a 'socialism with Chinese characteristics', both of which boosted foreign direct investments in the 1990s, and the economic liberalization that started in India in the early 1990s, were all key political events that increased the effective supply of skilled labour in emerging countries.

Finally, several authors argue that the mechanisms intrinsic to the way GVCs organize their production processes may also have accelerated globalization. For instance, Yi (2003) points out that, when using standard trade models under acceptable assumptions, the reduction of tariffs is unable to generate the observed increase in international trade. To solve this puzzle, he proposes and simulates a two-country dynamic Ricardian trade model with vertical specialization.

This feature involves the increasing interconnectedness of production processes in a sequential, vertical trading chain stretching across many countries, with each country specializing in particular stages of a production sequence.

In this contest, when the vertical specialization increases, it also increases the number of times goods cross a border. A global reduction in tariffs may therefore lead to a magnified

reduction in the cost of producing the final good, because costs decline potentially at each stage of the production process, rather than only at the final stage (as assumed by standard models of international trade). Baldwin and Venables (2013) argue that the technology used within GVCs can even induce a sort of 'overshooting' in the offshoring decisions by firms. Specifically, they study how technology affects the choice of a cost-minimizing firm of where to locate each stage of production, either within the national borders or offshore. They consider two alternative configurations of international production, called snakes and spiders, depending on whether production stages must be performed sequentially (snake) or can be done independently of each other, with parts assembled eventually (spider). In both cases, the location of production derives from the outcome of tension between international differences in production costs and colocation benefits. It is precisely this interaction that induces a systematic tendency for offshoring to 'overshoot', compared with predictions based purely on comparative production costs. Overshooting can occur in both configurations.

In addition, Antràs, Fort and Tiltelnot (2015) show that fixed costs and sequential production may give rise to complementarities in the colocation of inputs that may again lead to interdependencies across the offshoring decisions of individual firms, with the potential to explain the solid growth in offshoring during the period of hyperspecialization. Intuitively, whenever offshoring reduces marginal costs, firms may increase their optimal scale of operation to better amortize the fixed costs associated with further investments in offshoring.

Since the global financial crisis, and especially after 2010, trade has stagnated and worldwide exports of goods and services have slowed down significantly relative to economic growth.

Several academic and institutional observers argue that this has happened because some of the key drivers that had fuelled hyperglobalization during the previous decades had lost steam, while other developments had started to push in the opposite direction.

For instance, as GVC-integrated emerging economies became richer, their domestic real wages increased in relative terms, thereby reducing the incentives for multinationals to invest with the aim of exploiting differences in factor prices (UNCTAD, 2020). This may have lowered the incentive to offshore for firms in advanced economies, especially if

combined with some recent technological advances, such as automation and robotics, which reduce the share of labour used in production.

On top of this, protectionist policies have increased substantially in the last few years, the US-China trade war and Brexit being two significant examples.

Moreover, according to Antràs (2020), the slowdown has been physiological, at least in part also because many measures of globalization are simple ratios or shares and are therefore upper-bounded.

Further impediments to globalization could relate to long-term structural transformations of global economic activity. One is the secular shift from manufacturing to services; as manufacturing goods are more easily tradable than many services, if a higher share of world GDP is accounted for by services, the ratio of world trade to world GDP will necessarily face downward pressures. Another is the observed fall in investment rates experienced in many countries in recent years (García-Santana et al., 2019), which is also significant for world trade because investment goods constitute about 40 per cent of merchandise trade.

In contrast to the global financial crisis of 2007, the COVID-19 crisis has generated not only a demand side shock but also, and to a larger extent so far, a supply side shock.

Since the early stages of the pandemic, the shutdown of production areas in China steered the discussion to the potential supply side disruptions transmitted to other countries through the GVCs. Baldwin and Freeman (2020), for instance, argued that such disruptions were going to be stronger for countries more closely integrated with China through GVC con nections.12 Further, the rapid recovery of China from the pandemic should have revived its imports and exports equally fast.

However, when Chinese manufacturing was getting back on is feet, European and US manufacturing was facing containment measures.

In this sense, the supply-side shock originally emanated from China, but then ‘reinfected’ the Chinese industry, lasting longer. According to this study, such back-and-forth mechanisms are particularly strong precisely because of international integration.

Berthou (2020) finds that GVC participation favors the international transmission of the shocks triggered by COVID-19 containment measures. By relying on the Oxford stringency index 13 and on bilateral trade flows (at product and sector level), Berthou’s results suggest that the supply and demand shocks induced by the lockdowns affected imports and exports

of both final and intermediate inputs.

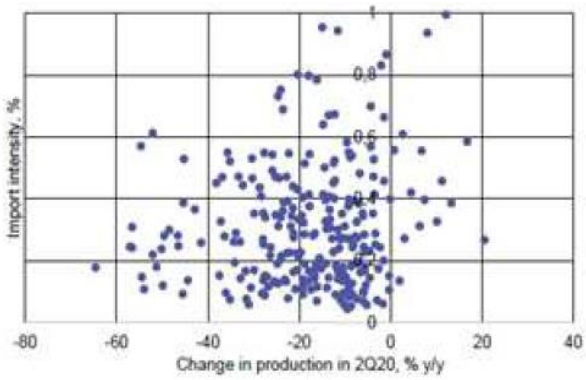
Therefore, all other things being equal, a greater international integration may have exposed a certain country-sector pair to additional COVID-19 shocks stemming from foreign lockdowns, on top of domestic restrictions.

Although GVCs may be an important transmission channel for international shocks, this does not imply that the sectors involved in GVCs have been hit harder overall by the COVID-19 shock, compared with more domestically oriented ones. Indeed, as mentioned above, we have to consider the specific sectoral composition of the shock and the fact that firms involved in GVCs may be more exposed to foreign shocks, but less affected by domestic ones. Simola (2021) uses the production data and ordinary trade statistics of EU countries to provide a preliminary picture of the role and development of GVCs during the COVID-19 crisis and compare it with the global financial crisis of 2009. In particular, the author checks whether production contracted more in sectors where production tends to be fragmented.

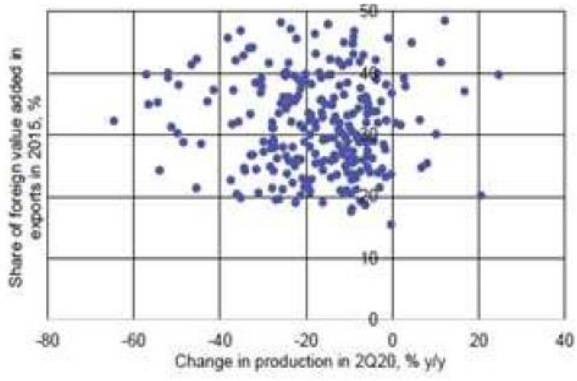
The results suggest that there is practically no correlation between the fragmentation of production and the severity of the fall in production in the second quarter of 2020. Moreover, compared with the global financial crisis, total EU imports have contracted slightly less. Thus, outcomes are similar across most product categories.

Only the imports of transport equipment and their parts and accessories have fallen significantly more than in 2009.

Figure 3.3: Fragmentation and production losses during the pandemic



(a) Import intensity compared with the change in production



(b) Share of foreign value added in exports compared with the change in production

Source: Simola (2021).

From mid-October to early November, the credit insurance group Allianz conducted a survey among 1,181 companies in the US, the UK, France, Germany and Italy across six sectors (Allianz, 2020).

Questions were asked about their experiences with disruption and their plans to make their supply chains more resilient after the COVID-19 crisis. Almost all (94 per cent) the companies surveyed reported a pandemic-induced disruption to their supply chains, and the majority are considering strategies to improve future resilience.

Among them, most companies are considering looking for new suppliers, but in a third of the cases, they are looking at countries already in their top three existing supplier locations. For this reason, China is expected to remain an important global supplier.

The majority of companies (52 per cent) are also considering moving their production to different sites, although with great differences across countries and sectors. Overall, less than 15 per cent of companies are considering reshoring, i.e., bringing production back home.

Around 30 per cent favor nearshoring, i.e., moving production to a nearby country.

In December 2020, the Confederation of Swedish Enterprises conducted a survey among its member companies on how their supply chains have been affected by the crisis and what their actions, or planned actions are to alleviate future risks to their supply chains.

The majority of firms experienced problems during the crisis (mostly in terms of extended delivery times and unavailability of some goods and services) but, in terms of persistence, only 7 per cent of firms (mostly consumer goods companies) said they still face considerable difficulties, 60 per cent said they still have some difficulties while 27 per cent said that

the problems were resolved. When it comes to the actions that firms have taken or plan to take to decrease vulnerability in the future, 27 per cent of all firms say they will increase stockpiling, with this figure rising to 41 per cent for large firms in the manufacturing sector. Many firms also plan to increase the number of foreign suppliers; this is particularly the case in the manufacturing sector.

As for reshoring, 15 per cent say they will increase their share of domestic sourcing.

However, only 2 per cent wish to relocate their entire production to Sweden. A similar indication emerged from the results of the Business Outlook Survey of Industrial and Service Firms conducted by the Bank of Italy between September and October 2020 on about 4,200 Italian firms. Over 62 per cent of the companies said that they had not closed any production facilities abroad over the last three years, nor do they intend to do so over the next year. Moreover, only 1.9 per cent of the firms plan to reshore production back to Italy (Giovannetti et al., 2021).

Why is the expected COVID-19-induced reshoring not happening?

The literature provides some insights into why firms' decisions on trading partners and on production sites may display some degree of stickiness when an external shock occurs. Altomonte and Ottaviano (2009), looking at the resilience of GVCs during the global financial crisis, pointed out that GVC links are difficult and undesirable to sever because of contractual arrangements and high initial sunk costs. Monarch (2014) empirically documented, for a sample of US firms importing from China, the high costs for switching trading partners.

Such costs can affect the efficiency of buyer-supplier matches by impeding the movement of importers from higher to lower cost exporters and could explain why importers do not quickly switch to more favorable import sources in response, for instance, to an exchange rate shock. More recently, Martin et al (2020) look at the drivers of firm-to-firm relationships in a theoretical model in which firms receive offers randomly and decide to switch to a new input supplier or continue to buy from the current provider.

In this environment, positive switching costs and/or frictions contribute to prolonging existing firm-to-firm relationships, so that there must be a 'sufficiently large' price difference between the new and the incumbent provider in order for the buyer to switch trade partner. Stickiness in firm-to-firm relationships is a significant driver of the response of the economy to policy uncertainty, and a corollary of their results is that uncertainty is especially costly for firms engaged in GVCs, whose production processes are characterized by a high degree of stickiness.

In fact, the COVID-19 pandemic has re-focused the debate around the potential benefits of reshoring, and governments around the world have introduced measures to encourage firms to source more inputs domestically. In April 2020, the Japanese government announced

subsidies for its companies to encourage diversifying or reshoring supply chains and the Indian prime minister declared that a new era of economic self-reliance had begun.

In September, some EU member states asked the European Commission to assess vulnerabilities and consider an active protection of strategic sectors. In January this year, President Biden signed an executive order aimed at forcing the federal government to buy more goods produced in the United States, as a key part of his “Buy American program” to revive domestic manufacturing.

Despite the political support received by such policies, several observers have pointed out that reshoring is unlikely to be the best option from a policy standpoint; on the contrary, a policy of diversification may be better suited to tackling such disruptions (Arriola et al., 2020; D’Aguanno et al., 2021; Freund, 2020; Miroudot, 2020; OECD, 2020a; OECD, 2020b; Strange, 2020, among others).

Reshoring may heighten the exposure of firms to supply disruptions in their domestic economies and would not eliminate the reliance on imports further upstream in the value chain (reshored activities may still require inputs that can only be sourced abroad). In addition, it may increase the costs of reaching foreign markets and firms would have a limited capacity to balance their revenues and costs in different currencies, to reduce the exchange rate risk.

The econometric results of Espitia et al. (2021), based on data for the first six months of 2020, confirm that GVCs have certainly acted as a transmitter of the COVID-19 shock, but nationalization of production is not necessarily a solution, as it would lower the country’s overall exposure to foreign shocks at the cost of higher exposure to domestic shocks.

The analysis of D’Aguanno et al. (2021), which looks at the effects of openness on aggregate volatility over the business cycle, suggests that raising barriers to trade or reshoring production do not necessarily, or significantly, reduce the volatility of GDP, while diversifying foreign suppliers can.

Instead, policy measures could be oriented to supporting larger spare domestic capacity, stockpiling and liquidity, thereby improving the resilience of firms. International cooperation could be increased to stockpile essential goods at the global level, especially in developing countries (Freund, 2020).

Moreover, instead of shortening GVCs, it could be more effective to leverage them, in order

to ramp up production quickly and efficiently in response to global shocks. Finally, policies could aim at compensating the losers of the globalization process rather than trying to limit it by influencing firms' decisions (Antràs, 2020).

Indeed, while globalization and GVCs have enabled an unprecedented convergence between rich and poor countries, especially for countries that are more integrated internationally (World Bank, 2020), they have also been accompanied by a significant rise in income inequality.

During the years 1979-2007, the Gini coefficient associated with the distribution of income grew from 0.48 to 0.59 in the United States, and from 0.30 to 0.49 in China, although these trends cannot be attributed to globalization alone, being the result of a complex interaction of technological change, trade and other factors. GVCs are a key element of today's global economy. How they are affected by the COVID-19 pandemic and how it will impact their future production and investment choices is an important topic on research and policy agendas around the world.

At this stage, it remains unclear how multinational firms will make changes to the structure and activities of GVCs, if any. While improving resilience has become more important, the evidence from past natural disaster episodes and the existing literature support the idea that GVCs tend to have a certain degree of stickiness in response to shocks on the supply side, especially if they are deemed to be temporary.

In the case of COVID-19, recent surveys confirm that most of the adjustment to the pandemic has occurred on the intensive margin. Nevertheless, multinational firms may decide to adjust their future strategies for several reasons.

First, the pandemic may fuel some of the ongoing de-globalization trends that had already started before its arrival. Second, changes perceived to be long lasting in the structure of the global demand may also play a role.

Consumers, fearful of international integration after an extended period of social distancing, could demand more local production or even change their preferences towards some goods and away from others.

Finally, global trade policy remains the big unknown. Before the crisis, rising protectionism was already increasing trade costs and uncertainty.

Increasing calls for self-reliance by political representatives are already generating requests

for a range of protectionist policies, from producing all essential goods at home to ‘buy national’ laws.

However, such nationalist policies do not seem to be built on economic fundamentals, as these strategies may entail lower exposure to foreign shocks at the cost of higher exposure to domestic shocks. Instead, in response to global shocks, it could be more effective to leverage global supply chains to ramp up production quickly and efficiently.

3.2 TRENDS IN THE ITALIAN AGRICULTURAL ECONOMY AND LEGISLATION

3.2.1 THE AGRICULTURAL AND AGRI-FOOD SECTOR IN THE PHASE OF THE PANDEMIC CRISIS

Since the beginning of the pandemic, the production chain in the agriculture, forestry and fishing sector has not suffered significant interruptions: the activities related to cultivation and fishing have been included, with some differentiations, among those deemed necessary and, therefore, for them, were not applied the prohibitions imposed for other production or trading activities in order to contain the spread of the infection.

Indeed, guaranteeing food safety has been one of the key priorities of governments and the European Commission.

However, even the primary sector has had to contend with the complexities within the logistic chains, the restrictions on freedom of movement, the significant shortage of human resources (especially immigrants unable to reach the places of seasonal production) as well as the generalized fall of consumer income.

The sector in 2020 lost 1.8% of production and 4.7% of value added in volume, compared to a decline of 8.8% recorded for the entire national economy.

The crisis has damaged above all secondary activities, first of all the agritourism sector. The fishing sector in 2020 also suffered a heavy downsizing (-19.9% of production and -26.8% of value added in volume).

In 2021, agriculture did not benefit from the recovery of the national economy as it was strongly affected by adverse climatic factors: production volumes in fact decreased further (-0.4%) and the significant increase in production costs led to a new drop in value added of 0.8%.

Nonetheless, positive signs came from the data on employment and agricultural incomes; the agri-food sector also recorded a growth in volume of 2.4%.

3.2.2 FROM RESILIENCE IN 2020 TO A SLOWED RECOVERY IN 2021

In the 2020-2021 two-year period, agriculture, as an essential activity, enjoyed a level of operations that allowed it to maintain its contribution to the formation of national wealth unchanged.

Above all secondary activities and support services paid the price of the crisis, but the resilience capacity of the sector made it possible to contain the loss of value added, which in 2020 decreased in volume by 4.7%, stopping just above the 33.3 billion euros.

However, in 2021 the agriculture, forestry and fishing sector suffered the negative effects of adverse climatic conditions to which was added, especially in the second half of the year, the sharp rise in the costs of production inputs.

In contrast to the other economic sectors, which experienced a general recovery of value added, the sector therefore recorded a further modest contraction: production decreased in volume by 0.4% and value added by 0.8%.

Typical agricultural products have undergone a 1.2% contraction in the volume of production and 0.6% in the value added and substantial decreases have also affected forestry, whose production has lost 5.3% in volume (-3.2% value added) and fishing (-1.8% production and -2.9% value added in volume).

Only the secondary agricultural activities, which in 2020 had experienced a drastic reduction in production volumes (-17.2%), recorded a consistent recovery in 2021 (+9.6%).

The distinctive element of the two-year period, especially the last year, was the progressive increase in prices, which grew from 0.7% to 6.7%, and the sudden increase in the costs of intermediate consumption, from -1% in 2020 to +8.5% in 2021.

The value added of the food, beverage and tobacco industry, which grew by 1.6% at current prices but decreased by 3.3% in volume in 2020, marked a substantial increase in volume in 2021 (+6%) and a decrease of 2.6% at current prices.

The recovery favored the agri-food sector as a whole which, after the contraction in the first year of the pandemic (-0.7% value added at current prices and -4.1% in volume), resumed growth in 2021, registering a 1% increase in value added at current prices and 2.4% in volume.

However, in the overall national context, the recovery was less consistent than in the other sectors: in the photo of 2021, the agri-food sector represents 4.1% of the value added of the entire economy (4.3% in 2020), of which 2.2% comes from the primary sector (as in 2020) and 1.9% from the food industry (2.1% the previous year).

Table 3.4: PRODUCTION AND VALUE ADDED OF AGRICULTURE, FORESTRY AND FISHING IN ITALY.
Years 2020 and 2021, current values in millions of euros and percentage changes

ECONOMIC ACTIVITIES	2020				2021			
	Millions of current euro	Changes % in Volume	Changes % in price	Changes % in Value	Millions of current euro	Changes % in Volume	Changes % in price	Changes % in Value
Production of agricultural goods and services	**53.113**	**+0,3**	**+0,7**	**+1,0**	**56.120**	**-1,2**	**+6,9**	**+5,7**
- Crop output	30.301	+1,6	+2,1	+3,8	32.034	-3,7	+9,8	+5,7
- Animal output	16.016	0,0	-2,1	-2,0	16.890	+1,8	+3,6	+5,5
- Agricultural services	6.796	-4,4	+1,1	-3,3	7.196	+3,4	+2,4	+5,9
Non-agricultural secondary activities (+) (1)	4.588	-17,2	-0,2	-17,3	5.324	+9,6	+5,8	+16,0
Non-agricultural secondary activities (-) (1)	1.021	-1,2	+3,0	+1,8	1.090	-8,4	+16,5	+6,7
Agricultural output	**56.679**	**-1,4**	**+0,6**	**-0,8**	**60.355**	**-0,1**	**+6,6**	**+6,5**
Intermediate agricultural consumption (2)	26.157	+2,6	-0,8	+1,8	28.530	+0,4	+8,7	+9,1
Value added of agriculture	**30.522**	**-4,6**	**+1,8**	**-2,9**	**31.825**	**-0,6**	**+4,9**	**+4,3**
Forestry output	**2.556**	**-0,5**	**+3,6**	**+3,1**	**2.652**	**-5,3**	**+9,5**	**+3,8**
Intermediate forestry consumption (2)	444	-10,3	+10,0	-1,3	390	-15,2	+3,6	-12,2
Value added of forestry	**2.112**	**+1,7**	**+2,3**	**+4,1**	**2.262**	**-3,2**	**+10,6**	**+7,1**
Fishing output	**1.258**	**-19,9**	**-1,8**	**-21,3**	**1.283**	**-1,8**	**+3,9**	**+2,1**
Intermediate fishing consumption (2)	588	-12,7	-13,9	-24,8	615	-0,5	+5,0	+4,5
Value added of fishing	**670**	**-26,8**	**+12,0**	**-18,0**	**669**	**-2,9**	**+2,9**	**-0,1**
Agriculture, forestry and fishing output	**60.493**	**-1,8**	**+0,7**	**-1,2**	**64.290**	**-0,4**	**+6,7**	**+6,3**
Total intermediate consumption (2)	27.189	+1,9	-1,0	+0,9	29.534	+0,1	+8,5	+8,6
Value added of Agriculture, forestry and fishing	**33.303**	**-4,7**	**+2,0**	**-2,8**	**34.756**	**-0,8**	**+5,2**	**+4,4**

(1) Non-agricultural secondary activities carried out in the agricultural sector are mainly: agritourism, processing of milk, fruit and meat, production of renewable energy (highlighted with a (+) sign). Agricultural secondary activities carried out by non-agricultural sectors, mainly related to crops and livestock, are carried out, for example, by commercial enterprises (highlighted with a (-) sign).

(2) Intermediate consumption includes indirectly measured financial intermediation services, i.e. the cost incurred for the intermediation service, implicit in the interest flows received and paid by economic operators.

Table 3.5: VALUE ADDED AT BASIC PRICES BY SECTOR OF ECONOMIC ACTIVITY IN ITALY.
Years 2020 and 2021, current values in millions of euros and percentage changes

ECONOMIC ACTIVITIES	2020	2021

	Millions of current euro	Changes % in Value	Changes % in Volume	% share of the total economy	Millions of current euro	Changes % in Value	Changes % in Volume	% share of the total economy
Agriculture, forestry and fishing	33.303	-2,8	-4,7	2,2	34.756	+4,4	-0,8	2,2
Industry	292.171	-7,9	-11,2	19,5	322.275	+10,3	+11,9	20,3
- of which food, beverages and tobacco	30.754	+1,6	-3,3	2,1	29.965	-2,6	+6,0	1,9
Construction	65.844	-5,2	-6,3	4,4	78.577	+19,3	+21,3	4,9
Services	1.107.111	-7,0	-8,5	73,9	1.155.142	+4,3	+4,5	72,6
Total agri-food (Agriculture, forestry and fishing + food, beverage and tobacco industry)	**64.057**	**-0,7**	**-4,1**	**4,3**	**64.720**	**+1,0**	**+2,4**	**4,1**
Total economic activities	**1.498.430**	**-7,0**	**-8,8**	**100,0**	**1.590.749**	**+6,2**	**+6,6**	**100,0**
Gross Domestic Product at market prices	**1.656.961**	**-7,8**	**-9,0**		**1.775.436**	**+7,2**	**+6,6**	

In 2020, employment in agriculture, forestry and fishing, measured in Annual Work Unit (AWU), decreased by 2%, reflecting a 3.4% decline in the component of dependent work and 1.3% than the independent one.

Even more marked was the decline in employment in the food industry (-5.2%), which led to an overall decline of 2.8% in labor input in the agri-food sector.

Signs of a clear turnaround were recorded in 2021: Ula grew by 3% in agriculture (+5.5% employees and +1.7% self-employed) and by 5.4% in the food industry, recovering what was lost from the agri-food sector in the previous year in terms of employment (+ 3.6%).

Table 3.6: ANNUAL WORK UNIT (AWU) BY SECTOR OF ECONOMIC ACTIVITY IN ITALY.
Years 2020 and 2021, thousands of units and percentage changes

ECONOMIC ACTIVITIES	2020		2021	
	Total AWU in thousands of units	Changes %	Total AWU in thousands of units	Changes %
Agriculture, forestry and fishing	1.223	-2,0	1.259	+3,0
Industry	3.355	-10,7	3.704	+10,4
- of which food, beverages and tobacco	408	-5,2	430	+5,4
Construction	1.360	-8,8	1.618	+18,9
Services	15.716	-10,9	16.710	+6,3
Total agri-food (Agriculture, forestry and fishing + food, beverage and tobacco industry)	**1.630**	**-2,8**	**1.689**	**+3,6**
Total economic activities	**21.653**	**-10,3**	**23.291**	**+7,6**

The compensation of employees, which in 2020 had decreased by 0.8% in agriculture, forestry and fishing (compared to -1% of gross wages), grew by 2.9% the following year and also the gross wages and gross fixed investments have abundantly recovered what they lost in 2020.

Table 3.7: ANNUAL WORK UNIT (AWU), SALARY AND INVESTMENTS IN AGRICULTURE, FORESTRY AND FISHERIES IN ITALY. Years 2020 and 2021, thousands of units, current values in millions of euros and percentage changes

AGRICULTURE, FORESTRY AND FISHING ACTIVITIES	2020		2021	
	AWU in thousands of units	Changes %	AWU in thousands of units	Changes %
AWU employees	419	-3,4	442	+5,5
AWU self-employed	803	-1,3	817	+1,7
Total AWU	1.223	-2,0	1.259	+3,0
	Millions of current euro	Changes %	Millions of current euro	Changes %
Income from employment	9.467	-0,8	9.743	+2,9
Gross internal salary	7.770	-1,0	7.983	+2,7
Social contributions paid by the employer	1.696	-0,2	1.760	+3,7
Gross fixed investments (current values)	9.208	-11,7	10.920	+18,6
Gross fixed investments (chained values with reference year 2015)	8.749	-11,7	10.234	+17,0

The labor input employed in the primary sector has peculiar characteristics compared to the rest of the economy, also because it is characterized by fiscal and administrative laws and regulations that differ from those adopted for the other economic sectors.

From 2000 to 2021 the total AWU of the primary sector represented between 5.1% and 6.3% of the total of the entire economy. In 2020, the incidence of AWU in the sector increased compared to previous years, reaching 5.6%, the highest value since 2004.

In the same period, the weight of the value added of the agricultural sector on the total economy showed a slow decline, from 2.9% in 2000 to just over 2% between 2007 and 2011, to return to slightly increase in the years 2020-2021, amounting to around 2.2%.

Self-employed workers in the primary sector represent a significant share of employment in the entire economy.

In the period 2000-2012 their weight decreased and the incidence on the national total of self-employed fell to 10.9% from 14.5% in 2000 and 2001, to then settle around 11.5% in the period 2013- 2019. In the last two years, the contribution of the primary sector to the overall employment of self-employed persons has returned to growth, accounting for 13.2% in 2020 and 12.4% in 2021.

Employees in the primary sector, on the other hand, represented, almost stably, about 2.5% of the total economy for the entire period 2000-2021.

Figure 3.8: PERFORMANCE OF WORK UNITS (AWU) EMPLOYEES AND SELF-EMPLOYED IN

AGRICULTURE, FORESTRY AND FISHERIES. Years 2000-2021, base index numbers 2000 = 100

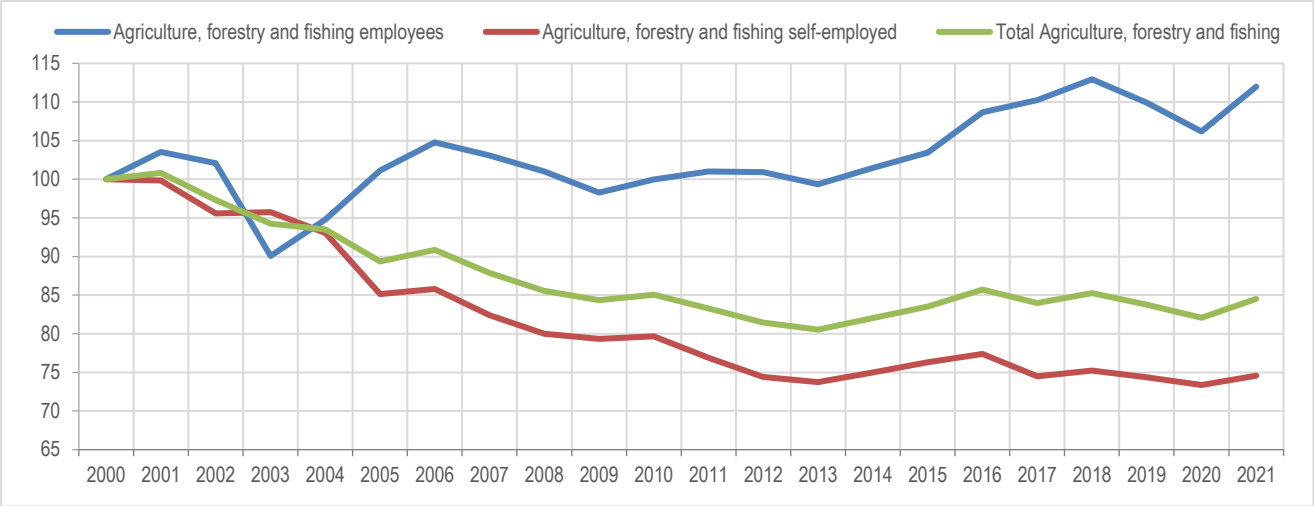


Figure 3.9: IMPACT OF AGRICULTURE, FORESTRY AND FISHERIES WORK UNITS (AWU) ON THE TOTAL ECONOMY BY POSITION IN THE PROFESSION. Years 2000-2021, percentage values

3.2.3 AGRICULTURAL PRODUCTION: BETWEEN PANDEMICS AND ADVERSE CLIMATIC EVENTS

As mentioned, in 2020 the decline in agricultural production was substantially determined by the decrease in the volume of secondary activities, heavily penalized by the mobility restrictions imposed to stem the pandemic, while in 2021 the negative effects of the pandemic crisis were attenuated and the gradual recovery of all economic activities at full capacity has favored the recovery of the most penalized sectors, especially the agritourism and horticultural sector, and of livestock production, driven by the recovery in consumption.

On the other hand, some extreme seasonal events (late spring frosts and prolonged summer drought) have affected most of the crops (especially for woody crops and in particular for fruit trees), with production losses and damage to structures and infrastructures in the rural areas.

Starting from the second half of 2021, the overall trend of the agricultural sector was also affected by the significant surge in prices, both in terms of costs (intermediate consumption) and products sold. Production recorded an increase in value of 6.5% while production volumes underwent a slight contraction (-0.1%). Within the sector, the performances were rather heterogeneous. Crops and livestock productions have increased in value in a similar way but, while for crops the increase in value was determined by the significant increase in prices with a consistent decline in volumes, in the livestock sector the production volumes have increased and prices are grown to a lesser extent (about a third of those of crops).

2021 saw an overall growth in agricultural producer prices of 6.6%, the highest since 2011, when the rise was 7.1%. The increase, with varying intensity, affected all sectors and was mainly triggered by the significant rise in the prices of production inputs.

3.2.4 A SHARP RISE IN CROP PRICES

In 2021 the value of production of agricultural crops increased by 5.7% due to the significant increase in prices (+ 9.8%), which offset the 3.7% decrease in the quantities produced. The result was better than in 2020, when the value of crop production had increased by 3.8%, with an increase in volumes of 1.6% and a significantly lower price increase.

The unfavorable climatic year, characterized by spring frosts, prolonged summer drought and seasonal lag, coincided with the recurrence of some phytosanitary problems (Asian bedbug) and heavily influenced the production volumes of fruit products (-18.9%), especially for some types such as pears, apples, peaches, nectarines, and the nut sector; only citrus fruits had a trend in line with that of 2020.

Even leguminous crops, after the significant decline in volumes in 2020 (-3.7%), underwent a further significant downsizing in 2021 (-11.8%). The climatic events also penalized the

volumes of wine production (-8%), in marked contraction after the increase in 2020 (+ 3.9%): the wine sector, however, has shown satisfactory signs both in terms of quality, thanks above all to the ability of producers to make the most of the late stages of maturation and harvesting and marketing, especially abroad. Industrial crops also fell sharply further (-6.3% in volume after
-2.2% in 2020) mainly due to the continuing crisis in tobacco and soybean production; the decrease in production volumes for the vegetable sector was more contained (-1.7%).
2021, on the other hand, was favorable for the production of olive oil. Following the normal cyclical trend, after the downsizing of volumes in 2020 (-3%), production grew by 9.9%.
The volumes of flower crops (+3.1%) and nurseries (+2.9%) are also recovering, after the commercial blocks and the measures taken to combat the pandemic in 2020 (limitations of ceremonies / events and suspension of activities care and landscaping) (the loss in volume of the horticultural sector in the first year of the pandemic -8.4%).
The economic crisis due to the health emergency, the subsequent increase in demand in the post-pandemic phase, the negative effects of the pandemic on logistics and transport, adverse climatic conditions, the increase in prices of raw materials necessary for the agri-food production chain are all factors which have determined an inevitable upward trend in prices in agricultural crops.
After the limited increases in 2020 (+2.1%), in 2021 the price increases took on significant dimensions, reaching almost the two figures in percentage terms (+9.8%). The increase concerned all agricultural crops, in particular cereals (+31.9% against +4.8% in 2020), industrial crops (+27.4% against +7.3%), fodder crops (+17.8% versus -4.2%), fruit (+12.7% versus +8.9%), olive oil (+12.6% versus -8.4%) and legumes (+10.6% versus +1.8% in 2020).

3.2.5 RECOVERY FOR ANIMAL PRODUCTION

The difficulties of the livestock sector in the early stages of the pandemic, with the reduction in consumption and the effects above all on the slaughter of animal meat, gradually

reabsorbed in 2021, which closed with overall positive results for the sector, which experienced an increase of 5.5% of the value of production, a synthesis of an increase in both volumes produced and prices.

However, the recovery of the sector was held back by the increase in the prices of raw materials (feed) and other production inputs. Starting from the second half of 2021, producers have suffered a substantial reduction in their profit margins, which could lead them in the short term to revise their sales prices upwards, with a consequent negative impact on the full recovery of consumption.

After the decline in production in 2020 (-1.3% in volume), the reactivation of the logistic-distribution circuits and the recovery of the catering sector positively influenced the consumption of animal meat in 2021 (+2% in volume). Pork meat had an increase in volume production by 2.3% (after -3.6% in 2020), beef by 2% (-1.3% in 2020) and poultry by 1.7% (+1.3% in 2020).

Among the other livestock products, the good increase in milk volumes (+2.5%), in line with the good result already recorded in 2020 (+2.7%), and the collapse of honey production (-66.7) should be highlighted. % in 2021 against +2.6% in volume in 2020), a production particularly penalized by adverse climatic events.

In terms of prices, after the significant drop in 2020 (-3.7%), in 2021 there was a generalized increase for all animal meat (+5.7%), with the main increases affecting poultry (+7.9%), pork (+7.5%) and beef (+4.3%). The price of milk also rose in 2021 (+1.4%) after the decline of the previous year (-1.5%).

3.2.6 SECONDARY ACTIVITIES AND SERVICES GROWTH

In 2021 the production of secondary activities grew by 9.6% in volume, recovering more than half of what was lost in 2020 (-17.2%). The recovery of agritourism (+16% in volume) after the collapse of 2020 (-48%), of direct sales and marketing (+10.9% against -19.8% in 2020) and of maintenance of parks and gardens (+8.1% against -25% in 2020); aquaculture was also significantly expanding (+10.3%) which in 2021 recorded the best result ever.

Positive signs were once again seen for the production of renewable energy, which grew by 8% in terms of volume, representing almost 48% of total secondary activities and exceeding

2.5 billion euros in value, highest share ever reached since the beginning of renewable energy production in agriculture.

For services activities (+3.4% in volume against -4.4% in 2020), the full recovery of economic activities resulted in a recovery in the activities of first processing of products in 2021 (+4.8% in volume) which in 2020 had suffered the effects of the limitations imposed by the health emergency (-11.1% in volume).

Also increased the activities related to the implementation of new crops and plantations (+4.3%), those in support of animal breeding (+3.2%) and those in contract work (+2.8), which in any case do not they had suffered particular repercussions during the early stages of the pandemic crisis.

The prices of secondary activities, on the whole, grew in 2021 by 5.8%, those of services activities by 2.4%.

In 2020, secondary activities had maintained substantial price stability (-0.2%) while those of services had had an increase of 1.1%.

Among the secondary activities, to increase in 2021 were mainly those relating to the production of feed (+10.3% compared to 2020 when prices remained stable), the marketing / direct sales of products (+7.3 % while prices had decreased by 1% in 2020) and agritourism activities, which registered an increase (+ 6.5% compared to -1.8% in 2020), likewise those of renewable energy production (+6.5% against +1.2% in 2020).

Among the service activities, there was a significant increase in the prices of activities in support of animal breeding (+4.6%) and those for the first processing of products (+ 4.3%), after the prices remained substantially unchanged.

The total value of secondary and services activities has doubled over the last twenty years, from € 6.3 billion in 2000 to € 12.5 billion in 2021; their weight on the overall production value of the sector has gone from around 14% in 2000 to over 20% in recent years.

The development of activities that increase the multifunctional role of agriculture, with the integration on the farm of the transformation processes of agricultural products and direct sales together with forms of diversification such as agritourism or energy production, have been added all those initiatives in terms of sustainability and landscape protection.

From an environmental point of view, in fact, the role played by the agricultural sector in the processes of limiting emissions, mitigating climate change and managing natural

resources (soil, water and biodiversity) is increasingly crucial.

Figure 3.10: PERFORMANCE OF SERVICES AGRICULTURE ACTIVITIES. Years 1995-2021, current values in millions of euros

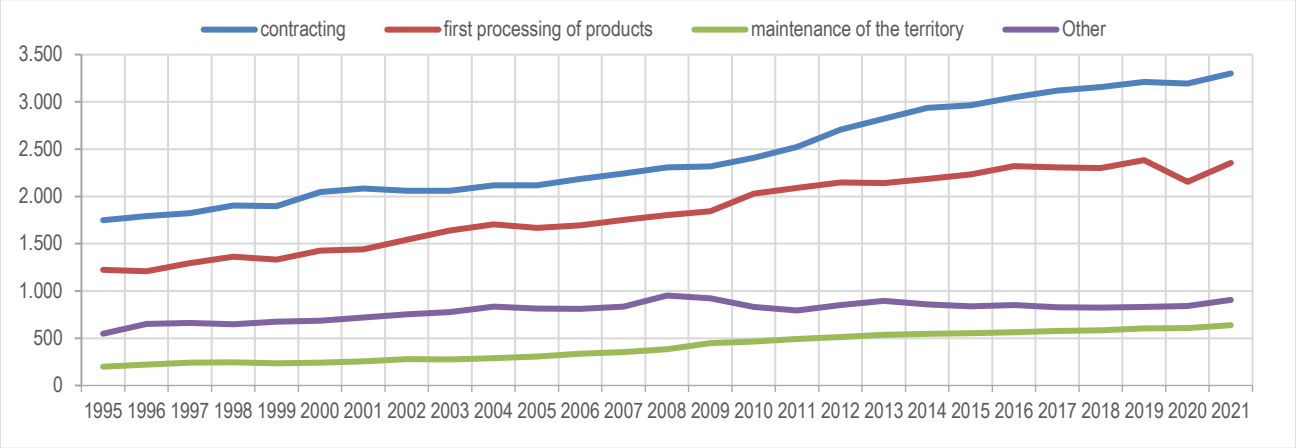
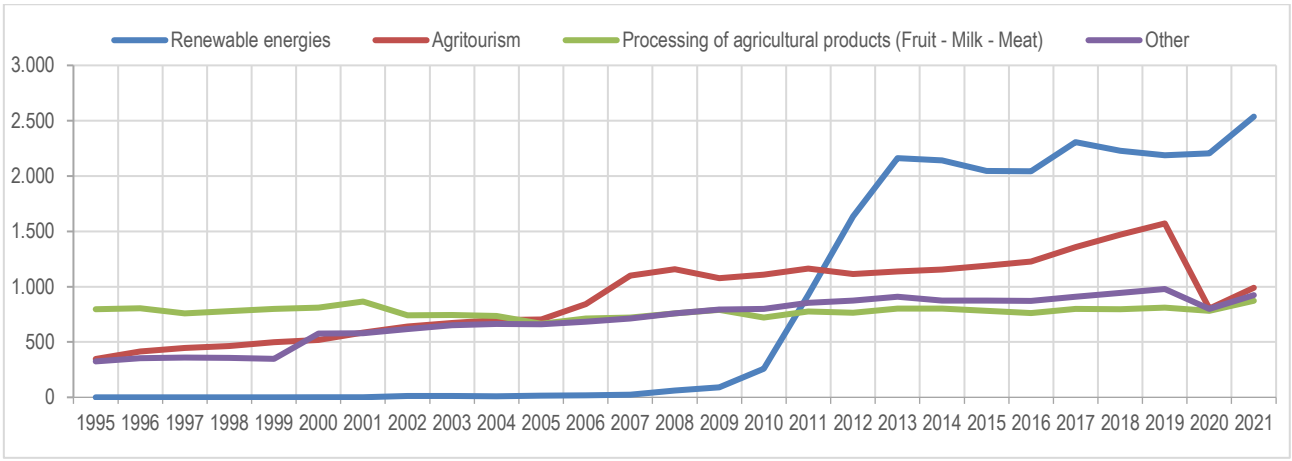


Figure 3.11: PERFORMANCE OF SECONDARY AGRICULTURE ACTIVITIES. Years 1995-2021, current values in millions of euros



In 2021 the goods and services used by farmers in the production process (intermediate consumption) showed only a modest increase in volume compared to the previous year (+ 0.4%), but their cost was heavily influenced by the sharp rise in prices.

Overall, the price of production inputs grew by 8.7% (-0.8% in 2020), an unprecedented rise in the last decade: to find an equally significant one, you have to go back to 2008, when was an 11.2% increase in the prices of production inputs. The progressive and rapid growth was concentrated above all starting from the second half of 2021 and concerned, in particular, fertilizers (+ 21.2%), animal feed (+ 15.5%) and energy (+ 13.5%).

The weight of energy consumption in the agricultural system is particularly relevant.

Direct uses of energy for cultivation operations include fuels for mechanical tools used for

grubbing, rolling, sowing and fertilization, heating of greenhouses for flowers, nurseries and vegetables and transport, while indirect consumption is those deriving from plant protection, fertilizers and fertilizers and use of plastic materials.

The cost of re-uses, that is the part of agricultural production reused in the production cycles, also increased strongly (+ 17.6%), after the decreasing trend of previous years. On the other hand, the price of products sold by farmers increased to a lesser extent, by 6.6%. The combination of these dynamics clearly penalized the operators in the sector who suffered a reduction of one and a half points in terms of market ratio compared to the previous year.

In this state of the situation, the war in Ukraine has introduced worrying elements of instability that threaten to have serious knock-on effects on the agricultural and agri-food sector.

The generalized increase in raw materials and energy costs is progressively eroding the profitability of the sector, putting crops, livestock and the processing industry at risk.

The jump in the prices of agricultural raw materials and food for animals to produce milk and meat, the trend in gasoline and diesel prices in a country where more than two thirds of goods travel by road inevitably affects the costs of businesses with snowball effects on consumer spending.

Italian agriculture also suffers from the most direct impacts related to the sector's dependence on imports of raw materials from the countries involved in the conflict. Our country buys mainly sunflower oil from Ukraine, excluding that for non-food technical or industrial uses (about 46% of the imported quantity), corn (about 15%), common wheat and fertilizers, the shortage of which is putting I risk spring cultivation.

In addition, about 50% of the solid residues from the extraction of sunflower oils, used in the zootechnical sector as feed, also come from Russia and Ukraine. Exports of Italian agri-food are also at great risk, for which Ukraine is an important destination market.

Table 3.12: TREND OF AGRICULTURAL PRODUCTION FOR MAIN SECTORS AND PRODUCTS. Years 2020 and 2021, current values in millions of euros and percentage changes

	2020				2021			
	Millions of euros in	% Quantity changes	% Price changes	% Value changes	**Millions of euros in**	% Quantity changes	% Price changes	% Value changes

	current values				current values i			
AGRICULTURAL PRODUCTION	**56.679**	**-1,4**	**+0,6**	**-0,8**	**60.355**	**-0,1**	**+6,6**	**+6,5**
Agricultural crops	**30.301**	**+1,6**	**+2,1**	**+3,8**	**32.034**	**-3,7**	**+9,8**	**+5,7**
Cereals	4.071	+3,4	+4,8	+8,3	5.217	-2,9	+31,9	+28,1
Legumes	176	-3,7	+1,8	-2,0	172	-11,8	+10,6	-2,5
Potatoes and vegetables	9.035	+2,0	+2,5	+4,6	9.125	-1,7	+2,7	+1,0
Industrial crops	667	-2,2	+7,3	+5,0	796	-6,3	+27,4	+19,4
Flowers	1.231	-9,0	+6,5	-3,0	1.295	+3,1	+2,0	+5,2
Forage	1.707	-0,3	-4,2	-4,4	2.008	-0,2	+17,8	+17,6
Viticulture products	6.026	+4,2	-2,2	+1,8	5.876	-6,7	+4,6	-2,5
of which wine	*4.081*	*+3,9*	*-2,5*	*+1,3*	*3.798*	*-8,0*	*+1,1*	*-6,9*
Olive growing products	1.539	-2,6	-5,6	-8,0	1.823	+9,7	+8,0	+18,4
of which oil	*1.274*	*-3,0*	*-8,4*	*-11,1*	*1.577*	*+9,9*	*+12,6*	*+23,7*
Citrus fruits	1.151	+3,2	+3,7	+7,0	1.239	+0,5	+7,1	+7,6
Fruit	3.277	+6,7	+8,9	+16,2	2.994	-18,9	+12,7	-8,6
Nurseries and other plant products	1.420	-7,9	+6,5	-1,9	1.490	+2,9	+2,0	+4,9
Livestock farms	**16.016**	**0,0**	**-2,1**	**-2,0**	**16.890**	**+1,8**	**+3,6**	**+5,5**
Animal meats	9.223	-1,3	-3,7	-4,9	9.945	+2,0	+5,7	+7,8
of which cattle	*2.798*	*-1,3*	*-2,6*	*-3,9*	*2.977*	*+2,0*	*+4,3*	*+6,4*
of which equine	*102*	*+0,7*	*+0,5*	*+1,2*	*100*	*-6,3*	*+4,8*	*-1,8*
of which pigs	*2.775*	*-3,6*	*-4,2*	*-7,7*	*3.052*	*+2,3*	*+7,5*	*+10,0*
of which sheep and goats	*157*	*-5,3*	*+1,5*	*-3,8*	*167*	*+4,7*	*+1,5*	*+6,3*
of which poultry	*2.668*	*+1,3*	*-4,7*	*-3,5*	*2.927*	*+1,7*	*+7,9*	*+9,7*
of which rabbits and others minors	*722*	*-0,5*	*-4,1*	*-4,6*	*722*	*+2,3*	*-2,3*	*0,0*
Milk	5.249	+2,7	-1,5	+1,1	5.452	+2,5	+1,4	+3,9
Eggs	1.463	-1,0	+6,9	+5,8	1.456	+1,5	-1,9	-0,5
Honey	1	+2,6	+8,9	+11,8	1	-66,7	+18,0	-60,7
Other zootechnical products	11	+3,8	-2,8	+0,9	9	-24,6	+3,6	-21,9
Agricultural production of services	**6.796**	**-4,4**	**+1,1**	**-3,3**	**7.196**	**+3,4**	**+2,4**	**+5,9**
Non-agricultural secondary activities (+)	**4.588**	**-17,2**	**-0,2**	**-17,3**	**5.324**	**+9,6**	**+5,8**	**+16,0**
Non-agricultural secondary activities (-)	**1.021**	**-1,2**	**+3,0**	**+1,8**	**1.090**	**-8,4**	**+16,5**	**+6,7**
Intermediate consumption	**26.157**	**+2,6**	**-0,8**	**+1,8**	**28.530**	**+0,4**	**+8,7**	**+9,1**
Fertilizers	1.609	+7,5	-2,2	+5,1	1.967	+0,9	+21,2	+22,3
Phytosanitary	1.070	+6,5	+0,2	+6,7	1.108	+1,8	+1,7	+3,5
Seed	1.580	+0,7	+4,3	+5,0	1.676	+1,7	+4,3	+6,1
Feed	6.388	+2,7	+1,1	+3,8	7.375	-0,1	+15,5	+15,5
Stable costs	786	-0,5	+1,5	+1,0	820	+2,0	+2,3	+4,3
Energy	3.413	+2,5	-9,5	-7,2	3.897	+0,6	+13,5	+14,2
Irrigated waters	414	+0,8	+2,5	+3,3	412	-1,7	+1,1	-0,6
Transport	237	-3,0	+2,3	-0,8	235	-3,0	+2,3	-0,8
Other	7.821	+2,4	+1,4	+3,9	7.866	+0,7	-0,1	+0,6
Re uses	2.099	-0,9	-3,9	-4,8	2.468	-0,2	+17,8	+17,6
Credit and insurance	408	+1,0	+2,2	+3,2	418	-1,2	+3,7	+2,5
Financial intermediation services	*332*	*+19,7*	*-3,7*	*+15,2*	*288*	*-8,8*	*-5,0*	*-13,4*
GROSS VALUE ADDED TO THE BASIC PRICES	**30.522**	**-4,6**	**+1,8**	**-2,9**	**31.825**	**-0,6**	**+4,9**	**+4,3**

(1) Non-agricultural secondary activities carried out in the agricultural sector are mainly: agritourism, processing of milk, fruit and meat, production of renewable energy (highlighted with a (+) sign). Agricultural secondary activities carried out by non-agricultural sectors, mainly related to crops and livestock, are carried out, for example, by commercial enterprises (highlighted with a (-) sign).

While it is certainly true that the agricultural sector has characteristics that make it resilient in terms of trends in value added, the effects of the economic crises on agriculture are nevertheless significant. In fact, the price dynamics associated with the recession phases can

reinforce the asymmetries present along the agri-food chain, which reflect the different bargaining power of those who work there, resulting in a worsening of the terms of trade of farmers and, therefore, of the profitability of their business activity.

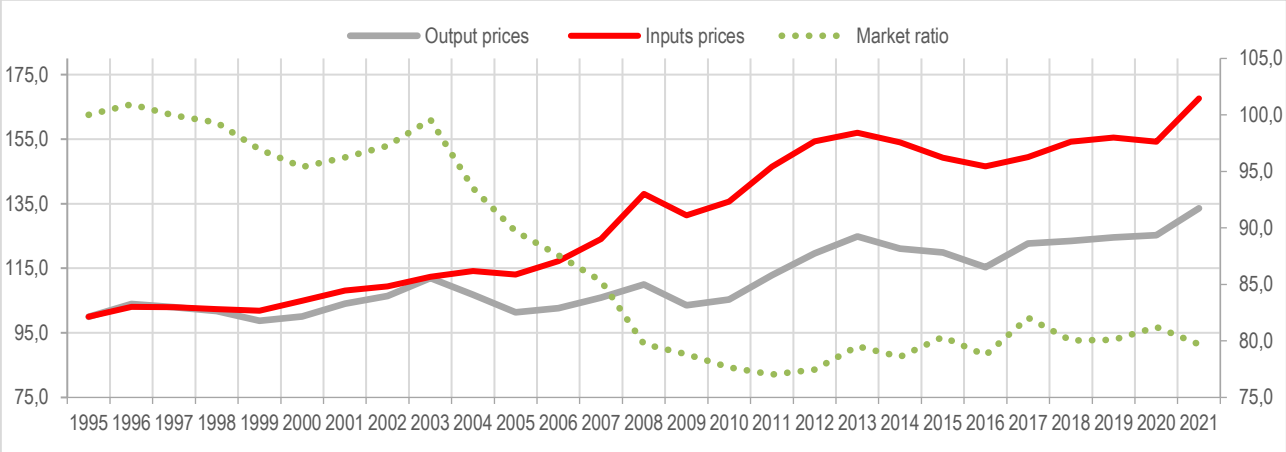
The imbalance between the prices of agricultural production and the prices of intermediate consumption places serious constraints on the development and stabilization of the already low agricultural incomes.

The rebalancing of the prices of agricultural products with respect to those of production inputs therefore appears as one of the sectoral priorities, highlighting the weakness of the agricultural component within the agro-food chain.

The value added, in fact, is not distributed evenly within the sector, thus compressing the prices of agricultural goods paid to producers in a worrying way.

The trend in the terms of market ratio of agriculture, measured by the ratio between the producer price index of agricultural products (output) and that of intermediate consumption prices (input) for domestic producers, is decidedly unfavorable for Italian farmers starting from the early 2000s, as the gap between the prices of goods and services necessary for their production process and the prices at which they sell their products on the market has gradually widened, except for some marginal downturns.

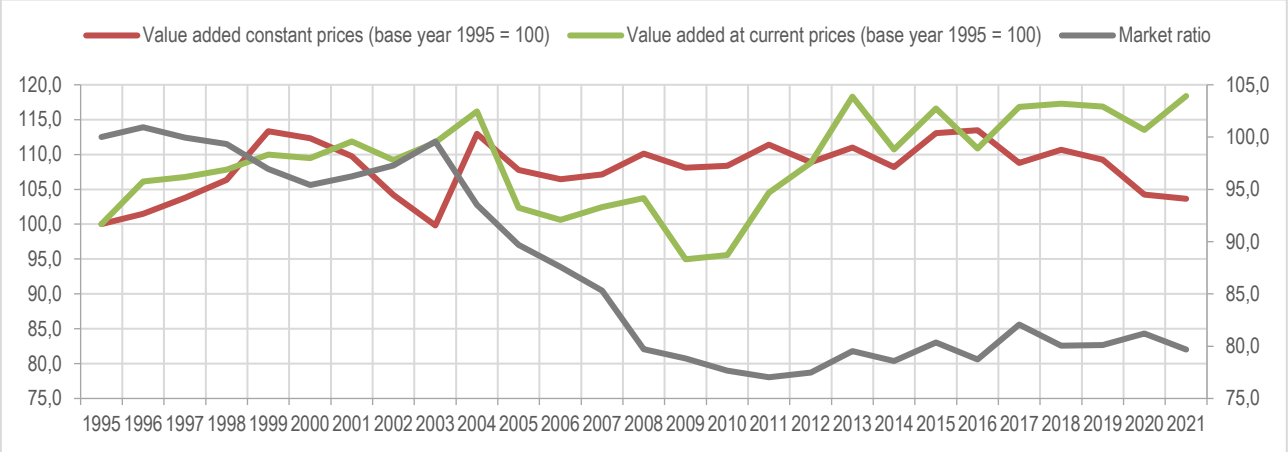
FIGURE 3.13: TREND OF MARKET RATIO IN AGRICULTURE. Years 1995-2021, base index numbers 1995 = 10



Relatively stable since 1995, from 2004 the market ratio suffered a vertical collapse, losing more than 20 points until 2008. The fall is essentially determined by the surge in the prices of intermediate goods, which accelerated sharply in 2007 and 2008 due to the dynamics of

the oil price and the sharp rises (also due to speculative movements) in the value of raw materials and agricultural commodities (in particularly cereals). In the following years, the prices of intermediate consumption continued to grow but at a slower rate, in any case higher than that of output prices: the deterioration of the market ratio therefore continued, albeit at a slower pace, to the point of touching the peak in 2011. In the last decade, the market ratio has stabilized, indeed showing a slow recovery trend, albeit with some fluctuations: in 2021 it stood at 2.7 percentage points more than in 2011 but remaining enormously distant from the level of the 2003 (almost 20 points less).

FIGURE 3.14: TREND OF MARKET RATIO AND VALUE ADDED IN AGRICULTURE. Years 1995-2021, base index numbers 1995 = 100



Despite the unfavorable trend in relative prices, agricultural operators have often managed to make appropriate use of the instrument of diversification and reconversion of activities, orienting them in such a way as to optimize, as far as possible, the relationship between inputs and outputs, on the one hand widening the basket of products, also thanks to a greater offer of higher quality and certified ones, and on the other the connected and additional services, as demonstrated by the progressive growth of support and secondary activities, thus managing to safeguard the level of their value added even in particularly negative periods in terms of price trends.

3.2.7 SUPPLEMENTARY FUND AND MEASURES FOR AGRIBUSINESS

The NRRP Supplementary Fund has included supply chain and district contracts as a measure for sustainable development of the agrifood sector. The intervention aims to strengthen the tool of supply chain and district contracts for the agribusiness, forestry, fisheries and aquaculture and floriculture sectors through integrated investment programs throughout the country.

The final beneficiaries of the measure are enterprises that directly contribute to the production, harvesting, processing and marketing of agricultural products (agri-food, fish, forestry and floriculture) and enterprises that provide services and means of production (of first/second processing). The public resources allocated to this intervention amount to 1.2 billion euros, of which 25 percent is allocated exclusively to Italian organic production.

The Administration initiated the implementation of the measure through two procedures:

1) the scrolling of the ranking list of projects already present under the Fourth Call 2015-2020 "Supply Chain and District Contracts" in the agribusiness sector;

2) The issuance of a new notice for the agribusiness sector.

With regard to the first procedure, the Ministry is currently in the process of managing the 4th call with FSC (Fund for Development and Cohesion) funds.

The scrolling of the ranking list of existing projects should allow for an immediate impact of the measure on the sector, and the new projects will have to ensure a green transition of the affected supply chains.

The second procedure concerns the issuance of a new notice for the agribusiness sector. In October 2021, the draft decree on the Fifth Public Notice on the characteristics, modalities and forms for applications for access to supply chain and district contracts was prepared. The draft decree was confirmed and approved by the EU Commission. Subsequently, in December 2021, it was taken to the State-Regions Conference, obtaining a favorable opinion. Currently, the decree has been sent to the Control Bodies for registration and, therefore, to be sent for publication in the Official Gazette.

350m euros will be used for the sliding of the rankings of the 4th call, while the remaining 850m will be made available for the 5th call with the aim of financing 46 new contracts. The amount from the supplementary fund is 1.2 billion, which will be distributed as follows until

2026: 17 percent in 2021, 25 percent in both 2022 and 2023, 22 percent in 2024, 10 percent in 2025, and 2 percent in 2026.

The Common Agricultural Policy (CAP) 2023-2027 programming is implemented through CAP National Strategic Plans (NSPs), which develop a comprehensive strategy of intervention for the agricultural sector and rural areas, taking advantage of the tools made available by the CAP: direct payments, sectoral interventions, and rural development policy. The goal of the PSP is the growth of the agribusiness and forestry sector, ensuring environmental, economic and social sustainability.

The interventions of the PSP, for which a more extensive description-which we refer to is available in the Yearbook of Italian Agriculture 2021 (Ch. 12, CREA 2021), follow an integrated logic that works in synergy with the PNRR in order to achieve the Union's strategic objectives (defined in the Green deal, Farm to Fork, Biodiversity 2030 and new CAP documents), meeting the needs and priorities of sectors and rural areas, in line with the Commission's recommendations.

In fact, the NRRP finances projects that represent necessary steps to improve the competitiveness and sustainability of the agrifood system, to foster the organization of supply chains, and to strengthen connections between producers and consumers, making a major contribution to meeting needs and priorities identified in the preparation of the Italian PSP.

The following table summarizes the main interventions in which the two Plans complement each other, taking into account, both the specific objectives (SOs), EC recommendations and CAP requirements and the investments envisaged in the NRRP.

Table 3.15: COMPLEMENTARITY BETWEEN THE CAP 2023-2027 AND THE NRRP

CAP					NRRP and Supplementary Fund	
Specific goals		Recommendation		Requirement	Investments	
OS3	Improve the position of farmers in the value chain	CE1.3	Improve the position of farmers in the food supply chain	Promote the processes of business and supply integration and aggregation	Supplementary Fund	Supply chain and district contracts for sustainable production
OS2	Increasing competitiveness	CE1.3	Improve the position of farmers in the food supply chain	Strengthening the quality and accessibility of infrastructure networks	M2C1 I.2.1	Logistics development for agribusiness, fisheries and aquaculture, forestry, floriculture and nursery sectors
OS4		CE2.2	Slowing climate change and reducing	Incentivize the production and use of	M2C1 I.2.2	Agrisolar Park

Taking action to combat climate change		emissions of greenhouse gases and air pollutants	energy from renewable sources		
			Promoting the sustainable use of plant protection products.	M2C1 I.2.3	Innovation and mechanization in agriculture and food sector
	CE2.3	Promote climate change adaptation and resilience by encouraging sustainable management of agricultural and forest land	Efficient and sustainable use of water resources	M2C4 I.4.3	Investments in irrigated agrosystem resilience for better water resource management

Source: Crea, 2021.

As described, the interventions envisaged in the NRRP aim to contribute to the twin transitions (green and digital) by targeting an increase in renewable energy production and the competitiveness of the agri-food sectors with a view to sustainability and resilience. These aims also highlight their importance in light of the changed international situation, linked to the conflict in Ukraine, which has highlighted the need to achieve greater food and energy security within the EU.

The conflict in Ukraine has severe repercussions on the business activities of the Italian primary sector, especially with regard to the increase in production costs (fuels, fuels, fertilizers, seeds and seedlings, plant protection products, animal feed and passive rentals). Russia represents, for our country, one of the main suppliers of crude oil and gas, which, due to sanctions, have suffered a substantial increase in prices, affecting the markets for both food products and technical means used in agriculture.

For the first time in many years, critical supply issues are being added for some agricultural inputs from the Central and Eastern part of Europe (cereals and oilseeds). The livestock sector, especially with regard to livestock feed, appears to have suffered the most the current situation, more than the rest of the agribusiness sector.

As a consequence of the serious situation, the European Commission has stressed the need to implement agro-ecological practices, develop precision agriculture (which ensures a decrease in dependence on imported pesticides by reducing their use), enhance renewable energy production and reduce the import of livestock-related raw materials.

In addition, the invasion of Ukraine has necessitated the adoption of a series of exceptional measures at the Union level, addressed primarily to the sectors most affected by the increase

in production costs, which for Italy are the livestock and dairy sectors. These are both crisis measures and derogations from ordinary rules. In the first case, to counter market disruptions, the use of funds from assigned revenue and a part of the crisis reserve has been proposed.

Under this mechanism, 500 million euros will be made available to Member States, of which about 48 million euros will be allocated to our country. These are funds to be used by September 2022, to which can be added up to 96 million euros of national co-financing, equal to +200%.

Regarding the Common Agricultural Policy (CAP), as from October 2022, each EU country will be able to provide a higher level of advances (up to 70 percent of the amount due to each beneficiary) in direct payments and area-based rural development measures to make up for the liquidity crisis of farms. In addition, the agricultural sector will be able to benefit, within the limit of 35,000 euros per farm, from the so-called Temporary Framework, which is an exceptional and temporary framework that allows Member States to take intervention measures by way of derogation from the ordinary state aid framework.

Italy's Budget Law 2022 includes measures to support certain crops, through the refinancing of the Competitiveness Fund, which provides specific support for producers of corn and vegetable proteins (legumes and soybeans). Resources from the Supply Chain Fund, established to support agricultural, fisheries and aquaculture production sectors, may also be used.

With Bill No. 2564 of 2022 is granted to agricultural and fishing enterprises partial compensation for the higher charges actually incurred for the purchase of diesel fuel and gasoline for the traction of vehicles used for the exercise of the activity, an extraordinary contribution in the form of a tax credit equal to 20 percent of the expenditure for the purchase of fuel made in the first calendar quarter of the year 2022.

The current situation requires, on the one hand, the need to implement a series of emergency measures to support liquidity and reduce companies' costs and, on the other hand, to accelerate (boost) the implementation of the NRRP to ensure energy diversification of companies and strengthen the efficiency of supply chains. The NRRP, which was created with the aim of supporting Member States to emerge from the global pandemic crisis, is also a valuable opportunity to overcome the socio-economic effects brought about by the war.

The investments being made fit perfectly not only with the goals of the Green Deal and Farm to fork strategy, but are more relevant and responsive than ever to the Union's aims to support the national agricultural sector.

The Agrisolare Park investment involving the installation of photovoltaic panels is, in fact, aimed precisely at reducing the high energy consumption of the agribusiness sector by upgrading production facilities; innovation and mechanization in the agriculture and food sector allow companies to reduce the use of pesticides, use fewer polluting vehicles, produce less waste and reuse waste for energy purposes according to a circular economy perspective.

3.3 THE IMPACT OF UKRAINE CRISIS ON AGRICULTURE MARKET

An asymmetric supply shock... The global scenario is dominated by the extreme tensions and uncertainties generated by the Russian invasion of Ukraine. The impact on economic activity acts as a deep supply shock, which is currently difficult to quantify as the scenario is constantly evolving.

The military crisis, moreover, comes on top of a framework already made difficult by the ongoing pandemic, upward pressures on various commodity prices, and production bottlenecks in some global supply chains.

The effects of the crisis at a global level are strongly heterogeneous across areas and sectors, based on proximity to the conflict, dependence on oil, gas, and other commodities, and, in general, production and financial connections with the countries directly involved in the war (Russia, Ukraine, and Belarus).

Among the main macro-areas, the European Union is the most affected, as shown by the depreciation of the euro and the losses recorded on the main financial markets in the first days of the conflict. Among the most affected sectors, there are energy-intensive sectors, such as metals, chemicals, ceramics, and glass, and other highly internationalised sectors such as transport.

The main consequence is a further increase in energy, agricultural, and metal prices. The tightening of tensions in markets of these commodities was due to the fact that Russia, Ukraine, and Belarus are among the world’s main suppliers.

Two examples: in 2020-21 Russia exported 38 million tonnes of wheat, accounting for 14.8% of the world total, and was the world's 7th lar gest producer of copper, accounting for 3.8% of the total. As for gas, markets are pricing in uncertainty over supplies to Europe, given the continent's high dependence on Russian imports of this source. In Italy, Russian gas covers 38% of consumption. At the beginning of March, the price of gas rose to a peak of 227 euros per MWh, compared to 72 euros on the eve of the conflict, 20 euros in January 2021, and 9 euros in February 2020. The price of oil rose to 133 dollars per barrel, from 99 dollars before the conflict and 55 dollars per barrel in February 2020, and there has been a very partial recovery since then.

A similar dynamic affected many other commodities: the price of wheat rose by more than 34% in two weeks and then fell but without returning to pre-war levels, while the price of maize rose by 10%. The prices of metals, such as copper, aluminium, and nickel, also rose further in March.

In Italy, increases in oil, gas, and coal prices are driving up the costs of businesses. According to an analysis carried out using input-output tables, the incidence of energy costs on total production costs (assuming constant non-energy costs) would increase by 77% for the total Italian economy, from 4.6% in the pre-pandemic period (average 2018-19) to 8.2% in 2022.

In euros, this impact would translate into an increase in Italy's energy bill of 5.7 billion on a monthly basis, i.e., an additional burden of 68 billion on an annual basis.

By far the most affected sector is metallurgy, where the incidence could reach 23% by the end of 2022, followed by non-metallic mineral production (refractory products, cement, concrete, plaster, glass, ceramics), where the incidence of energy costs could reach 16%, wood processing (10%), rubber-plastics (9%) and paper production (8%).

Companies have largely absorbed these cost increases into their margins, even cancelling them out in some cases, instead of passing them on to the next stages of production. The eroded margins explain why core inflation in Italy is low, much more than elsewhere.

The only positive aspect is that this trend in prices and margins has safeguarded the competitiveness of Italian companies compared to those in other countries, but it is not sustainable. This is why several companies are stopping production or plan to do so in the coming months.

On the other hand, rising energy prices (+52.9% p.a. in February) are reducing households' purchasing power and will affect the extent and pace of consumption growth, whose recovery has been hampered first by the increase in contagions and now also by the greater uncertainty affecting confidence, which plummeted in March.

The normalisation of households' propensity to save, which is still high in 2021 (13.5% on average until the third quarter), therefore appears to be postponed. Families and companies will have to cautiously review their consumption and investment decisions. The economic policy uncertainty index for Italy rose by 21.1% on average in the first two months of 2022 compared to the fourth quarter of 2021 and is set to increase further from March. After the bankruptcy of Lehman Brothers, it had risen by 30.7%; after the attack on the Twin Towers by 85.0%.

The war is amplifying the difficulties in obtaining raw materials and other commodities, particularly for those coming from the three countries involved.

Another impact of the war is caused by sanctions and counter-sanctions.

The direct impact of sanctions on Russia, on Italian exports, is overall modest. The export blockade affects 686 million euros of sales in Russia, equal to 8.9% of Italian exports to the country, which in turn are equal to 1.5% of total Italian exports. What is worrying is that there are some specific Italian products (for example machinery) for which the weight of the Russian market exceeds 10%. But exports of goods are also penalized by the conflict because it will tend to reinforce the production bottlenecks in the global supply network that already appeared in 2021. The geographical specialization of Italian exports, which are more focused on EU countries, will not help. The same goes for the commodities specialization of Italian exports, in which, for example, the metal products sector is very important.

In this context, the positive effects of the implementation of the National Recovery and Resilience Plan (NRRP) are also at risk because some of the planned investments may be difficult to realize at current prices. In addition, the scarcity of various materials may make it difficult to realize some of the investments on schedule. It is therefore likely that some projects will have to be revised in the light of the current context in order for the Plan to be effectively implemented. Basic assumptions and CSC forecast with respect to the framework outlined above, it is difficult to predict the dynamics of the Italian economy since the various key variables are constantly evolving. The duration of the war is a crucial

variable, but even an early resolution of the conflict would have the effect of mitigating the impacts, but not zeroing them out. The forecast scenario, much more than on other occasions, is therefore anchored to a series of assumptions: it has been assumed that from next July the war will end or at least uncertainty and tensions will start to reduce, in particular on gas and oil prices, which will fall, although remaining above the levels of the beginning of 2021; any hypothesis of energy rationing for the production sector is excluded, obviously it would have very negative impacts; lastly, it would assumed that the spread of Covid would remain effectively contained and have gradually decreasing impacts, and that, despite the worsening situation, Italy would be able to meet its NRRP targets on schedule, possibly revising some projects that might no longer be feasible.

In this deteriorated scenario, Italy's GDP performance in 2022 is much less favourable: GDP would increase by +1.9% this year, with a large downward revision (-2.2 points) compared to the scenario outlined in October, before the new shocks, when all forecasters agreed on +4.0%.

Table 3.16: Forecast for Italy

	2021	2022	2023
Gross domestic product	6.6	1.9	1.6
Consumption of resident households	5.2	1.7	2.1
Gross fixed capital formation	17.0	4.5	3.2
Exports of goods and services	13.3	2.8	4.2
Total employment FTEs	7.6	1.5	1.7
Consumer prices	1.9	6.1	2.0
Government net borrowing[1]	7.2	4.9	3.1

[1] Values in % of GDP.
FTEs = full-time equivalent work units.

Source: Centro Studi Confindustria elaborations and estimates on ISTAT data.

The reduced positive variation in 2022, moreover, is entirely due to that already "acquired" thanks to last year's excellent rebound (+2.3%): in the first two quarters, indeed, the Italian economy would enter a "technical recession", albeit of limited size. This would not be fully

offset by the recovery expected in the second half of the year.

This would be followed by growth of +1.6% in 2023, thanks to a fully increasing GDP profile over the year. In this worsened scenario, Italy's return to pre-pandemic levels slips from the second quarter of this year to the first quarter of next year.

Heavy commodity price shock as mentioned, the forecast scenario, based on future prices, assumes that oil prices will remain at their post-invasion highs (114 dollars on average since 24 February) until June 2022.

This would be followed by a very partial decline, continuing in 2023 and reaching 85 dollars by the end of the year, a rather high value compared to the "equilibrium" value (60-70 dollars). In this scenario, Brent would average 106 dollars in 2022 (up from 71 dollars in 2021) and 90 dollars in 2023 (down 15%). A similar profile is assumed for gas prices: at their current high level (136 euros per MWh) until mid-2022; then a slow, partial decline to still very high levels by the end of 2023 (75 euros).

Under these assumptions, European gas would stand at 122 euros in 2022 (up from 47 euros) and 81 euros in 2023 (down 33%).

Figures 3.17: Energy prices, peak in 2022, still very high in 2023

Source: Centro Studi Confindustria elaborations and estimates on ISTAT data

Inflation in Italy will remain around its current high level for most of 2022 and will average

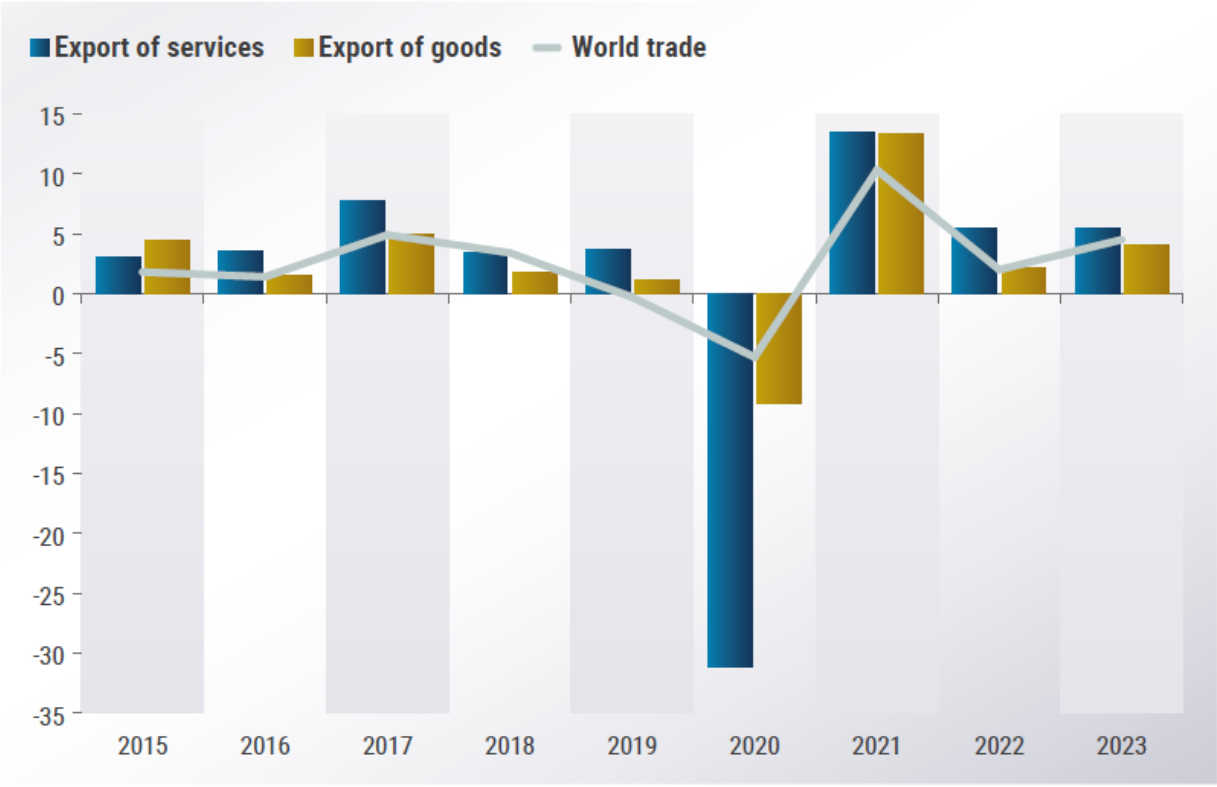
+6.1%, an upward revision of +4.7 points from the October scenario.

In 2023, on the other hand, total inflation is expected to fall, to +2.0%, due to the reversal of the two trajectories currently in place: a significant increase in core inflation is expected in Italy as well, with a large lag, thanks to the recovery of GDP; and the gradual exhaustion of the impact of higher oil and gas prices on the change in energy consumer prices calculated over 12 months, even though price levels fall slightly and remain very high as assumed. Wage dynamics, while rising, are not expected to exert excessive inflationary pressures.

Foreign trade hampered, but not blocked Italian exports will slow down significantly in 2022 (+2.8%), after a very good 2021.

For this year, the growth of both exports and imports is revised down by about 5 points compared to the October CSC scenario.

Figures 3.18: Foreign trade slowing down



Sources: Centro Studi Confindustria elaborations and estimates on ISTAT and CPB data.

Italian exports of goods, expected to accelerate in 2023, will nevertheless manage to stay in line with world trade in the two-year period. World trade is expected to grow by just 2.0% in 2022, revised down by 2.5 points compared to the autumn CSC report, before strengthening in 2023.

In addition, exports of services remain weak, due to losses in the travel and transport sectors. The outlook has become more uncertain, due to the continuing pandemic and also the possible negative effects of the conflict in Ukraine on long-haul international tourism.
All GDP components slow down Italian household consumption is expected to grow by just +1.7% in 2022 and +2.1% in 2023, continuing at a more moderate pace on the path of partial recovery, still below pre-Covid values. Italian household consumption will be driven by increased spending on durable goods.
The upturn is being held back by the many critical issues that emerged in late 2021 and early 2022. The partial resurgence of infections led to a new halt in consumption in Q4 2021, weighing particularly on spending on services.
A waning climate of confidence, rising inflation, in particular higher energy bills, and reduced real purchasing power of households, all work against a recovery in consumption in 2022. However, the savings accumulated over the last two years will play an important role in sustaining expenditure.
Investment is also expected to slow this year, after booming in 2021. It has been the driving force behind the Italian recovery, far exceeding the pre-Covid level.
The most significant contribution in 2022 will continue to come from construction, thanks to tax incentives. Business investment in plants and machinery, which has also fully recovered after the pandemic, will instead be held back by various factors: declining confidence, rising commodity prices, prolonged uncertainty. NRRP resources will continue to support them.
The industry is heavily affected by high energy prices and other factors.
The CSC forecasts modest growth in production activity in 2022, with a very difficult first half and a rebound in the second half. And then a more sustained pace in 2023.
The trend in production has been characterized by decreasing growth rates already during 2021. Between the end of last year and the beginning of 2022, indicators pointed to a deterioration in industrial activity, driven by difficulties in the supply of raw materials and labor and then by rising energy prices. This was reflected in the fall in industrial activity in December
and even more so in January. Problems with cost pressures and input supply delays, exacerbated by the conflict, will continue to hamper production, especially in the first half of 2022.

The collapse in services due to the pandemic has been only partially recovered in 2021. One of the main factors contributing to the impact on the services sector is the reduced mobility of people (as well as goods).

Reduced mobility affects spending on various types of services, leading to consumption that is 'lost' (e.g., dinner at a restaurant) and not 'deferred' as in the case of goods (e.g., purchase of household appliances). In 2021, mobility had returned to around pre-Covid levels, but with significant heterogeneity: mobility to recreational places (bars, restaurants, museums) remained low.

The first half of 2022 could see a new slowdown: despite fewer anti-Covid restrictions, which favor the recovery of consumption in services related to leisure, catering, travel, some changes in habits have occurred, probably structural (e.g., more smart working) that penalize spending outside home.

There are also new fears that have emerged with the conflict in Ukraine and also the higher cost of transport due to high energy prices.

During the Covid crisis labor input has moved almost simultaneously with economic activity, and nearly one-to-one in terms of magnitude, both in the downturn and in the recovery. The CSC scenario assumes that this will also happen over the forecast horizon: thus, employment (in terms of FTE's) will contract in the first half of 2022, during the brief technical recession, but it will start to grow again from the summer and throughout 2023.

In 2022, the number of persons employed is expected to grow, while hours worked per capita would not on average for the year, as a result of a decline at the beginning and a recovery afterwards. In 2023, however, there will also be a lengthening of hours worked, together with a further increase in employment.

In this scenario, 2023 will close with 190,000 more employed people than at the end of 2019, i.e., a full recovery after the deep crisis caused by the pandemic.

The contribution of policies since even the conclusion of the war will not lead to a substantial reversal of the current trends, the policies that will be adopted will be crucial. In particular, the ability of the Italian Government and the European institutions to intervene to reduce the impact of the war on businesses and families will be decisive. The less effective and less timely the measures adopted, the worse the consequences for the economy will be. These interventions include choices to diversify energy imports and change the

energy mix.

The conflict finds Italy in a situation where the mix of available energy sources makes it more vulnerable to extreme supply cuts or shortages, which are excluded in the CSC scenario.

Italy uses much more natural gas than other sources, compared to other European economies: the problem is that most of this gas is imported, significantly from Russia. This dependence on foreign (Russian) gas suggests that energy policy in Italy, and in Europe, can and must follow different paths, each of which can make an important contribution. In the short to medium term, it is important to increase domestic gas extraction and diversify gas imports more, reducing Russia's share and possibly temporarily resuming coal-fired power generation. In the long term, it is necessary to increase energy independence; on the one hand, by increasing the share of energy produced from renewable sources and also bio-energy and reconsidering nuclear power, which is already a source of imported electricity; on the other hand, by continuing on the path of greater energy efficiency.

Figures 3.19: Primary energy: consumption by source

		Fossil sources			Other sources	
		Crude Oil	Natural gas	Coal	Nuclear	Renewables
Advanced	USA	37	34	10	8	10
	Japan	38	22	27	2	11
	UK	35	38	3	6	18
	Germany	35	26	15	5	20
	France	31	17	2	36	14
	Italy	36	42	4	0	19
	Spain	44	23	1	10	20
Emerging	Russia	23	52	12	7	7
	China	20	8	57	2	13
	India	28	7	55	1	9
	World	31	25	27	4	13

Sources: Centro Studi Confindustria elaborations on BP data.

With regard to monetary policies, in the CSC scenario, unlike the Fed, the ECB, given the weakness of the Eurozone economy, which is most affected by the conflict, will be very cautious, both on bond purchases and on official rates. It will keep the latter at zero until the end of 2022.

Only in 2023, the first rise in rates is expected, and this will help, at least this year, countries with high debts, such as Italy.

Risks of the scenario almost all to the downside the biggest risk, compared to the baseline scenario outlined so far, relates to the main assumption: the limited duration of the conflict and its main effects.

The CSC has estimated the possible further negative impact on Italy's GDP in an 'adverse' scenario, in which the conflict would continue throughout 2022 or, at least, gas and oil prices would remain at the average levels recorded in the first month of the war, until the end of the year. In this scenario, GDP dynamics would be 0.3% lower in 2022 and 0.6% lower in 2023.

A more 'severe' scenario has also been studied, in which the conflict and its effects continue until the end of 2023.

The difference with the previous one is almost all in the second year, when energy and other commodity prices would remain at post-invasion levels: the simulation consistently shows that the additional impact on GDP is low in 2022, while in 2023 it is such that it cancels out the growth of the economy.

The degree in uncertainty in the economy, already priced in the markets, especially the financial markets, could increase further this year. This would come in the wake of the current conflict and its possible prolongation: this risk, therefore, is closely linked to the first one. Higher uncertainty could mean a further reduction in the confidence of investors, businesses, and households, compared with the decline already recorded in recent months. This would weigh even more heavily than expected on the dynamics of key variables: consumption, investment, and industrial production.

There are also a number of risks that are not new, already present in the October CSC scenario, but have partly increased: a postponement in the timing of the implementation of the NRRP or its reduced effectiveness in raising potential growth; a possible new resurgence of the pandemic, again increasing its negative impact on the economy; a premature increase

in interest rates in the Eurozone, in the wake of higher and/or more persistent inflation than expected at the moment, in particular by the ECB.

CONCLUSIONS

Since the mid-1980s, multinational firms and their global value chains (GVCs) have become increasingly important for the world economy. Not surprisingly, the pandemic has fueled a debate among academics and policy makers on the relationship between COVID-19 and GVCs, and particularly on whether the latter tend to mitigate or to magnify global shocks, and whether and how policy makers should intervene.

The pandemic has refocused the debate on the potential benefits of reshoring, and governments around the world have sometimes introduced measures to encourage firms to source more inputs domestically. Although such policies have garnered political support, the prevailing view among economic commentators, supported by both theoretical arguments and empirical evidence, is that encouraging reshoring is rarely the best option.

With the rise of globalization beginning in the 20th century, came the inevitable rise of offshoring - companies moving at least some parts of their operations abroad in order to cut costs and increase profits. In recent years, however, international developments, such as the rise of wages in what were typically considered low-cost countries, coupled with uncertainties created through global political tensions, have incentivized companies to move their operations back to their respective home countries or to make new investments in the developing countries.

This phenomenon, known as reshoring, has only increased in 2020 and 2021, amidst US - China tensions and the COVID-19 pandemic. Reshoring is growing in popularity particularly among companies based in Europe and United States.

Experts predict that reshoring will only continue to increase as global supply chain u ncertainties get revealed through political tensions and fallout from the pandemic. As companies gain a deeper understanding of the vulnerabilities in offshoring their production, they will become more incentivized to invest in their home country-based facilities. As such, it is more important than ever to understand reshoring, the reasons behind why companies

decide to reshore, the recent trends among companies moving operations back home, and predictions about how reshoring is likely to evolve in years to come.

The conventional agricultural production and direct exchange of food in a community have existed for a long time, especially in rural and remote regions. The modern economy, industrialization, globalization, and urbanization have generated the global (long) food supply chains (LFSCs) with several intermediaries and enhanced the industrial and intensive agricultural production. This progress has brought both positive results (e.g., productivity, production, diversity, food security, standardization) and negative impacts (e.g., health, equity, culture, environmental issues).

The concerns of the negative influences of LFSCs have significantly increased. Fortunately, consumers have recently become more aware of the negative externalities of global and long food systems and they are willing to change their food consumption pattern by directly connecting to farmers, supporting local communities, using healthy food, and reducing the environmental impacts. Responding to these issues, the concept of the SFSC has been developed in Europe and become a noteworthy phenomenon both from theoretical and practical perspectives.

While the conventional food value chains can exploit the competitive advantage, economies of scale, increase productivity, production, contribute to technology development, meet growing demand, and improve information sources, SFSCs have been established in parallel to LFSCs and can complement LFSCs to be important drivers of sustainable and equal development, diversify the sources of food supply, and reflect the characteristics of local identity, nature, health, and reliability.

The SFSC is contrary to the intensive agriculture model that is based on long and costly systems of processing, preserving, storing, transporting, and distributing. The key characteristic of SFSCs is the capacity to re-socialize or re-spatialize food, thereby allowing consumers to assess their relative need for foods on the basis of their knowledge, experience, or perceived imagery.

SFSCs are usually considered with face-to-face transactions and direct links between farmers and consumers on a specific farm. SFSCs may be associated with the concepts of local food, local food systems, alternative food markets, direct sales with fewer intermediaries, and the production and distribution in a certain geographical place.

However, these viewpoints may leave out other types of SFSCs. SFSCs should focus on the nature of the relationship between producers and consumers, rather than the local and spatial factors, hence it is important to identify criteria and define SFSCs at a larger scope.

The SFSC concept is often used as an umbrella term and there are various perspectives on the SFSC without a unique and universal definition and form. The SFSC is not only the time to handle foods or distance to transport them but also the fact that products can reach the consumer embedded with value and sufficient information about the place of farming and people producing the food.

Generally, the SFSC concept can be identified by various criteria, such as the number of intermediaries, locality, supply chain size, percentage of direct sales, physical distance, information flow and knowledge exchange, local know-how, social relations, governance, distribution channels, and product identity related to the territory.

The different combinations of these criteria may be connected with a different degree of localness, different definitions of the SFSC, and different types of the SFSC.

The most recognized and cited features of the SFSC are geographical proximity and direct transaction that indicate closeness between farmers and consumers.

The European Commission (EU) defines the modern SFSC as a supply chain consisting of a limited number of economic actors, improving local economy, committed to cooperation, and characterized by close geographical and social relations between producers, processors, and consumers. This definition can take into consideration both social proximity as well as geographical proximity, encompass both social and geographical closeness between actors.

The Slow Food Association proposes the SFSC definition as: “A short food supply chain is created when producers and final consumers realize they share the same goals, which can be achieved by creating new opportunities that strengthen local food networks”.

The Association denotes that the SFSC is the vital element in empowering farmers to regain active roles in food value chains, enabling small-scale producers to establish independent food supply chains, making it easier to achieve a fair price, and building healthy local economies. Regarding distribution channels, SFSCs include pick-your-own, sales to individual consumers, internet deliveries, delivery to consumers, farmers markets, sales to small retail outlets (one intermediary) while LFSCs consist of on-farm sales to intermediaries, sales to wholesalers, sales to retail chain, and sales for processors.

However, narrow scopes of locality, markets, and products may reduce the profit of farmers and benefit of SFSCs in the modern economy and high technology era. Hence, this study broadly defines the modern SFSCs as a food value chain with six key pillars or criteria, such as short space and time, sufficient information, optimal economics, better society, environment protection, and good product quality. SFSCs can be classified into various types with criteria, such as the number of operators, the distances and relationship, production and distribution paradigm, market or transaction structure (individuals or collectives), and the cultural background.

SFSCs are mainly identified by three types: (i) face-to-face: consumers directly buy foods from farmers; (ii) spatial proximity: foods are produced and retailed in the specific region of production and consumers know the local nature of the product at the retail point and spatially extended: foods are sold to consumers outside of the production location with full and transparent information for consumers; (iii) reshoring the production of the main raw materials in the home country.

SFSCs may be divided into nine categories based on the level of compromise (low, medium, and high) adopted by producers or consumers.

The classification may show the shares of power, responsibility, and benefit between producers, intermediaries, and consumers.

Scientists and policymakers believe that SFSCs and reshoring agriculture strategy can result in positive impacts and multi-aspect benefits both for actors in value chains and local communities. The benefits of SFSCs have been proven by several studies and can be structurally summarized into (i) Environmental protection: atmosphere, water, land, biodiversity, material and energy, animal welfare, food waste, emission and pollution; (ii) Economic development: vulnerability, job creation, higher profit and income, poverty reduction, improving local economy, collective or cooperative economics, tourism and specialty products (iii) Social sustainability: decent livelihood, consumer beliefs, closer relationship, fair trade, labor rights, equity, social respect, migration, cultural diversity and preservation; (iv) Health and well-being: farmer and worker health, consumer safety and health, product quality, certification, appetite, satisfaction, and human well-being, and (v) Governance improvement: corporate ethics, accountability, participation, sufficient and transparent information, and better cooperation; (vi) increasing the investments in research

and development.

According to Bui et al., farmers in SFSCs are worried about the small scopes of the local markets and they expect to receive training in marketing, connecting to local retailers and consumers, support on product branding, and participation in the local distribution chain. Jarzebowski et al. elaborated and structured success factors into three groups, such as (i) Creation of SFSCs: product know-how and innovation, cross-learning, regulatory frameworks and government policies, specialized local business and organizational support; (ii) Product development in SFSCs: efficient application of technology or production processes, investment of time and money, technological innovations and appropriate skills, collective branding; (iii) Access to market: on-line sales, sales to local communities, sales to supermarkets, sales to HoReCa, and direct sale. Generally, Sellitto et al. reviewed and summarized different causes and encouragements into nine factors of SFSCs as follows: Environmentally friend operations; Specificity of territorial brands; Direct and ethical relationships between producers and consumers; Organic pro duction; Food safety and traceability; Cultural heritage; Consumer's health; Origin identification of products; and Local work, cooperation, pride supply chain strategy could be the answer in this historical negative moment and this document offers an overview about the opportunity of the Italian economy to focus on short supply chains in agriculture reshoring the main activities in Italy, from the seeds to the table.

REFERENCES

ANIE. 2014. ANIE: Il Manifatturiero Italiano guarda verso un nuovo modo di fare impresa. Assemblea Annuale 2014

Arcari A.M. , 1996. Il coordinamento e il controllo nelle organizzazioni a rete. Milano: Egea.
Baldassarre, F., 2013. “Global sourcing: Opportunit e sfide gestionali”. Milano: Egea.

Bardhan A.D., Kroll, C., 2003. The new wave of outsourcing. SSRN. Electronic Journal. Baronchelli, G. (2008). La delocalizzazione nei mercati internazionali. Milano: LED.
Boin A., Savoldelli S., Merlino G. (1998), Outsourcing: Uno strumento operativo o una moda? Sistemi & Impresa, n.1, pp. 49-54.

Bonani, L. (2015). Azianda, bentornata in Italia!. Il Corriere dela Sera.

Bracalente,B., Cossignani, M., Mulas, A., 2012. “Statistica aziendale”. Milano, Mc Graw-Hill.

Campagnolo, D., Gianecchini,M., 2015. “ Oltre le ragioni: tempi e distanza nei processi di reshoring delle imprese italiane”. Padova: Padova University Press

Campagnolo, D., Gianecchini,M., 2015. “Should I stay or should I go?”. Padova, May 21-22, 2015, 16th WOA.

Caniato, F., Elia, S., Luzzini, D., Piscitello, L. and Ronchi, S. (2015). Location drivers, governance model and performance in service offshoring. International Journal of Production Economics, 163,

pp.189-199.

Caroli, M. (2012). Gestione delle imprese internazionali. Milano [etc.]: McGraw-Hill.

Caroli, M. (2000). Globalizzazione e localizzazione dell'impresa internazionalizzata. Milano: Angeli.

Clark, K.B., Fujimoto, T. 1991. “Product Development Performance: Strategy, Organization and Management in the World Auto Industry”. Boston, MA: Harvard Business School Press.

Coates, R., 2014 .“ What Happens Whan You Decide to Leave China” Blue Silk Consulting, Reshoring Institute.

Connerty, M., Wingard, C., 2014. “ The Rebirth of U.S Manufacturing: Smith or Reality?”. Harvard Business Review.

Contractor, F. (2011). Global outsourcing and offshoring. Cambridge: Cambridge University Press.

Diplomazia Economica Italiana, 2015: “Parola d’ordine: reshoring, rilocalizzare è un must”. Ministero degli Affari Esteri, 16 Settembre 2015.

Dunnning (1980). Towards an eclectic theory of international production: Some empirical tests. Journal of International Business Studies, 11(1): 9-31.

Ellram, L.M, Tate, W.L., Petersen, K.J, 2013. Offshoring and reshoring: an update on the manufacturing location decision. Journal of Supply Chain Management, 49 (2): 14-22 Farrel, D., 2006. Smarter Offshiring. Harvard business Review.

Ferreira, J., Prokopets, L., 2009.“Does Offshoring still make sense?”. Supply Chain Management Review, January/February issue.

Ferdows, K. 1997. Making the most of foreign factories. Harvard Business Review, 75 (2), 73-88.

Filippi, S. (2015). Il rientro delle imprese in Italia. Il Giornale.

Frattocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M., Zanoni, A., 2013. Manufacturing back-shoring and the global Fragmentation of production: what it is changing after the financial crisis? (disponibile su www.researchgate.net/publication)

Frattocchi, L., Di Mauro, C., Nassimbeni, G., Zanoni, A., 2014. Notes and debates. When manufacturing moves back: concepts and questions. Journal of Purchasing and Supply Management

Frattocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M., Zanoni, A., 2014. Il back-reshoring manifatturiero nei processi di internazionalizzazione: inquadramento teorico ed evidenze empiriche. 26° Convegno Annuale di Sinergie. Sinergie Journal.

Frattocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Valente, M.E, Vignoli, M., Zanoni, A., 2014. Manufacturing Back-shoring: A Research Agenda for an Emerging Issue in International Business. 37th EIBA Annual Conference. Editura ASE.

Frattocchi, L., Ancarani, A., Barbieri, P., Di Mauro, C., Equizi, s.,Nassimbeni, G., Sartor, M., Vignoli, M., Zanoni, A., 2014. Manufacturing Back-shoring:theoretical conceptualization and empirical evidence. European Economic and Social Committee.

Frattocchi, L., 2014. Il Back-reshoring come opportunità per il Sistema Italia. Il contributo delle aziende ANIE. Assemblea annuale 2014

Frick, W. (2014). Research: Don't Offshore Your R&D. Harvard Business Review.

Ganz, B., 2012. Fiamm torna ad investire nel sito storico di Vicenza. Il Sole 24 Ore. 6 Dicembre, 2012.

Gereffi, G. (2006). The new offshoring of jobs and global development. Geneva: International Institute for Labour Studies.

Gereffi, G., Gereffi, G. and Fernandez-Stark, K. (2010). The Offshore Services Value Chain. Washington, D.C.: The World Bank.

Gray, J.V, Skowronski, K., Rungtusanatham M.J., 2013. The reshoring phenomenon: what supply chain academics ought to know and should do. Journal of Supply Chain Management , 49 (2): 27-33.

Harvard Business Review, (2013). The Flow of U.S. Manufacturing Jobs Now Goes Both Ways.

Heineman, B. (2012). In Defense of Responsible Offshoring and Outsourcing. Harvard Business Review.

ICE, 2014,.Rapporto ICE 2013-2014: l'Italia nell'Economia Internazionale. Istituto Nazionale per il Commercio Estero.

ILO, 2015. Global Wage Report 2014-2015: Wages and income inequality International Labour Organization

ISFOL, 2011 "IL FENOMENO DELLE ESTERNALIZZAZIONI IN ITALIA"

Isotta " La progettazione organizzativa", Cedam

Jenniges and Fetzer, Direct Investment Positions for 2014 Country and Industry Detail (2015)

Kinkel, S., 2014. Future and impact of backshoring- some conclusions from 15 years of research on German practices. Journal of Purchasing and Supply Management 20 (2014): 63-65

Kinkel, S., Maloca, S., 2009. Drivers and antecedents of manufacturing offshoring and backshoring- A German perspective. Journal of Purchasing and Supply Management, 15 (2009) 154-165.

Krugman, P. (1997). The age of diminished expectations. Cambridge, Mass.: MIT Press.

La Repubblica, (2013). Ancora suicidi alla Foxconn.

La Repubblica, (2014). Non più di moda delocalizzare e le aziende riscoprono l'Italia . 14 Luglio, 2014.

Lewin, A.Y, Couto, V. , 2007. "Next generation offshoiring. The globalization of innovation". Offshoring Research Network. Survey Report

Lewin, A., Massini, S. and Peeters, C. (2009). Why are companies offshoring innovation? The emerging global race for talent. Journal of International Business Studies, 40(8), pp.1406-1406.

Lewin A.Y., Peeters, C., 2006. "The Top-Line Allure of Offshoring" .Harvard Business Review.

Magnani, M., 2015. Reshoring manifattura, una questione di qualità . Il Sole 24 Ore, 20 Ottobre 2015.

Mancini, G. (2014). Ricerca e reshoring, spingono i distretti. Il Sole 24 Ore. 24 Febbraio 2015.
Manget, J. and Mercier, P. (2011). What's Next When Offshoring Isn't so Cheap?. Harvard Business Review.

Manning, R., 2009. "Using indicators to encourage development. Lessons from the Millennium development goals." .DIIS REPORT 2009:01

Mariotti, S. Multinelli, M. 2010. Italia multinazionale 2010: le partecipazioni italiane all'estero ed estere in Italia, Rubettino.

Nelson, A. 2000. Blown to bits: How the new economics of information transforms strategy. Organizational Dynamics, 28(3), pp.92-93.

Osservatorio distretti, "Struttura, tendenze evolutive e prospettive di sviluppo dei distretti industriali", 2014.

Parkins, M., 2015. " Defining the Reshoring Discussion". Restoring american Jobs, International Economic Development Council, March 2015.

Pieraccini, S., 2014. "Calzaturieri, il ritorno con il «Made In» . Il Sole 24 Ore, 16 Novembre 2014.

Pieraccini, S. (2015). Su Amazon nuova vetrina dedicata ai prodotti degli artigiani Made in Italy. Il Sole 24 Ore.

Porter, M. (1990). The competitive advantage of nations. New York: Free Press. Porter, M., Rivkin, J.W., 2012. Choosing the United States. Harvard Business Review.
Reynolds, A., Richards, G., De la Iglesia, B. and Rayward-Smith, V., 1992, "R documentation"

Rispoli, M. (1998). Sviluppo dell'impresa e analisi strategica. Bologna: Il mulino.

Robinson, A. and Schroeder, D. 2014. The idea-driven organization. Berrett-Koehler : Oakland

Rothenberg, S., & Ettlie, J. (2011). Strategies to Cope with Regulatory Uncertainty in the Auto Industry: Platform and Functional Integration. California Management Review, 54 (1).

Sako, M., 2005. Outsourcing and Offshoring: Key Trends and Issues. SSRN Electronic Journal.

Sako, M. (2006). Outsourcing and Offshoring: Implications for Productivity of Business Services. Oxford Review of Economic Policy, 22(4), pp.499-512.

Segnala, M.L, Bernard, A., 2010. " L'Offshoring e le imprese manifatturiere italiane". Università di Trento

Sharma, P., Mathur, R. and Dhawan, A. (2009). Exploring customer reactions to offshore call centers: toward a comprehensive conceptual framework. Journal of Services Marketing, 23(5), pp. 289-300.

Singh, H. and Kogut, B. (1989). Industry and Competitive Effects on the Choice of Entry Mode. Academy of Management Proceedings, 1989(1), pp.116-120.

Stringfellow, A., Teagarden, M. and Nie, W. (2008). Invisible costs in offshoring services work. Journal of Operations Management, 26(2), pp.164-179.

The Boston consulting Group, 2005. "Opportunities for Action"

The Boston Consulting Group, 2011."Made in America Again". August, 2011 The Economist, 2013. " The Story so Far". January 19.
The Economist, 2013. "Coming Home". January 19.

The Economist, 2013. "Here, There and Everywhere". March 19.

The White House, 2012. " Blueprint for an Americn Built to Last". January, 2012.

Torrisi, S., 2002. "Imprenditorialità e distretti ad alta tecnologia". Milano: F.Angeli.

UNCTAD, 2013. "World Investment Report"

Valdani, E. 2003. Mercati internazionali e marketing. Milano: EGEA.

Valsania, M., 2015. " Reshoring, così riparte la manifattura U.S.A e crea opportunità anche per le imprese italiane. 7 Gennaio 2015.

Youngdahl, W. and Ramaswamy, K. (2008). Offshoring knowledge and service work: A conceptual model and research agenda. Journal of Operations Management, 26(2), pp.212-221.

Abe M. and L. Ye (2012), The impacts of natural disasters on global supply chains, ARTNeT Working Paper Series, WP n. 115.

Alessandria G., J. P. Kaboski and V. Midrigan (2010), The great trade collapse of 2008-09: An inventory adjustment?, NBER Working Paper Series, WP no. 16059

Alessandria, G., J. P. Kaboski and V. Midrigan (2011), US trade and inventory dynamics, American Economic Review, 101, vol. 3, 303–07.

Altomonte C., F. D. Mauro, G. Ottaviano, A. Rungi, and V. Vicard (2012), Global value chains during the great trade collapse: a bullwhip effect?, European Central Bank Working Paper Series, WP no. 1412.

Altomonte C. and G. Ottaviano (2009), The Great Trade Collapse: Causes, Consequences and Prospects, VoxEu.

AmCham China, AmCham Shanghai, PWC (2020), Supply Chain Strategies Under the Impact of COVID-19 of Large American Companies Operating in China, April.

Antràs, P. (2020), De-Globalization? Global Value Chains in the Post-COVID-19 Age, 2021 ECB Forum: ”Central Banks in a Shifting World” Conference Proceedings .

Antràs, P. and A. de Gortari (2020), On the Geography of Global Value Chains, Econometrica, Vol. 88, no. 4: 1553-1598.

Antràs, P., T. C. Fort and F. Tiltelnot (2017), The Margins of Global Sourcing: Theory and Evidence from U.S. Firms, American Economic Review 107 (9): 2514-64..

Antràs, P., S. J. Redding and E. Rossi-Hansberg (2020), Globalization and Pandemics, NBER Working Paper Series, WP no. 27840.

Baldwin R. and Freeman (2020), Supply chain contagion waves: Thinking ahead on manufacturing ‘contagion and reinfection’ from the COVID concussion, VoxEU.

Baldwin, R., W. di Mauro, B. (Eds.). (2020), Mitigating the COVID economic crisis: Act fast and do whatever it takes, CEPR Press, Washington, DC

Baldwin, R., and A. J. Venables (2013), Spiders and Snakes: Offshoring and Agglomeration in the Global Economy, Journal of International Economics no. 90, vol. 2, 245-254.

Banca d’Italia (2020), La risposta delle banche centrali all’emergenza Covid-19, in Annual report for 2019, pag. 9-10.

Boehm C., A. Flaaen, N. Pandalai-Nayar (2019), Input linkages and the transmission of shocks: Firm-level evidence from the 2011 Tohoku earthquake, Review of Economics and Statistics, no. 101, vol. 2, 60–75.

Boerner, L. and B. Severgnini (2014), Epidemic and Trade, Economic History Working Papers, London School of Economics, no. 212.

Bonadio B., Z. Huo, A. A. Levchenko and N. Pandalai-Nayar (2020), Global Supply Chains in the Pandemic, CEPR Discussion Paper Series, DP no. 14766.

Borin A. and M. Mancini (2019), Measuring What Matters in Global Value Chains and Value-Added

Trade, Policy Research Working Paper Series, WP no. 8804, World Bank.

Camatte H., G. Daudin, V. Faubert, A. Lalliard, C. Rifflart (2020), Global Value Chains and the transmission of exchange rate shocks to consumer prices, Banque de France Working Paper Series, WP no. 797.

Carvalho V. M., M. Nirei, Y. U. Saito and A. Tahbaz-Salehi (2020), Supply Chain Disruptions: Evidence from the Great East Japan Earthquake, unpublished manuscript, June.

Chor D. and K. Manova (2010), Off the cliff and back? Credit conditions and international trade during the global financial crisis, NBER Working Paper Series, WP no. 16174.

Constantinescu C., M. Ruta, A. Mattoo (2019), How policy uncertainty hurt world trade in 2019, The Trade Post, The World Bank Blogs, 14 November.

D'Aguanno L., O. Davies, A. Dogan, R. Freeman, S. Lloyd, D. Reinhardt, R. Sajedi and R. Zymek (2021), Global value chains, volatility and safe openness: is trade a double-edged sword?, Financial Stability Paper Series, Bank of England, no. 46.

De Lucio J., R. M´ınguez, A. Minondo, F. Requena (2021), Impact of Covid-19 containment measures on trade, Universitat de Valencia Working Papers in Applied Economics, no. WPAE-2021-2101.

Di Giovanni J., A. A. Levchenko, I. Mejean (2018), The Micro Origins of International Business-Cycle Comovement, American Economic Review, no. 108, vol. 1, 82–108.

Espitia A., A. Mattoo ,N. Rocha, M. Ruta, D. Winkler (2021), Pandemic trade: COVID-19, Remote Work and Global Value Chains, Policy Research working paper, WP no. 9508, World Bank.

Ferrari F., (2020), Global Value Chains and the Business Cycle, unpublished.

Fillat J. and S. Garetto, (2015), Risk, Returns, and Multinational Production, The Quarterly Journal of Economics, 2027–2073.

Fortunato, P., (2020), How COVID-19 is changing global value chains, UNCTAD, September. URL: https://unctad.org/news/how-covid-19-changing-global-valuechains.

Garcıa-Santana M., J. Pijoan-Mas, L. Villacorta (2019), Investment demand and structural change, Universitat Pompeu Fabra Working Paper Series, WP n. 1668.

Giovannetti G., M. Mancini, E. Marvasi, G. Vannelli (2021), Il ruolo delle catene globali del valore nella pandemia: effetti sulle imprese italiane' ', Rivista di Politica Economica, forthcoming.

G¨org H., A. Seric, W. Liu, M. Windisch (2021), Risk, resilience, and recalibration in global value chains' ', VoxEU.

Huo Z., A. A. Levchenko and N. Pandalai-Nayar (2020), International Co-movement in the Global Production Network, CEPR Discussion Papers Series, DP n.13796.

Inoue H. and Y. Todo (2019), Firm-level propagation of shocks through supply-chain networks, Nature Sustainability, vol.2, 841–847.

Inoue H. and Y. Todo (2020), The propagation of the economic impact through supply chains: The case of a mega-city lockdown against the spread of COVID-19, Unpublished manuscript, March.

Kramarz, F., J. Martin, I. Mejean (2020), Volatility in the Small and in the Large: The Lack of Diversification in International Trade, CEPR Discussion Papers, DP No.11534.

Martin J., I. Mejean, M. Parenti (2021), Relationship Stickiness, International Trade, and Economic Uncertainty, Working Papers ECARES 2021-03, Universite Libre de Bruxelles.

Miroudot S. (2020), Resilience versus robustness in global value chains: Some policy implications, in COVID-19 and Trade Policy: Why Turning Inward Won't Work, CEPR Press VoxEU.org eBook, Ed. by R. Baldwin and Simon J. Evenett, Chapter 9.

Lemieux, J. E. et al. (2020), Phylogenic analysis of SARS-CoV-2 in Boston highlights the impact of superspreading events, Science, December 10th.

Monarch R. (2014), It's Not You, It's Me": Breakups in U.S.- China Trade Relationships, US Census Bureau Center for Economic Studies, Paper n. CES-WP-14-08.

OECD (2011), International capital flows: Structural reforms and experience with the OECD Code of Liberalisation of Capital Movements, Report from the OECD to the G20 Sub-Group on Capital Flow Management, June.

OECD (2020a), COVID-19 and Global Value Chains: Policy Options to Build More Resilient Production Networks, June 3.

OECD (2020b), Issues note: Efficiency and risks in global value chains in the context of COVID-19, Working Party No. 1 on Macroeconomic and Structural Policy Analysis, OECD.

Ricci P. H. Y., H. F. Lee and C. Y. H. Wu (2017), Trade Routes and Plague Transmission in Pre-industrial Europe, Nature Scientic Reports, n. 12973, vol.7, 1-10.

Saker L., K. Lee, B. Cannito, A. Gilmore and D. Campbell-Lendrum (2004), Globalization and Infectious Diseases: A Review of the Linkages, Special Topics in Social, Economic and Behavioural Research, World Health Organization.

Simola H. (2021), The impact of Covid-19 on global value chains, Bank of Finland Institute for Emerging Economies, BOFIT Policy Brief no. 2.

Strange R. (2020), The 2020 Covid-19 pandemic and global value chains, Journal of Industrial and Business Economics.

The Italian economy at the test of the conflict in Ukraine, Spring 2022, Centro Studi Confindustria

UBS (2020), Global Strategy Supply chains are shifting: how much and where?, Report by UBS

Evidence Lab, 15 June.

UNCTAD (2020), World Investment Report.

Yi, K. M., (2003), Can Vertical Specialization Explain the Growth of World Trade?, Journal of Political Economy, n. 111, vol. 1, 52-102.

World Bank (2020), World Development Report 2020: Trading for Development in the Age of Global Value Chains.

News and in-depth information on "News in agricultural accounts -The revision of the national and regional accounts of agriculture and the changes made with the introduction of the Sec 2010" are available on the page http://www.istat.it/it/archivio/162712.

Information on national accounts (annual and quarterly) and on institutional, territorial and environmental accounts is available on the page http://www.istat.it/it/conti-nazionali.

Detailed data at European level are available at http://ec.europa.eu/eurostat/data/database under the theme “Agriculture, forestry and fisheries”/“Agriculture”/“Economic Accounts for Agriculture”.

Global factory buckley
Economic Analysis of International Supply Chains: An Internalization Perspective global value chain Gereffi and Korzenniewiez

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1096845

L’outsourcing: una possibile modalità di organizzazione delle attività di servizi Osservatorio Isfol (2011) (Vol. 2) La delocalizzazione nei mercati internazionali Processi di internazionalizzazione delle imprese. Vecchi e nuovi paradigmi ACNP - Catalogo Italiano Periodici Location and the Multinational Enterprise: A Neglected Factor? on JSTOR Location and the Multinational Enterprise: A Neglected Factor? - Journal of International Business Studies

Production and supply network strategies within the fashion industry_11311-950761_Caniato

Exploring new research frontiers in offshoring knowledge and service processes | Request PDF Team processes for adaptive and innovative outcomes | Emerald Insight

The Influence of Cost and Quality Priorities on the Propensity to Outsource Production* Gestione Delle Imprese Internazionali - Caroli Matteo | Libro Mcgraw-Hill Education 01/2012 - HOEPLI.it

https://www.libreriauniversitaria.it/imprenditorialita-distretti-alta-tecnologia-teoria/libro/9788846436832 Offshoring Research Network

Role of Corporate-Wide Offshoring Strategy on Offshoring Drivers, Risks and Performance Explaining Job Polarization Next Generation Offshoring

https://reader.elsevier.com/reader/sd/pii/S1478409218300530?token=BFA36D123CE581B39A834BE388B24EAC57B9603CA3BEC1DCB306D52B0A24F40B054910009D02B076CDC12F5E709739AB

&originRegion=eu-west-1&originCreation=20220909172431

https://www.sciencedirect.com/science/article/pii/S1478409218300530

Italia Multinazionale 2010 - Mariotti Sergio; Mutinelli Marco | Libro Rubbettino 10/2010 - HOEPLI.it Immagine: Foreign Direct Investments | Italian Trade Agency

Foreign Direct Investments | Italian Trade Agency Optimism dashed: The 2022 FDI Confidence Index®

Foreign direct investment – UNCTAD Handbook of Statistics 2021 Foreign Direct Investments | Italian Trade Agency

FDI financial flows - By partner country FDI financial flows - By partner country Offshoring Model in Asset Management: What's Next?

Role of Corporate-Wide Offshoring Strategy on Offshoring Drivers, Risks and Performance

LIST OF FIGURES AND TABLES