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Relations between macroeconomics and international trade. Preliminary evidence from EU financial account.

Prof. Alberto Cagnazzo

RELATORE

Antonella Mele
Matr. 280761

CANDIDATO

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Summary

Introduction

In an increasingly interconnected global economy, international trade and foreign direct investment (FDI) emerged as critical drivers of economic growth, technological advancement and structural transformation.

Through this multidisciplinary analysis, the thesis aims to provide a deeper understanding of how international trade and FDI interact with broader macroeconomic conditions, with a particular focus on the role of financial accounts in the European Union examining both theoretical foundations and empirical evidence.

The first chapter provides a comprehensive overview of international trade, beginning with its fundamental principles and followed by the major economic theories that explain the benefits and limitations of cross-border exchange. These include the Ricardian model, the specific factors model, the Heckscher-Ohlin framework and the Mundell-Fleming model. The chapter also delves into the concepts of trade balance and balance of payments, highlighting how countries manage external economic relations and financial flows.

The second chapter focuses on foreign direct investments, offering a clear definition and classification of FDI based on type and investment strategy. It analyses the life cycle of FDI, the theoretical approach that underpin it and the main factors influencing its flow. The chapter concludes with a statistical analysis of FDI trends in the European Union, identifying key investing countries, recipient regions and sectors.

The third and the final chapter assesses the impact of FDI on both the home and the host countries through a review of macroeconomic literature. A dedicated section is then devoted to the role of FDI in strategic sectors identified by the Draghi report, such as semiconductors, biotechnology and automotive manufacturing. In addition, the chapter also presents an empirical analysis focused on how FDI, in the form of merger and acquisitions (M&A), has affected a specific sector. For this purpose, I collected data from Refinitiv Workspace on relevant market indices and I identified the dates of the most significant M&A deals from Orbis, in order to construct a comprehensive overview.

Chapter I – Foundations of international trade

1.1 Overview of Trade

International trade involves the exchange of goods, services and capital among countries, allowing nations to obtain resources and products that may be scarce or more efficiently produced elsewhere. The practice of international trade has a long history, evolving from basic barter systems to intricate global supply chains we see today. In contemporary times, trade is supported by international treaties, economic alliances and technological innovations that have greatly lowered transaction costs[1].

In the present day, international trade is more important than ever. In the early 21st century, countries are increasingly linked through the exchange of goods and services, financial transactions and cross-border investments. Organizations such as the World Trade Organization (WTO), the International Monetary Fund (IMF) and regional trade agreements like the European Union and NAFTA/USMCA are essential in overseeing trade regulations and fostering open markets[2]. However, recent developments – including the commercial tensions that have emerged in March/April 2025 between the United States and several major global economies – raise concerns about a potential slowdown or even a reversal in the globalization trend that has defined the past two decades.

Trade operates through various mechanisms, primarily focusing on the exchange of goods and services (trade balance) and the transfer of capital across borders (balance of payments). These aspects will be further explored later[3].

1.2 Key economic theories on international trade

International economics has a rich history within economic theory. Unlike many specialized fields that have emerged more recently, the examination of economic interactions among nations is deeply rooted in historical context. This field garners

[1] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 30 - 35.
[2] See: Moro, B. (2003), p. 10 - 49.
[3] See: Imbriani, C., & Lopes, A. (2013), p. 16 - 358.

specific attention due to several factors, with two major reasons being particularly significant[4].

Firstly, factors of production tend to be less mobile between countries compared to their movement within a single country. This key observation has influenced the evolution of international trade theory, which typically assumes that resources can move freely within national borders but face restrictions when crossing international boundaries. Conversely, the trade of goods and services is generally considered to be quite fluid, except when governments introduce barriers such as tariffs or quotas. Nonetheless, it is worth noting that in recent decades, capital has become significantly more mobile across borders than labour. This asymmetry has driven the phenomenon of offshoring, whereby companies relocate production to countries with lower labour cost, taking advantage of capital mobility while labour remains relatively immobile. This dynamic has had profound implications for global production structures and labour markets.

Secondly, the presence of sovereign nations as separate political entities adds layers of complexity that are not found in domestic economics. These complexities include trade barriers, the existence of multiple national currencies with varying exchange rates and differing regulatory environments.

International economics can be categorized into two primary areas: international trade theory and international monetary economics. Although these fields are interrelated, they focus on different dimensions of cross-border economic activities[5]. Trade theory investigates the trends, reasons and outcomes of international trade, looking at what goods and services countries export and import, the advantages gained from trade and the impact of trade policies. It also examines how trade affects domestic economic frameworks and how economic growth influences global trade patterns. A core assumption within traditional trade theory is that trade functions similarly to barter, where money merely acts as a neutral accounting unit, without having a direct effect on real economic factors.

In contrast, international monetary theory is related to the significance of currency and financial markets in the global economy. It explores topics such as balance of payments

[4] See: Gandolfo, G., & Trionfetti, F. (2014), p. 3 - 5.

[5] See: Gandolfo, G., & Trionfetti, F. (2014), p. 3 - 5.

discrepancies, exchange rate systems, international liquidity and the macroeconomic repercussions of monetary policies across nations[6].

The foundations of trade theory are built on four principal models that elucidate international trade patterns:

- The Ricardian model, which links trade patterns to technological disparities between nations.
- The Specific factors model, which incorporates multiple factors of production, with some being specific to the sectors in which they are employed. It also accounts for the short-term effects of trade on income distribution.
- The Heckscher-Ohlin model, which highlights differences in factor endowments as the primary driver of trade.
- The Mundell-Fleming model, which extends the IS-LM framework to an open economy, illustrating how monetary and fiscal policies operate under different exchange rate regimes and capital mobility levels.

1.2.1 The Ricardian model

The classical theory of international trade by Ricardo asserts that technology is the key factor shaping trade patterns[7]. A necessary condition for trade to occur is a difference in comparative costs, which indicates variations in production methods. Crucially, the theory also argues that trade benefits all participating nations.

A simplified version of Ricardo's model considers two countries – England and Portugal – producing two goods, cloth and wine, with labour as the sole factor of production. The assumption of fixed production coefficients implies constant unit costs. In England has a lower unit labour cost in cloth production, while Portugal has a lower unit labour cost in wine production, then specialization and trade will lead to efficiency gains for both nations.

[6] See: Gandolfo, G., & Trionfetti, F. (2014), p. 3 - 5.
[7] See: Gandolfo, G., & Trionfetti, F. (2014), p. 3 - 5.

Table 1 – Example of absolute advantage

	Unit costs of production in terms of labour	
Commodities	In England	In Portugal
Cloth	4	6
Wine	8	3

Source: Gandolfo, G., & Trionfetti, F. (2014), p. 3-5.

Table 1 shows that the cost of producing cloth is lower in England than in Portugal, whereas the reverse is true for wine. Consequently, England benefits from specializing in cloth production and trading it for Portuguese wine, while Portugal gains by focusing on wine production and exchanging it for British cloth.

However, Ricardo's most significant contribution was illustrating that trade remains beneficial even if one country is more efficient in producing both goods. The key understanding is that trade relies not on absolute costs but on comparative costs. A nation should concentrate on the good in which it has the greatest comparative advantage (or the least relative inefficiency).

This reasoning applies broadly beyond the England-Portugal scenario: in any trade relationship, specializing based on comparative advantage results in improved efficiency and overall welfare. However, trade will only happen if the international exchange rate falls within the comparative cost boundaries; otherwise, one nation would find trading unprofitable[8].

1.2.2 The specific factors model

The specific factors model[9], created by Paul Samuelson and Ronald Jones, expands upon the Ricardian model by including various factors of production, some of which are tied to specific sectors. This model assumes an economy that produces two goods and allows

[8] See: Gandolfo, G., & Trionfetti, F. (2014), p. 3 - 5.

[9] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 80 - 95.

labour to shift between sectors, while other production factors are fixed to particular industries.

In this framework, the economy produces cloth and food using three types of production factors: labour (L) that is mobile between sectors, capital (K) that is specific to cloth production and land (T) that is specific to food production.

The production of each good, such that Q_c is the quantity of cloth produced and Q_f is the quantity of food produced, is determined by the resources assigned to it, represented by the production functions:

$$Qc = Qc(K, Lc). \quad (1)$$

$$Qf = Qf(T, Lf). \quad (2)$$

Where the allocation of labour is defined as the sum of the work assigned to the production of cloth (L_c) and the work assigned to the production of food (L_f):

$$Lc + Lf = L. \quad (3)$$

This model demonstrates the concept of diminishing marginal returns to labour within each sector. As more workers are added to a sector, the output increases at a slower rate since the additional labour must be divided among a fixed amount of capital or land[10].

The relative price of goods influences how labour is distributed between the two sectors. Trade impacts relative prices, which subsequently affects income distribution. When a country engages in trade, the price of the exported good tends to rise in relation to the imported good.

The main implications of the model are that specific factor in the export sector benefits due to the increased price of its output, while the specific factor in the import-competing sector incurs losses as its good becomes relatively cheaper. The impact on labour, which is the mobile factor, remains uncertain since wages are influenced by demand fluctuations across sectors.

[10] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 80 - 95.

In summary, trade produces both winners and losers. Owners of capital in the exporting sector gain benefits, while landowners (specifically in food production) may experience losses. Labor's outcome is variable, depending on the extent of wage adjustments.

A key question is whether trade enhances overall welfare. Although some groups may suffer losses in the shorth term, the economy overall can benefit from increased efficiency. One way to evaluate this is through the idea of potential compensation: if the beneficiaries of trade could compensate the losers and still improve their own situation, then trade results in a net advantage. Even if compensation does not occur in reality, the total value of goods and services available to society increases[11].

In a closed economy, production and consumption in theory must match, ergo the domestic demand for cloth D_c must be equal to the production of cloth Q_c and the domestic demand for food D_f must be identical to the production of food Q_f:

$$Dc = Qc \qquad Df = Qf. \tag{4}$$

However, trade allows consumption to exceed production, enabling a country to consume beyond its production possibility frontier through specialization and exchange. This illustrates that, despite immediate income distribution impacts, international trade promotes overall economic welfare in the long run[12].

1.2.3 The Heckscher-Ohlin model

The Heckscher-Ohlin model is a key theory in international trade that helps to clarify the trade patterns between countries based on their resources[13]. Unlike the Ricardian model, which emphasizes labour as the only production factor, this model involves multiple factors, mainly capital and labour. This model is often described as the "2 by 2 by 2" framework, involving two countries, two goods and two factors of production. Each

[11] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 80 - 95.
[12] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 80 – 95.
[13] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 110 - 124.

country possesses varying amounts of capital and labour; for example, one may have more capital while the other has more labour.
According to the model, a country tends to specialize and export the good that utilizes its abundant resource most intensively. For instance, a country rich in capital will export goods that require more capital input, whereas a country rich in labour will export goods that are more labour-intensive[14].
In a common example, the goods in question might be cloth and food. If one country has a labour surplus compared to another and cloth production requires more labour than food production, the labour-rich country will focus on making cloth and export it to the capital-rich country, which will likely concentrate on producing food, a good that requires more capital. This specialization happens because the labour-rich county can manufacture cloth more effectively due to its relative abundance of labour.

The Heckscher-Ohlin model also takes into account the concept of factor mobility. Unlike models that assume factors are fixed in the short term, this model permits movement of capital and labour between sectors in the long run. This mobility helps to equalize the returns on these factors across different sectors. As countries engage in international trade, the prices of goods will fluctuate. For instance, the price of the good a country exports may increase, benefiting the factors associated with that export sector, while those exposed to imports from foreign competitors may face negative impacts[15].

So, the main takeaway is that international trade allows countries to specialize based on their resource endowments, enhancing overall efficiency and welfare. However, the distribution of benefits from trade is contingent upon factor mobility and the shifts in factor prices across different sectors.

1.2.4 The Mundell-Fleming model

The Mundell-Fleming model is an extension of the IS-LM framework to an open economy setting[16]. While the traditional IS-LM model is built to analyse a closed

[14] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 110 - 124.
[15] See: Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012), p. 110 – 124.
[16] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 - 259.

economy, the Mundell-Fleming model incorporates two crucial additional elements: the exchange rate and the capital mobility- its main purpose is to explore the impact of fiscal and monetary policies in a global environment, where countries are interconnected through trade and financial flows.

Assuming a small open economy with perfect capital mobility, this setup implies that the domestic interest rate is equal to the world interest rate:

$$r = r^*. \tag{5}$$

We aim to reconstruct the model using the IS and LM curves. The goods market is described by the following equation:

$$Y = C(Y - T) + I(r) + G + NX(e). \tag{6}$$

According to this equation, aggregate income Y is composed of consumption C, investment I, government spending G and net exports NX. Consumption is positively related to disposable income $(Y\text{-}T)$, investment is negatively related to the interest rate, which, as previously mentioned, equals the global interest rate. Net exports are inversely related to the exchange rate e. In this setup, the IS* curve illustrates the relationship between the exchange rate and income: along the IS curve the higher the exchange rate, the lower the equilibrium level of income[17].

The money market is captured by the equation:

$$\frac{M}{P} = L(r, Y). \tag{7}$$

Here, the real money supply must equal the real money demand. The demand for real balances is negatively associated with the interest rate and positively associated with income. The money supply M is controlled by the central bank and since the model is designed for short-run analysis, the price level P is assumed to be exogenous.

[17] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 - 259.

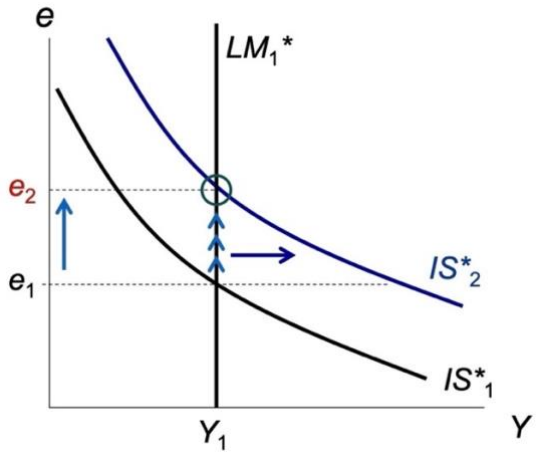
Graphically, the LM* curve is represented by a vertical line, resulting from the intersection of the traditional LM curve with a horizontal line indicating the world interest rate *r**. This implies that in an open economy with perfect capital mobility, the equilibrium level of income is determined independently of the exchange rate[18].

Before analysing the effects of economic policy, it's essential to first clarify the international monetary regime chosen by the country under consideration. In today's global economy, the most widespread system is that of flexible exchange rates. Under this regime, the exchange rate is determined by market forces and can fluctuate freely in response to changing economic conditions. The exchange rate, in this case, adjusts automatically to ensure equilibrium in both the goods market and the money market. There are three main policy tools that can influence this equilibrium: fiscal policy, monetary policy and trade policy[19].

Let's begin with fiscal policy. Suppose the government decides to stimulate domestic demand by increasing public spending or cutting taxes. This expansionary policy shifts the IS* curve to the right, which initially leads to a rise in the domestic interest rate *r*. As a result, capital inflows occur due to arbitrage opportunities, increasing the demand for the domestic currency and causing an appreciation of the exchange rate *e*. A stronger currency makes domestic goods more expensive relative to foreign goods, leading to a decline in net exports, which offsets the initial increase in demand. In this scenario, the fiscal expansion crowds out net exports, neutralizing its effect on output[20].

[18] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 - 259.
[19] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 - 259.
[20] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 - 259.

Figure 1 – Fiscal policy in flexible exchange rates

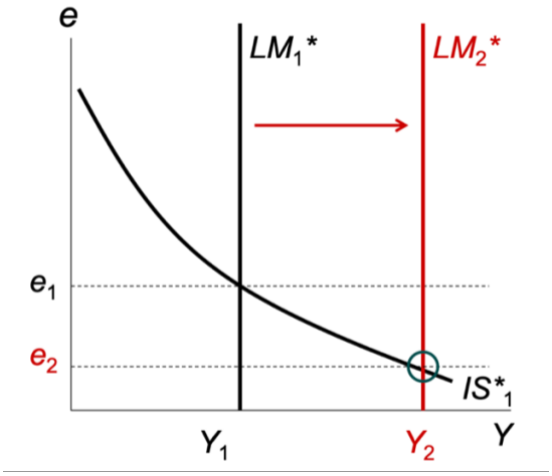


Source: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 – 259.

Now consider a case where the central bank increases the money supply. This leads to a rightward shift of the LM* curve and puts downward pressure on the domestic interest rate. The lower interest rate triggers capital outflows, which causes the domestic currency to depreciate. A weaker currency makes domestic goods more competitive abroad, resulting in a rise in net exports, which boosts aggregate demand and raises income. As output increases, so does the demand for money, until the domestic interest rate returns to the global level $r=r^*$. Therefore, a monetary expansion leads to currency depreciation and an increase in net exports, ultimately raising output[21]. However, it is important to note that this model abstracts from possible inflationary effects of a weaker currency – such as higher import prices for energy and raw materials – which could in reality lead to upward pressure on price and interest rates. These dynamics are not captured here, as the model is designed for short-run analysis and assumed a fixed (exogenous) price level.

[21] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 – 259.

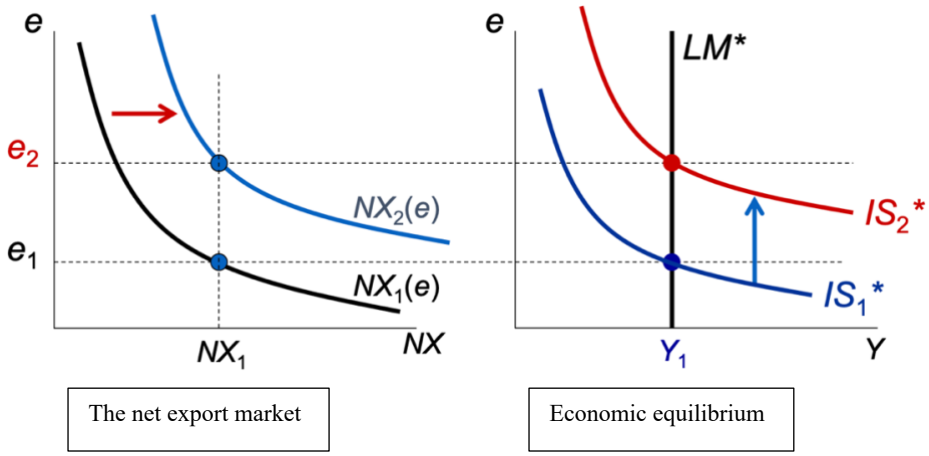
Figure 2 – Monetary policy in flexible exchange rates



Source: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 – 259.

Lastly, imagine the government implements trade restrictions, such as import quotas or tariffs, to reduce the demand for foreign goods. This shifts the IS* curve to the right, increasing both the domestic interest rate and the exchange rate. However, the appreciation of the currency reduces exports, offsetting the initial gain from lower imports. In the end, output remains unchanged and so does the trade balance. What happens instead is a reallocation of aggregate demand from foreign to domestic produces, without affecting the overall level of income[22].

Figure 3 – Trade policy in flexible exchange rates



Source: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 – 259.

[22] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 – 259.

The second scenario arises under a fixed exchange rate regime, where the central bank commits to maintaining a set value of the exchange rate. To do so, it is willing to buy or sell the domestic currency as needed in order to keep the exchange rate at the declared level.

Let's start with an example of fiscal expansion. An increase in public spending G shifts the IS* curve to the right, which puts upward pressure on the domestic interest rate. This attracts capital inflows from international investors, increasing the demand for the domestic currency and leading to an appreciation of the exchange rate. Since the central bank must maintain the fixed exchange rate, it intervenes by purchasing foreign currency in exchange for domestic currency, which effectively expands the money supply and shifts the LM* curve to the right. This process continues until the domestic interest rate returns to the global interest rate r = r* and the exchange rate is restored to its target level. The final result is an increase in output and income, with the central bank's intervention ensuring both interest rate and exchange rate stability[23].

1.3 Trade balance

In an open economy, a part of the national output is directed toward international markets in the form of exports, while residents also allocate some of their income to imports, acquiring goods from international markets. This engagement with the rest of the world, collectively referred to as the external sector, plays a crucial role in determining the level of aggregate demand and overall economic activity. Domestic demand, therefore, is not limited to the consumption of domestically produced goods and services but also includes imported goods that satisfy local needs. At the same time, national production is influenced not only by internal demand but also by the demand coming from foreign consumers and firms[24].

The total expenditure in the economy can be represented by the equation:

$$Y = C + I + G + EX - IM. \tag{8}$$

Where NX = EX – IM, which can be simplified to:

[23] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 248 - 259.

[24] See: Imbriani, C., & Lopes, A. (2013), p. 16 – 358.

$$Y = C + I + G + NX. \quad (9)$$

The equation 9 shows that the level of production Y is equal to the sum of consumption C, investment I, government spending G and net exports NX. A positive NX indicates that the country is exporting more than it is importing, contributing positively to GDP.

The trade balance, or net exports, thus becomes a key indicator of a country's economic relationship with the rest of the world[25]. A trade surplus occurs when exports exceed imports, signalling that the country is a net supplier to global markets. This implies that it is producing more than it consumes domestically and the excess output is absorbed by international buyers. A trade surplus is often associated with an inflow of foreign currency, which can bolster a country's foreign exchange reserves, support currency stability and potentially be reinvested in productive assets or used to reduce external debt. A classic example is Germany, which has consistently run large trade surpluses in recent decades, thanks to its strong export-oriented industrial base and high global demand for its manufacturing goods[26]. These surpluses have played a key role in supporting the country's macroeconomic stability and strengthening its position within the euro area.

On the other hand, a trade deficit emerges when imports surpass exports, suggesting that domestic consumption outpaces production and that the economy relies on foreign suppliers to meet its demand. While in the short term a trade deficit may reflect strong consumer demand or investment in imported capital goods, persistent deficits may raise concerns. If not financed by capital inflows, a trade deficit may lead to increased borrowing from abroad, accumulation of external debt and downward pressure on the national currency[27].

By rearranging equation 9, we get:

$$Y - C - G = I + NX. \quad (10)$$

Which can be written as:

[25] See: Moro, B. (2003), p. 10 – 49.
[26] https://www.destatis.de/EN/Press/2025/02/PE25_048_51
[27] See: Imbriani, C., & Lopes, A. (2013), p. 16 – 358.

$$S = I + NX. \quad (11)$$

Where *S* is national savings. This can be further simplified to show how the trade balance *NX* depends on the variables that determine savings *S* and investment *I* as follows:

$$S - I = NX. \quad (12)$$

Countries with a net flow of capital surplus are considered net creditors, meaning they export more capital than they import, while countries with a deficit are net debtors, relying on capital inflows from abroad[28].

1.4 The balance of payments

The balance of payments is a financial record that captures all economic transactions between a country and the global community[29]. It offers a detailed perspective on the financial interactions between residents and non-residents, aiding in the evaluation of a nation's economic status. There are two principal categories of the balance of payments: monetary balance of payments, which accounts for foreign exchange transactions associated with international dealings and economic balance of payments, which tracks current transactions with foreign entities as they happen, regardless of when the related monetary payments occur. This category also encompasses capital movements, such as commercial credits and other activities that may not directly involve currency exchanges.

The balance of payments is divided into three primary sections:

- The current account records the value of goods and services that are exported and imported, as well as capital income like interest, profits and dividends that are received from or paid to foreign entities. Additionally, it includes workers' remittances and other unilateral transfers, such as public aid from or to foreign nations. A surplus in this account happens when a country exports more than it imports or receives more capital income and remittances than it sends abroad.

[28] See: Mankiw, N. G., & Taylor, M. P. (2015), p. 103 - 105.
[29] See: Valli, V., Geuna, A., & Burlando, R. (2010), p. 106 – 110.

Conversely, a deficit arises when imports surpass exports, capital income payments to foreign investors rise or remittance outflows increase.

- The capital account includes transactions related to intangible assets and unilateral transfers.
- The financial account emphasizes capital movements, covering both foreign direct investment, where multinational companies invest in local businesses or domestic firms expand internationally and portfolio investments, like foreign purchases of government bonds. A positive balance in the financial account occurs when foreign investors buy domestic assets or when multinational companies invest within the country, resulting in capital inflows. Conversely, capital outflows, such as domestic investors buying foreign assets or firms expanding abroad, can adversely affect the balance of payments[30].

1.4.1 Current account

The current account is a key component of the balance of payments, reflecting a nation's day-to-day economic interactions with the rest of the world. In particular, it roughly corresponds to what is commonly known as the trade balance. In fact, it includes exports, payments received from the rest of the world, and imports, payments made to the rest of the world, and the difference between these two constitutes the balance of trade[31].
Now, let's take a closer look at its main components.

- Goods component

The goods component tracks the exports and imports of merchandise, including net exports through merchanting. This occurs when an Italian operator buys goods from a non-resident and sells them to another non-resident without the goods physically entering Italy[32]. Additionally, it includes transactions involving non-monetary gold. Goods are assessed on a Free on Board (fob) basis, meaning they are recorded at the border of the

[30] See: Valli, V., Geuna, A., & Burlando, R. (2010), p. 106 – 110.
[31] See: Imbriani, C., & Lopes, A. (2013), p. 16 – 358.
[32] See: Banca d'Italia. (2024), p. 1 – 5.

exporting country and the responsibility for transport and risk is transferred to the buyer once the goods are loaded onto the shipping vessel[33].

- Services component

The services component encompasses a variety of economic activities. This includes transportation services for both goods and passengers, expenditures related to travel by non-residents in the domestic economy, and vice versa. It also covers construction services for projects that last less than a year. Financial and insurance services, such as brokerage and reinsurance, fall under this component, along with payments for intellectual property rights, which includes royalties and licensing fees for patents, trademarks and copyrights. Furthermore, it includes Information and Communication Technology (ICT) services, such as software development, database management and telecommunications, as well as various business services like consulting, research and development and legal advisory services[34].

- Primary income component

The primary income component comprises compensation for labour and returns on financial assets. Labour income includes salaries wages paid to non-residents working within the domestic economy and to residents working abroad. Capital income reflects earnings from foreign investments, which encompass interest from loans and bonds, dividends from stocks and reinvested earnings from foreign-owned enterprises. It also includes revenue from leasing natural resources and government taxes on production[35].

- Secondary income component

The secondary income component records current transfers between residents and non-residents that do not involve an economic exchange. This includes international aid, social security contributions and benefits, taxes on income and wealth, as well as personal remittances sent by migrant workers to their home countries. Unlike primary income,

[33] https://www.incotermsexplained.com
[34] See: Banca d'Italia. (2024), p. 1 – 5.
[35] See: Banca d'Italia. (2024), p. 1 – 5.

these transfers are not derived from production or investment but represent redistributive financial flows between economies.

1.4.2 Capital account

The capital account monitors specific forms of cross-border transfers that are not captured under the current account, focusing mainly on non-financial and non-produced assets, along with capital transfers. We will now examine in more detail the two main categories that make up this account.

- Gross acquisitions and disposals of non-financial assets

This category consists of the transfer of ownership rights related to intangible assets, which can be classified into three primary groups: natural resources (this includes land and rights for mineral extraction), license and agreements (this category covers contractual rights like permits for resource exploitation, telecommunications spectrum licenses and other exclusive rights) and marketing assets and goodwill (this includes trademarks, brand names and goodwill associated with business acquisitions)[36].

- Capital transfers

This category includes transactions that involve the transfer of ownership of capital assets, financial resources connected to their acquisition or disposal and debt forgiveness between economies. Capital transfers are categorized based on the institutional sector involved and include capital taxes, investment grants and other capital transfers.

1.4.3 Financial account

The financial account details international movements of capital that reflect changes in ownership of financial assets and liabilities between residents and non-residents. Let's now explore its key components.

[36] See: Banca d'Italia. (2024), p. 1 – 5.

- Direct investment

This occurs when an investor from one economy hold control or a significant influence over a business in another economy. This category includes equity and other participations, reinvested earnings and debt instruments[37].

- Portfolio investment

This category consists of cross-border transactions involving equity and debt securities that do not meet the criteria for direct investments. These transactions are typically passive, aimed at generating returns rather than exerting control. These investments are divided into equity securities and debt securities[38].

- Financial derivatives and employee stock options

Financial derivatives are contracts whose value is based on underlying assets and are mainly used for hedging or speculation, rather than for direct capital investment. Unlike other financial instruments, they do not involve the transfer of funds but the transfer of risk. Examples include futures, options and swaps, which hedge against risk related to interest rates, exchange rates or commodities. Additionally, employee stock options are rights provided to employees to purchase shares in their company at a predetermined price, often used as a form of compensation[39].

- Other investments

This broad category encompasses various financial transactions that do not fit into the previous groups. It includes non-securitized equity participations, currency and deposits, loans, insurance, pension and guarantees, trade credit and advances, other accounts receivable/payable, special drawing rights.

- Official reserve assets

These consist of foreign assets maintained by central banks and the European Central Bank to regulate exchange rates, stabilize financial markets and support monetary policy.

[37] See: Banca d'Italia. (2024), p. 1 – 5.
[38] See: Banca d'Italia. (2024), p. 1 – 5.
[39] See: Banca d'Italia. (2024), p. 1 – 5.

They must meet three essential criteria: full control by the monetary authority, high liquidity and high creditworthiness[40].

1.4.4 Balance of payment and international trade

The balance of payments can be compared to a marketplace, particularly a foreign exchange market where various currencies are exchanged for international transactions[41]. It would not exist if all nations used a single currency; however, since they do not, there is a need for universally accepted payment methods.

As a marketplace, the balance of payments encompasses demand, supply and the corresponding price of foreign currencies. The demand for foreign exchange emerges when individuals or companies wish to convert their local currency into foreign currency. For example, European travellers exchanging euros for U.S. dollars before their trip create a demand for dollars while simultaneously supplying euros. On the flip side, the supply of foreign exchange is created by individuals or businesses converting foreign currency into euros, such as a U.S. exporter who exchanges dollars for euros.

The exchange rate represents the price of foreign currency in terms of euros, indicating how many euros are required to obtain one unit of another currency. Exchange rates can be represented in two formats: “direct” (indicating how many euros per dollar) or “indirect” (showing how many dollars per euro). If the euro weakens, the exchange rate rises, meaning more euros are necessary to purchase one dollar. Conversely, if euro strengthens, fewer euros are needed per dollar[42].
The primary source of demand for foreign exchange comes from imports, as European businesses purchasing goods from abroad must pay in foreign currency. Regardless of whether an importer pays in euros or foreign currency, the transaction contributes to the overall demand for foreign exchange. Similarly, the supply of foreign exchange is influenced by exports, as Italian exporters receive payments in foreign currency and convert them into euros.

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[40] See: Banca d’Italia. (2024), p. 1 – 5.
[41] See: Imbriani, C., & Lopes, A. (2013), p. 16 – 358.
[42] See: Imbriani, C., & Lopes, A. (2013), p. 16 – 358.

In addition to trade, capital flows significantly impact the foreign exchange market. Capital outflows occur when Italian residents invest outside the country, lend money internationally or transfer funds to foreign banks, thereby increasing the demand for foreign currency. In contrast, capital inflows happen when foreign investors buy European assets, invest in Italy or deposit money in Italian banks, resulting in a greater supply of foreign exchange[43].

The balance of payments achieve equilibrium when the demand for foreign exchange (from imports and capital outflows) matches the supply (from exports and capital inflows), which can be represented mathematically as:

$$(EX + \Delta KF) = (IM - \Delta KF) = BP. \tag{13}$$

Where *EX* represents exports, *IM* denotes imports, *ΔKF* stands for capital inflows (positive) or outflows (negative) and *BP* signifies the balance of payments.
When the demand for foreign exchange surpasses the supply, a deficit in the balance of payments occurs. In such scenarios, the central bank may step in by selling foreign currency from its reserves to stabilize the exchange rate. However, this approach is not a long-term solution, as reserves are competitiveness and productivity are essential[44].

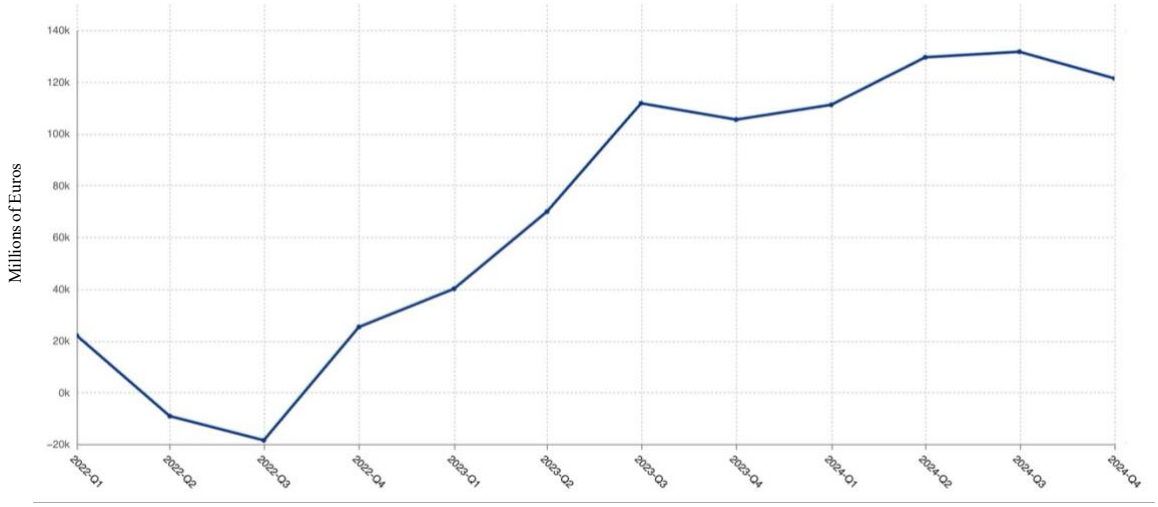
1.5 International balance of payments statistics

To conclude, international statics on the balance of payments offer valuable insights into the European Union's economic position in the global context. We can focus separately on the various components of the balance of payments.

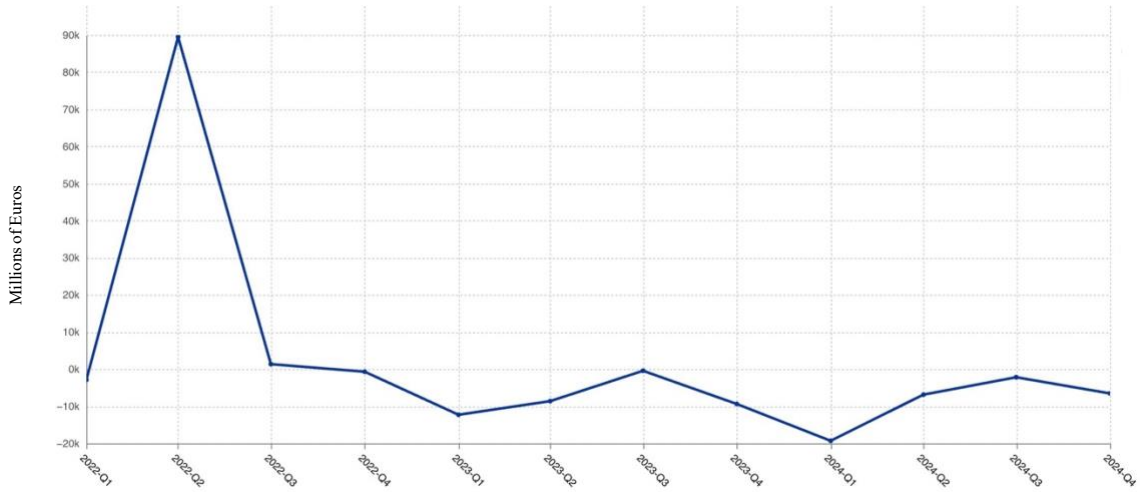
[43] See: Imbriani, C., & Lopes, A. (2013), p. 16 – 358.
[44] See: Imbriani, C., & Lopes, A. (2013), p. 16 – 358.

Figure 4 –Balance of payments of Euro area

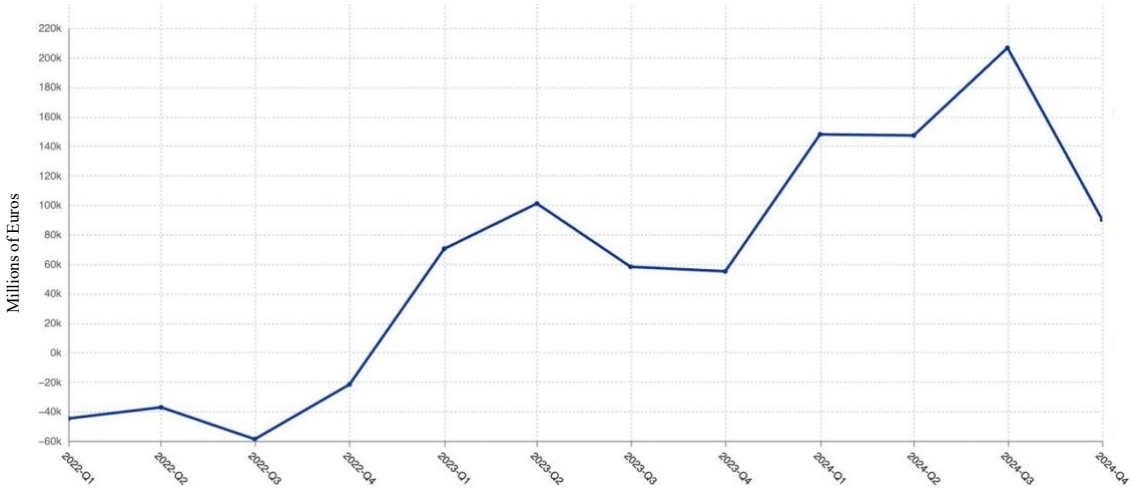
Current account



Capital account



Financial account



Source: Eurostat (2025). Note: quarterly data.

First, the current account presents a pronounced and consistent pattern. The EU maintains a surplus for most of the observed period[45], reflecting strong net exports of goods and services. This surplus contracted during the energy crisis of 2022 due to rising import costs, especially for fossil fuels. Despite this temporary downturn, the current account recovered in 2023 as energy prices stabilized and trade conditions improved[46]. A current account surplus generally indicates that a region is a net lender to the rest of the world and earns more from exports and investments abroad than it spends on imports and foreign obligations.

In contrast, the capital account remains relatively stable and close to zero throughout the period. Its limited scale is expected, as capital transfers and non-produced assets[47] represent a small share of total economic transactions. Occasional positive spikes can be seen, likely reflecting one-off transfers or specific government-related activities, but these do not follow a strong trend, emphasizing the minor role of the capital account in overall balance of payments dynamics[48]. Notably, during the significant contraction of the current account in 2022, the capital account did not show any corresponding increase, confirming that it did not act as a compensating factor during that shock.

Lastly, the financial account graph shows considerable fluctuations over time. There are periods of strong net outflows, particularly in early 2022, indicating that the EU invested more abroad than it received. This may have been driven by geopolitical tensions and shifts in global financial markets, as well as tighter monetary policy. However, starting from mid 2023, net inflows increase again, suggesting renewed investor confidence or repatriation of assets. These variations highlight the sensitivity of financial markets to global conditions and EU policy responses[49].

Overall, the combined analysis of the three components of the balance of payments demonstrates the EU's structural strength in trade, cautious capital movements and an interconnected financial sector reacting dynamically to global developments.

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[45] Note: This analysis focuses on a short period (from 2022 onward) in order to better capture economic dynamics and external shocks affecting the European Union.

[46] See: European Central Bank (2025).

[47] Note: economic assets not representing the result of a production process.

[48] See: European Central Bank (2025).

[49] See: European Central Bank (2025).

Focusing on the financial account, the data shows significant cross-border investment activity. By the end of 2024, euro area direct investment assets stood at €12.62 trillion, with the US and UK being the main destinations, as shows table 2 (23% and 19% respectively).

Table 2 – International investment position of the euro area – % geographical breakdown

	Q4 2024										
	Total EUR bn	EU non-EA	United Kingdom	United States	BRIC	Switzerland	Japan	Offshore centres	Other advanced	Other emerging	Other countries
Direct investment											
Assets	12,620	9	19	23	8	9	1	11	4	4	11
Liabilities	9,957	6	18	28	4	10	3	19	4	2	6
Portfolio investment											
Assets	14,653	10	13	49	3	3	4	6	7	2	5
Equity	7,569	3	8	60	4	4	4	8	4	1	3
Debt securities	7,084	16	17	38	1	1	3	4	9	3	7
Liabilities	16,505	5	12	22	5	6	5	7	5	2	30
Equity	10,837	4	13	27	1	5	2	5	5	2	36
Debt securities	5,668	7	9	13	14	9	11	9	5	1	20
Other investment											
Assets	7,180	7	29	24	3	6	4	10	4	2	11
Liabilities	7,708	14	25	19	5	5	2	8	3	2	18

Source: European Central Bank (2025).

Note: "Equity" comprises equity and investment fund shares. EU non-EA" comprises the non-euro area EU Member States and those EU institutions and bodies that are considered for statistical purposes as being outside the euro area, such as the European Commission and the European Investment Bank. The "BRIC" countries are Brazil, Russia, India and China. "Other advanced" includes Australia, Canada, Japan, Norway and South Korea. "Other countries" includes all countries and country groups not shown in the chart, as well as unallocated transactions.

On the liability side, €9.96 trillion of foreign direct investment was held in the euro area, with the largest shares coming from the US (28%), offshore centres (19%) and the UK (18%). Portfolio investment was also substantial: euro area residents held €7.57 trillion in foreign equities and €7.09 trillion in debt securities[50].

[50] See: European Central Bank (2025).

1.5.1 Economic and financial linkages between the Euro area and United States

The United States remain the euro area's main partner for cross-border investment, both as the largest destination for euro area financial assets and as the top source of financial liabilities. According to aggregate data on euro area external positions in Table 3 (not limited to the U.S), total financial assets reached €12.38 trillion in Q4 2024, up to 83% from €6.76 trillion in Q4 2015, while liabilities increased by 32%, from €6.37 trillion to €8.41 trillion. These trends suggest a strengthening net investment position for the euro area overall. Within this trend, portfolio equity assets saw the most remarkable growth – rising from €1.18 trillion to €4.57 trillion (a 286% increase) – indicating a growing appetite of euro area residents for foreign stock markets, particularly those of the United States. In contrast, U.S. investment in the euro area grew at a slower pace and direct investment liabilities actually declined by 9%, from €3.05 trillion to €2.77 trillion. This suggests that while both regions are deeply financially interconnected, euro area investors are increasingly active in acquiring U.S. assets – especially portfolio instruments – more than vice versa, highlighting a shift in the direction and composition of investments flows.

Table 3 – Euro area international investment position vis-à-vis the United States

	EUR billions			Percentage of GDP			Share in total (%)		
	Q4 2015	Q4 2024	change (%)	Q4 2015	Q4 2024	change (p.p.)	Q4 2015	Q4 2024	change (p.p.)
Direct investment									
Assets	2,923	2,962	1	27.4	19.5	-7.9	26	23	-3
Liabilities	3,053	2,768	-9	28.6	18.3	-10.4	32	28	-4
Portfolio investment									
Assets	2,580	7,231	180	24.2	47.7	23.5	35	49	15
Equity	1,183	4,568	286	11.1	30.1	19.1	38	60	22
Debt securities	1,397	2,663	91	13.1	17.6	4.5	32	38	5
Liabilities	2,103	3,659	74	19.7	24.1	4.4	18	22	4
Equity	1,474	2,901	97	13.8	19.1	5.3	25	27	2
Debt securities	629	757	20	5.9	5.0	-0.9	12	13	2
Other investment									
Assets	859	1,726	101	8.1	11.4	3.3	17	24	7
Liabilities	811	1,495	84	7.6	9.9	2.3	15	19	5
Financial derivatives									
Assets	393	461	17	3.7	3.0	-0.7	22	13	-9
Liabilities	402	483	20	3.8	3.2	-0.6	22	13	-8
Total									
Assets	6,755	12,379	83	63.4	81.7	18.3	27	33	6
Liabilities	6,369	8,405	32	59.7	55.5	-4.3	22	22	0

Source: European Central Bank (2025).

Note: the terms "assets" denotes European investments in the United States, whereas "liabilities" correspond to investments originating from the United States and directed towards Europe. "p.p" refers to percentage points. "Equity" comprises equity and investment fund shares. "Total assets/liabilities" refers to the sum of direct investment, portfolio investment, other investment and financial derivatives. Reserve assets are not included in the total. Around 17% of the Eurosystem's total reserve assets of €1.3 trillion are held in the form of securities, of which an undisclosed part is invested in securities issued in the United States. Financial derivatives are reported separately in gross terms under assets and liabilities. Discrepancies between totals and their components maya rise from rounding.

Chapter II – Focus on the financial account

2.1 Definition of Foreign Direct Investments

Following the overview of the European Union's balance of payments in the first chapter, this second chapter focuses more specifically on the financial account, which records cross-border investments and capital flows. Among its main components, FDI stands out as a key driver of long-term economic integration and financial interdependence. By analysing FDI in all its dimensions, this chapter aims to clarify its role within the financial account and its significance for EU's external financial framework.

FDI is the process whereby companies from one nation (the source country) obtain ownership of assets in another nation (the host country) to exercise control over production, distribution and various business operations[51].

According to the International Monetary Funt (IMF)[52], FDI is considered an investment aimed at acquiring a lasting interest in a business operating in a different economy than that of the investor, with the objective of having a substantial influence in its management. The United Nations' World Investment Report similarly characterizes FDI as an investment that fosters a long-term relationship, reflecting ongoing interest and control by a resident entity (foreign direct investor or parent enterprise) in a business situated in another country (FDI enterprise, affiliate enterprise or foreign affiliate)[53].

FDI are different from portfolio investments, which take place when companies purchase shares in a company on a foreign stock exchange and unlike FDI, these investments are not made with the intention of acquiring a controlling interest in the issuing company. Typically, such investments are short-term and are utilized to take advantage of favourable fluctuations in exchange rates or to achieve short-term profits from interest rate differentials[54].

As a result, foreign direct investments differ from portfolio investments in that they not only transfer financial capital but also other production elements, including commercial and technological expertise, as well as marketing experience, to foreign nations[55].

[51] See: Moosa, I. (2002) p. 1 – 2.
[52] See: Nay Pyi Taw, Myanmar. (2015) p. 4 – 5.
[53] See: UNCTAD, (1999) p. 15 – 17.
[54] See: European Commission, (2024) p.1 – 6.
[55] See: Stehn, J. (1992) p. 372.

However, the impact of FDI is not always uniformly positive. While it can stimulate innovation and employment, it may also lead to market concentration, limiting competition and potentially have excessive influence over local industries.

Consequently, the effectiveness of FDI in promoting economic development largely depends on the regulatory environment, the absorptive capacity of the host country, and the strategic objectives of the investing firms.

Particularly in economies characterized by a strong presence of small and medium-sized enterprises, foreign direct investments provide essential funding when traditional financial channels are insufficient. Attracting FDI not only enhances industrial competitiveness but also strengthens research and development efforts, leading to higher levels of innovation and employment. Moreover, FDI can facilitate knowledge spillovers, supporting the integration of SMEs into global and regional value chains. However, the benefits of FDI depend on the absorptive capacity of the local economy, as a significant technological gap between foreign investors and domestic firms can hinder the transfer of knowledge and productivity gains[56].

In summary, FDI plays a fundamental role in the global economy by driving economic growth, fostering technology transfer, and enhancing productive efficiency.

2.2 Classification of FDI

FDIs are made by companies to broaden their global reach and access new markets, as well as to adopt new technologies and products. FDI can manifest in various forms, each carrying distinct implications for both the investing company and the host country, depending on how it is executed. The classification of FDI allows us to better understand their dynamics and the economy effects resulting from these investments. In this section, we will explore the primary types of FDI, divided according to the entry method, the strategy adopted and the type of investment.

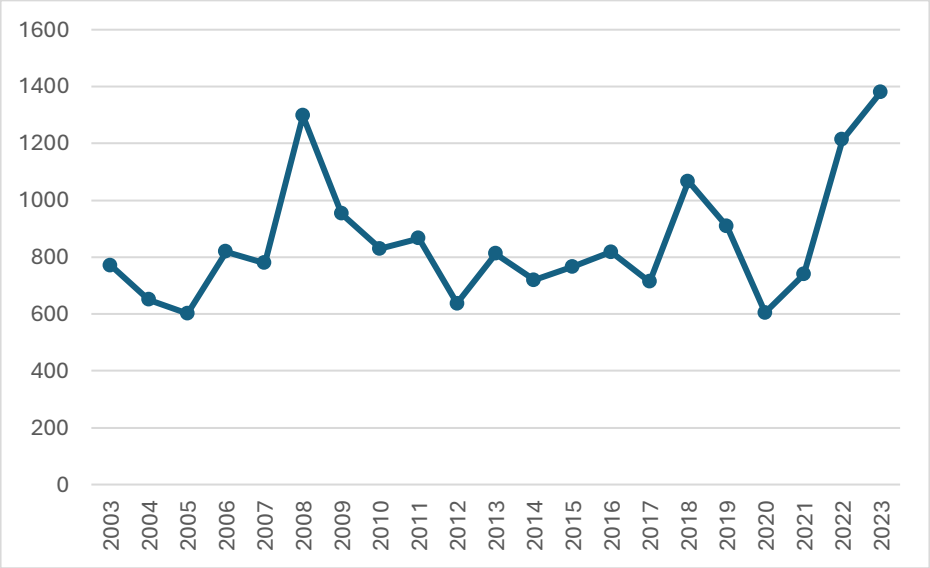
2.2.1 Greenfield VS Brownfield

FDI can be greenfield investments, which occur when entirely new facilities and production capacities are established from scratch, such as manufacturing plants, offices,

[56] See: UNCTAD, (2024) p. 7 – 11.

or research centres[57]. This type of investment is common in manufacturing sectors and capital-intensive services. Greenfield projects have a direct impact on the stock of physical capital and productive capacities, more than other form of investment. Therefore, the response during crises is particularly important for developing countries.

Figure 5 – Value of announced greenfield FDI projects worldwide (in billion US dollars)



Source: Einar H. Dyvik, Statista (2024).

The graph shows significant fluctuations influenced by global economic conditions, crises and investment opportunities. The peak is in 2008 at 1296,91$ billion, driven by strong economic expansion. However, the subsequent period saw fluctuations. A new peak was reached in 2018, but this was followed by a significant drop in 2020, due to the covid-19 pandemic, which led to decreased capital flows and investment slowdowns. From 2021, greenfield FDI rebounded strongly, reaching 1380,4$ billion in 2023, reflecting post-pandemic recovery and increased investments.

These fluctuations highlight the sensitivity of FDI to global crises, trade policies and macroeconomic conditions.

[57] See: Zhan, J., Bolwijn, R., & Santos-Paulino, A. U. (2021) p. 127 – 133.

Brownfield investments, on the other hand, involve the acquisition or merger with an existing company in the host country[58]. This type of investment is preferred when there is a desire to quickly enter a market and leverage the already available local resources and expertise. This strategy offers several advantages[59]. Firstly, it reduced initial costs compared to the construction of new facilities (unlike greenfield FDI), as it utilizes existing infrastructure. Secondly, it simplifies the authorization processes since many permits for the pre-existing structures have already been obtained. Additionally, brownfield investments provide logistical benefits, such as availability of a skilled workforce that is already familiar with the facility. Of course there are also challenges: for example, the structure requires an update or changes to adapt to the new business, despite this, it is a quick tool to enter a market and able to make the most of existing resources[60].

2.2.2 Horizontal VS Vertical FDI

The effects of foreign direct investment on the host country and the country of origin are transmitted in various ways, depending on the form of the investment (such as vertical or horizontal) and the characteristics of the countries involved.

We have a horizontal foreign direct investment when a company establishes another enterprise of the same type abroad, thereby operating in the same industry sector[61]. The company must assess whether it can achieve lower costs by supplying a foreign country through exports or opening a new subsidiary. Typically, this approach is preferred when the company possesses intangible competitive factors, such as a brand or a patent.
To better understand the motivation behind a firm's decision to pursue horizontal FDI, we can determine the optimal profit level for a firm operating in an imperfect competition environment with market power. This allows us to compare two alternative strategies: exporting or establishing a subsidiary (so horizontal FDI) and evaluate the conditions under which one option may be more advantageous than the other.

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[58] See: Zhan, J., Bolwijn, R., & Santos-Paulino, A. U. (2021) p. 127 – 133.
[59] See: Zhan, J., Bolwijn, R., & Santos-Paulino, A. U. (2021) p. 127 – 133.
[60] See: Zhan, J., Bolwijn, R., & Santos-Paulino, A. U. (2021) p. 127 – 133.
[61] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.

In a macroeconomic framework, we consider the investment decisions of firms not in isolation but as a part of a broader economic system where aggregate demand, market structure and extra factors influence strategic choices. Unlike the microeconomic assumption of independent firm behaviour, we now acknowledge that the investment decisions of individual firms contribute to overall economic dynamics, influencing market structures and sectoral competition.

Let's assume that firms operate with constant marginal costs represented by c and sells a quantity q of its product at a price p, within an environment of imperfect competition[62]. The representative firm maximizes its profit, which is given by:

$$\pi = (p - c)q. \tag{14}$$

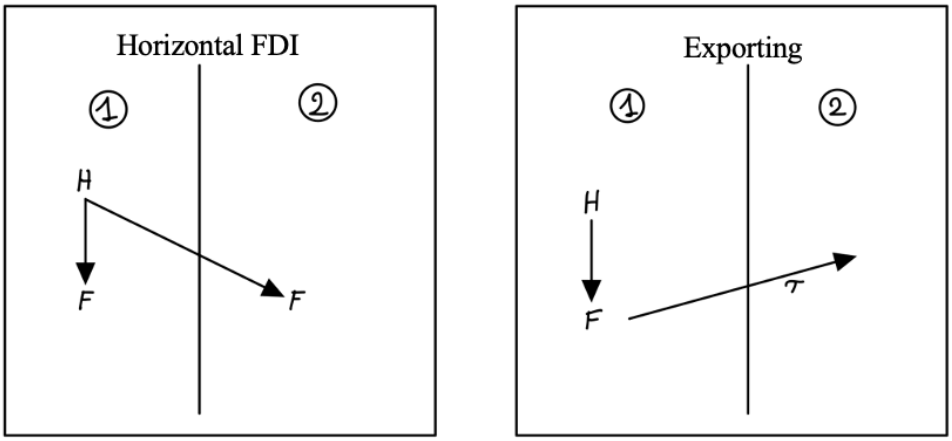
Since firms are price makers, their demand functions exhibit downward-sloping behaviour leading to a markup pricing structure based on the elasticity of demand ε:

$$p = c\left(\frac{\varepsilon}{\varepsilon - 1}\right). \tag{15}$$

Where a lower elasticity implies greater market power and higher prices. This formulation, which applies at the firm level, can be extended to a macroeconomic condition such as trade policies, transportation costs and regulatory barriers. If a firm opts for FDI, it incurs fixed costs F for establishing production facilities abroad and additional business costs H, avoiding trade costs τ. If it exports, it bears transportation costs but avoids duplicating production infrastructure[63].

[62] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.
[63] *Ibidem*

Figure 6 - The alternative between horizontal investments and exporting



Source: Barba Navaretti, G., & Venables, A. J. (2006), p. 66.

The firm's profit functions for the two options are given by:

$$\pi(FDI) = 2\frac{sE}{\varepsilon} - H - 2F \tag{16}$$

$$\pi(EXP) = (1+\phi)\frac{sE}{\varepsilon} - H - F. \tag{17}$$

Where ϕ measures the degree of freedom in trade. It will take a value of 1 in scenarios of free trade and a value of 0 when trade costs are so prohibitive that they entirely block international trade.

In conclusion, we can clearly deduce that the company will proceed with the investment when $\pi_{(FDI)} > \pi_{(EXP)}$, so the profits generated exceed the costs associated with duplicating the plant[64].

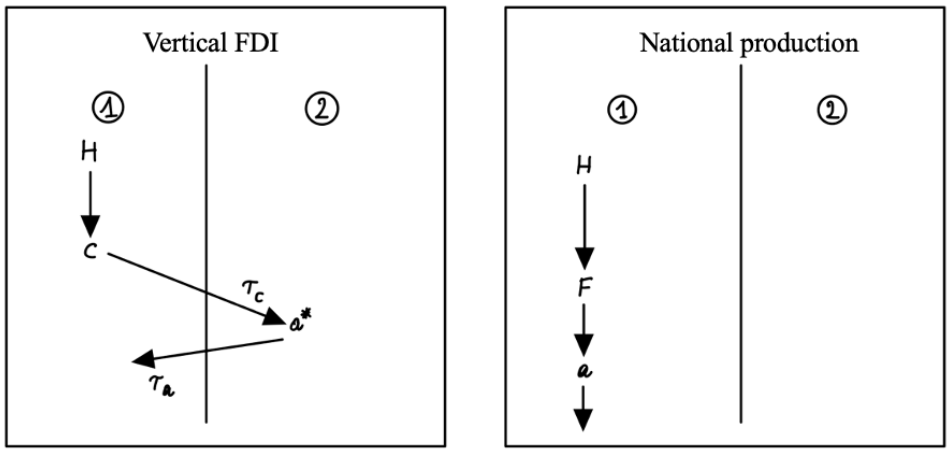
We have a vertical foreign direct investment when specific stages of the production process are relocated abroad, typically in countries with lower costs. These types of investments are primarily driven by the goal of reducing production costs, either through lower-cost labour and materials or by seeking goods that are difficult to obtain in the country of origin[65].

[64] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.
[65] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.

Similarly, we can conduct an analysis as for horizontal foreign direct investments and how the company makes its decisions for this other type of FDI, so the vertical one.
In a macroeconomic framework, the decision to relocate a phase of production through vertical foreign direct investment must be analysed not only at the firm level but also in terms of its broader impact on international trade, labour market and productivity. Unlike horizontal FDI, which seeks to replicate production in multiple markets, vertical FDI involves fragmenting the production process to exploit cost differentials between countries.

If a firm opts for an integrated national production strategy, both components and assembly take place in country 1, where the costs are denoted as *c* for components and *a* for assembly. For simplicity, we assume there are no fixed costs associated with the plant *F*, only a fixed cost for the company *H*. However, by engaging in vertical FDI, the firm can relocate assembly to country 2, where labour is more abundant, reducing unit assembly costs to $a^* = \alpha a$, with $0 < \alpha < 1$, meaning greater savings as α decreases[66].

Figure 7 - The alternative between vertical investments and national integrated production



Source: Barba Navaretti, G., & Venables, A. J. (2006), p. 72.

[66] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.

Despite these labor cost advantages, vertical FDI entails transportation costs for moving components and finished products, represented by τc and τa respectively[67]. These costs reduce the firm's revenue by factor γ, where $0 < \gamma < 1$, leading to the condition $\gamma p < p$. If transport costs are zero, $\gamma = 1$. Thus, higher transport costs serve as a deterrent to production relocation, differentiating vertical FDI from horizontal FDI. Whereas horizontal FDI often substitutes trade, vertical FDI tends to enhance cross-border trade flows[68].

We can express the profitability of the two production alternatives through formulas:

$$\pi(FDI) = \gamma p - c - a * -H = \gamma p - c - \alpha a - H \tag{18}$$

$$\pi(LOC) = p - c - a - H\,. \tag{19}$$

The vertical foreign direct investment option will be preferred if:

$$\pi(FDI) > \pi(LOC). \tag{20}$$

So:

$$(1-\alpha)a - (1-\gamma)p > 0. \tag{21}$$

In this context, $(1-\alpha)a$ represents the cost savings from producing in country 2 utilizing the lower wages and $(1-\gamma)p$ indicates the decrease in revenue due to transportations costs associated with moving the finished products back to country 1[69].

For the firm to find it advantageous to pursue vertical investment, the cost savings must outweigh the revenue reductions, so it implies that the cost advantages gained from producing in country 2 effectively compensate from the transportation costs incurred to fragment the production geographically. Thus, the firm would benefit from implementing the vertical FDI strategy over maintaining production solely in one country[70].

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[67] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.
[68] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.
[69] See: Barba Navaretti, G., & Venables, A. J. (2006) p. 65 – 72.
[70] *Ibidem*

At a macroeconomic level, vertical FDI plays a crucial role in global value chains, shaping trade patterns and influencing wage convergence between countries. It fosters technological diffusion and skill upgrading in host economies while also creating dependencies on cross-border logistics and trade policies.

2.2.3 Merger & Acquisition

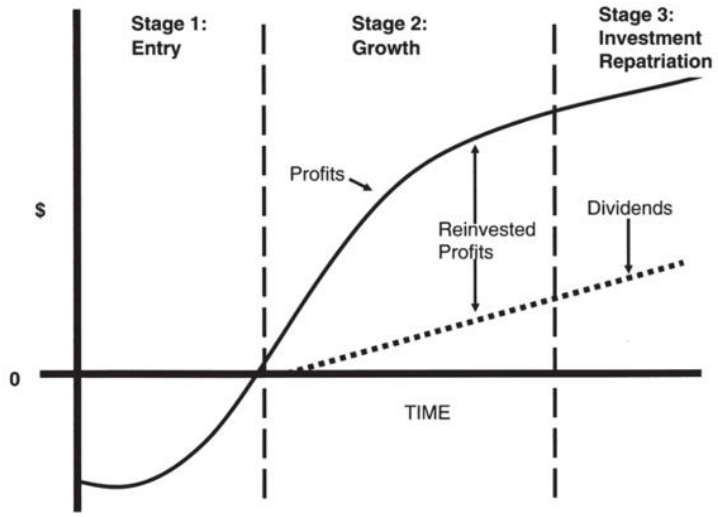
FDI can take various forms, among which M&A play a crucial role in reshaping global value chains. These investments involve the transfer of control of a business activity through a change in ownership (acquisition), while the merger serves as the formal mechanism that confirms the full integration of two companies. M&A transactions are often driven by the need to achieve economies of scale, expand market presence, access new technologies or enhance competitive positioning. However, they can also lead to concerns regarding market concentration, reduced competition and national security risks, especially in strategic sectors[71].

2.3 Life cycle of FDI

The lifecycle of FDI consists of three key phases, illustrating the progression of profits, dividends and reinvested earnings over time.

[71] A significant example is the acquisition of ARM by NVIDIA. The first is a UK company specializing in semiconductor and software design, while NVIDIA is known for its leadership in graphics processing units and artificial intelligence computing. NVIDIA aimed to acquire ARM to support semiconductor innovation. However, the proposed deal encountered regulatory scrutiny from multiple jurisdictions, including the UK, the US and the EU as such a merger raises concerns. In conclusion, in 2022, the acquisition was abandoned, reflecting the increasing geopolitical and economic complexities associated with FDI in strategic industries.

Figure 8 - The financial lifecycle of FDI



Source: Brada, J. C., & Tomšík, V. (2009), p. 5-20.

Phase 1 marks the initial investment by the multinational corporation, which can occur through the establishment of a new facility (greenfield investment) or by acquiring an existing business in the host country (brownfield investment). During this phase, the affiliate typically experiences losses or minimal profits due to the hefty expenses associated with initial investments. These costs include constructing and equipping the plant, training employees and restructuring expenses for acquisitions. In the case of greenfield investments, the loss period may be prolonged, as long as losses can persist until optimal production levels are achieved. At this stage, the affiliate neither distributes dividends nor reinvests profits, as gains are not yet realized[72].

In phase 2, the affiliate starts to earn profits as production commences for greenfield investments or through improved competitiveness following restructuring in acquisitions. Enhancements such as technological upgrades, better financing and the transfer of expertise from the parent company contribute to this profitability. Despite the affiliate becoming profitable, the demand for additional investments in working capital and plant expansion may still be considerable. Consequently, a majority of the generated profits are reinvested for growth. Over time, as profits increase, the parent company may begin to receive dividends, although reinvested profits may still outpace dividends. The length of this phase is influenced by various factors, including the size of the domestic market, the

[72] See: Brada, J. C., & Tomšík, V. (2009) p. 5 – 20.

availability of export markets and alternative financing options for the affiliate's expansion.

Lastly, in phase 3, the affiliate achieves operational maturity, attaining a stable market share and profit margins. However, these margins may start to decline if the sector contracts or if competition undermines the parent company's competitive edge. At this juncture, the parent company might opt to repatriate a larger portion of profits as dividends, allowing it to direct these funds towards more dynamic investment opportunities in different markets. During this phase, the amount of reinvested profits diminishes both in absolute and relative terms, as the affiliate has solidified its position in the host market and no longer requires substantial investment inflows[73].

2.4 Key theories of FDI

Foreign direct investments enable companies to internationalize, so a complex process that encompasses various strategies, motivations, and market dynamics. There are various scholars who have studied different approaches to the discipline.

- The life cycle of FDI is a theory developed by Raymond Vernon that examines the progression of products and their international expansion. According to Vernon[74], the life cycle of a product is divided into four main stages, each of which has significant implications for internationalization and FDI.

  In the initial phase, the product is highly innovative, and the primary target market is domestic. Firms typically produce and sell the product within their home country, where demand is high, but production is limited. During this stage, FDI is not a prevalent strategy, as companies focus on innovation and establishing a strong position in the domestic market. Then we have the growth phase, so as demand for the product increases and stabilizes, firms start exporting to more developed foreign markets where expansion opportunities exist. Competition intensifies, prompting firms to seek new markets by establishing subsidiaries or joint ventures abroad. During this stage, FDI becomes crucial for companies aiming to enhance their presence and compete in international markets. In the

[73] See: Brada, J. C., & Tomšík, V. (2009) p. 5 – 20.
[74] See: Cox, W. E. (1967) p. 375 – 384.

maturity stage, the product achieves a high level of standardization, and while demand continues to grow, it does so at a more moderate rhythm. Production, initially concentrated in the home country, may shift to countries with lower production costs. Companies relocate some of their operations to developing nations to benefit from economic advantages like cheaper labor. At this point, FDI becomes a key strategy for optimizing competitiveness in the local market by reducing costs and maximizing profits. In the final stage, the product faces declining demand and heightened competition, particularly from low-cost procedures in developing markets. FDI motivations shift from economic necessity to defensive strategies aimed at preserving market power. Firm may opt to withdraw from less profitable markets and concentrate on those where they can maintain a dominant position, often through merger and acquisitions[75].

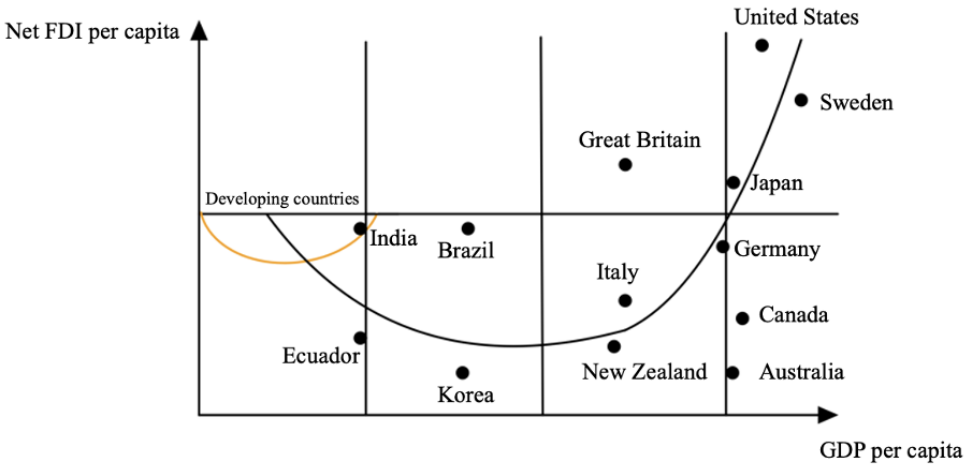
- Unlike Vernon's idea, Hymer's approach centers on the firm rather than the individual product. According to Hymer[76], FDI is not just a reaction to market demand, but it represents an active strategy for firms to expand their market power. He believes that companies invest abroad to leverage unique competitive advantages that local competitors cannot easily replicate. Advantages like intangible assets such as brand, advanced technology and specialized know-how. Hymer sustains that the first motivation for internationalization is to eliminate (or reduce) competition through the acquisition of resources into foreign markets. This view contrasts with Vernon's one, which emphasizes the natural progression of a product through various life cycle stages. His model also highlights the necessity for firms to navigate economic, political, and cultural barriers present in foreign markets. The company, by establishing its international position, not only sells products abroad but has control and management of resources on a global scale. This control can be achieved through merger, acquisitions or forms of FDI. Hymer also points out that multinationals operate in environments characterized by information asymmetry and market imperfections. These conditions make

[75] See: Cox, W. E. (1967) p. 375 – 384.
[76] See: Dunning, J. H., & Rugman, A. M. (1985) p. 228 – 232.

internationalization through FDI a strategic advantage, as it allows companies to address market inefficiencies and secure a dominant position[77].

- Dunning identifies a "cycle of FDI development" connected to the economic growth stages of countries[78]. This model analyzes the net balance of investment flows across 67 countries, correlating these flows with GDP per capita (see figure 9).

Figure 9 - Foreign Investment Development Cycle



Source: Libero journal (n.d.), p. 11-13. Note: the horizontal line represents a net FDI balance of zero. Countries positioned above this line are net investor abroad, with outgoing FDI exceeding incoming flows. In contrast, countries below the line are net recipients of FDI, receiving more investment than they send abroad.

The graph shows a "U" shaped relationship between income levels and FDI balance. The lowest-income country typically exhibit a near balance in their FDI flows. Incoming investment is minimal, and outgoing flows are non-existent, resulting in a net balance close to zero. This is represented by the highlighted orange area, which indicates that developing countries generally do not yet have the capacity to make significant foreign investments. In middle-income countries, the negative balance for FDI is most pronounced. These countries experience

[77] See: Dunning, J. H., & Rugman, A. M. (1985) p. 228 – 232.
[78] See: Dunning, J. H. (2001), p. 173 - 190.

substantial incoming floes of investment, which are not offset by significant outgoing investments, leading to a marked negative balance. This explains why some countries fall below the horizontal line, as they are net recipients of FDI. Last, the medium-high and high-income countries, the negative FDI balance begins to decrease. Eventually, the equilibrium becomes positive as GDP per capita grows, thanks to increasingly higher FDI outflows. These countries, positioned above the horizontal line, become net investors abroad.

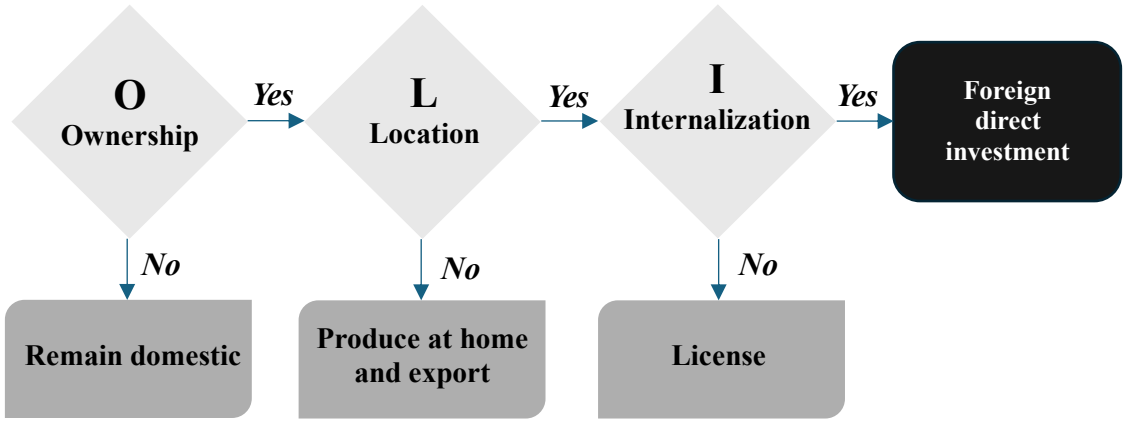
Dunning's model[79] highlights that a country's position within this cycle can change over time, and the propensity for both incoming and outgoing FDI is closely linked to the country's stage of economic growth. However, this model shows that the attractiveness for FDI is not solely determined by income levels or resource availability. Specific country factors play crucial roles in explaining variations in the internationalization processes among countries. This perspective enhances our understanding of the complexities surrounding foreign direct investment and the factors that influence a country's ability to attract and generate foreign investment.

2.5 The motivations of FDI and OLI paradigm

The OLI paradigm is a model developed by economist John Dunning (2001)[80] and explains the advantages a company can obtain through foreign direct investment. According to Dunning, a firm benefits from ownership advantages by possessing or establishing a foreign subsidiary. These advantages are closely linked to the specific characteristics of the host country, making them difficult to transfer – referred to as location advantages. Furthermore, a company maximizes its profit by directly exploiting these advantages rather than transferring them to external entities, a concept known as internationalization advantages.

[79] See: Dunning, J. H. (2001), p. 173 - 190.
[80] *Ibidem*

Figure 10 – The OLI paradigm



Source: Dunning J. H. (2001), p. 173-190.

The ownership advantage in this paradigm refers to the unique assets that firms from a specific nationality possess, giving them a competitive edge over companies from other countries in suppling particular markets. This advantage may arise from exclusive ownership or privileged access to valuable income-generating resources, such as patents, advanced technologies, established brands, or specialized expertise. Furthermore, it can stem from a firm's ability to coordinate and integrate these assets with other resources across national borders, creating synergies that improve its competitive position relative to both current and potential competitors. By leveraging these exclusive resources and effectively utilizing them on a global scale, firms can enhance their market position and maintain a sustainable competitive advantage[81].

The location advantage in the OLI paradigm refers to the factors that influence a firm's decision to establish value-adding activities outside its home country. These advantages arise from specific characteristics of the host country, including lower production costs, access to skilled labour, favourable regulatory environments, or proximity to key markets. By situating operations in a foreign location, firms can take advantage of local resources and conditions that enhance their efficiency and competitiveness. Additionally, location advantages may encompass infrastructural development, investment incentives, and the presence of the industry clusters that promote innovation and collaboration. The ability

[81] See: Dunning, J. H. (2001) p. 173 – 190.

to strategically position activities in the most advantageous geographic areas allows firms to optimize their operations and strengthen their global market presence.

The internalization advantage of this framework refers to a company's choice to directly oversee and manage its income-generating resources instead of licensing them or outsourcing to external entities. This advantage occurs when businesses believe that retaining these resources in-house is more advantageous that engaging in market transactions. By internalizing their operations, companies can safeguard proprietary information, lower transaction expenses, and exercise better control over quality and efficiency. Furthermore, internalization enables firms to increase the value of their resources by incorporating them into their global operations, ensuring optimal coordination and minimizing the risk of opportunistic actions from outside parties. This strategic method ultimately enhances a company's competitive edge and optimizes its long-term profitability[82].

2.6 Other factors affecting FDI

Foreign direct investment is influenced by a multitude of factors beyond the traditional Ownership, Location, and Internalization (OLI) paradigm. While firms typically pursue FDI to capitalize on competitive advantages, reduce costs, and access new markets, additional determinants play a crucial role in shaping investment decisions. This section explores their additional determinants of FDI, analysing their theoretical underpinnings and empirical relevance.

2.6.1 Institutional quality and economy stability

In addition to the motivations outlined by OLI paradigm, other factors must be considered when a country aims to attract Foreign Direct Investment, as highlighted in publications from the Multidisciplinary Digital Publishing Institute. A significant factor is the institutional quality and regulatory environment of a country. Jimenez et al. (2021) and Jung (2020)[83] argue that political stability and regulatory transparency are critical for

[82] See: Dunning, J. H. (2001) p. 173 – 190.
[83] See: Santos, Eleonora (2023), p. 1 – 9.

attracting FDI, as they mitigate operational risks and create a favourable investment climate.

In the model developed by these scholars, the effectiveness of FDI in fostering economic growth relies on the coherence and coordination among various institutions. The model in based on the production formula:

$$Q = F(K, L, A, I). \tag{22}$$

Where Q represents total output, K is capital, L is labour, A is technology, and I is institutional quality. It is evident that institutional quality is directly incorporated into this formula.

To reach the equilibrium point, we assume that the investor aims to achieve the profit-maximizing return on investment (ROI).

This ca be represented by the formula:

$$ROI = F\ (K, L, A, I) - rK - wL. \tag{23}$$

In this equation, ROI is the return of investment, F is the production function, r is the rental cost of capital, and w is the wage rate of labour. The investor's decisions are based on the productivity and costs of factors in the host country, which determines the values of L and K that satisfy the equation, given the values of A and I.

In conclusion, these models demonstrate how institutional quality is crucial in determining the equilibrium that maximizes ROI, ultimately ensuring substantial profits for the investor[84].

In support of this, the OECD also argues that good policies and international standards can help countries attract the investment they need. The Declaration on International Investment and Multinational Enterprises, along with its associated policy toolkits, establishes a framework and standards aimed at attracting more, higher-quality, and safer

[84] See: Santos, Eleonora (2023), p. 1 – 9.

investment. Over 50 governments, both OECD and non-OECD have signed up to the OECD Investment Declaration[85].

Capital liberalization codes promote open markets while maintaining macroeconomic stability. Furthermore, the 2009 Guidelines on Investment Policies Relating to National Security offer governments principles to ensure that their investment policies protect national security interests. These guidelines help strike a balance between welcoming foreign investment and managing the associated security risks.

2.6.2 Increase in production and cost of export

Further motivation behind FDI include the costs of exporting and the increase in production. Numerous scholars have investigated how offshoring influences productivity through the reallocation of tasks and heightened competition. By relocating business operations to countries with lower wage costs or though offshoring, firms can enhance productivity due to the competitive pressure exerted in foreign markets.

Hijzen et al. (2011)[86] confirms that offshoring of production can lead to improved productivity for firms by lowering costs and boosting international competitiveness. The model suggests that firms operate under a production function represented as follows:

$$Y = A(L, K, O). \tag{24}$$

In this equation Y represents total production, L and K denote labour and capital, respectively, O signifies the level of outsourcing, and A is a function that reflects firm productivity. The level of outsourcing, denoted by "O", is viewed as an endogenous factor, directly influenced by the company's decision to engage in outsourcing. This decision is assumed to depend on the costs associated with the outsourcing process, represented by "G". This cost is modelled as a function of the wage disparity between the country of origin and the destination country, indicated as "w_f" and "w_o", respectively, as well as the communication costs, expressed by "c".

Moreover, it is assumed that the productivity gains from outsourcing are affected by the quality of the production factors, represented by "q", and the company's capability to

[85] See: OECD (2023), p. 2 – 3.

[86] See: Santos, Eleonora (2023), p. 1 – 9.

effectively manage the entire outsourcing process, identified by "M". The company's outsourcing decision can be expressed as follows:

$$O = h(C, G). \tag{25}$$

An equilibrium is achieved when:

$$G > C. \tag{26}$$

Where G represents the additional productivity gained from outsourcing, and C is the cost of outsourcing. It is evident that companies with higher productivity are more inclined to outsource since they possess the capacity to leverage the advantages offered by outsourcing[87].

2.6.3 Availability of non-traded raw materials on markets

The resource-seeking motive is a key driver for firms to engage in foreign direct investment. According to Dunning's analysis[88], companies opt to invest abroad to acquire specific resources that are not present in their home country or accessible only at higher costs, such as labour expenses. This concept is relevant today for both scarce natural resources and the workforce, which can be both skilled and unskilled. Historically, Dunning focused on natural resources, unskilled labour, and technological and managerial capabilities. While FDI aimed at acquiring human capital is typically classified as asset-seeking, it shares similarities with resource-seeking. This is because the skills of workers can be subject to market contracts.

The choice between FDI and outsourcing is significantly influenced by a firm's boundaries and the "make or buy" decision. This decision is affected by various factors, for example transaction costs as previously seen. Furthermore, the location of resource-seeking FDI follows some recurring logics: negative correlation between the country selected for investment and the real cost of the resource of interest (so the firms are likely to invest in countries where the resource costs are lower) and positive correlation between

[87] See: Santos, Eleonora (2023), p. 1 – 9.
[88] See: Dunning, J. H., & Rugman, A. M. (1985), p. 228-232.

the investment destination and the absolute scarcity of the resource on a global scale, this indicates that firms target locations where resources are abundant[89].

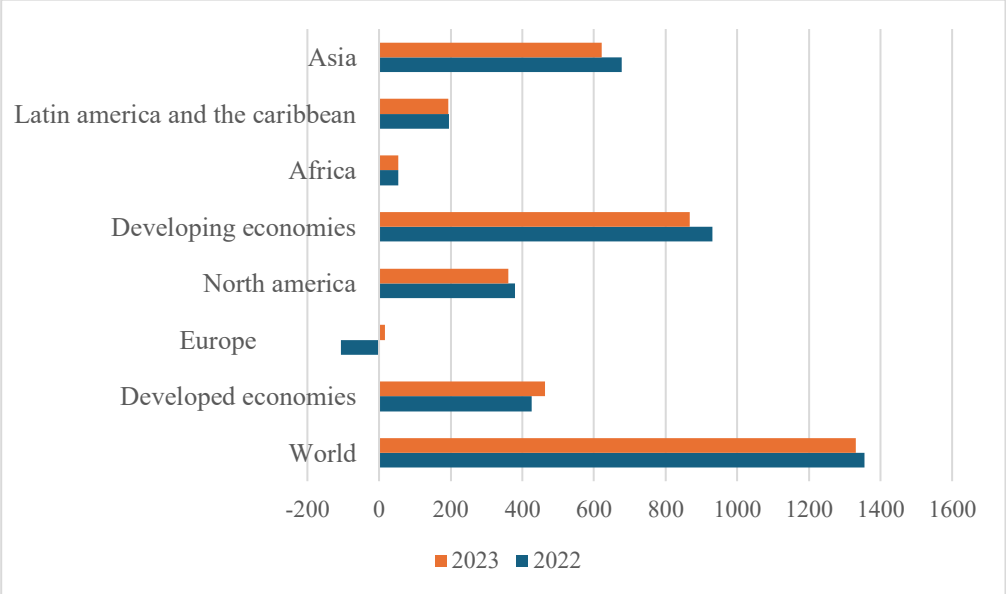
These factors explain why firms, rather than simply importing resources or resorting to external suppliers, choose to establish a direct presence in countries where such resources are more convenient, thus ensuring greater control and stability in the long term.

2.7 Statistics on International Trade and FDI

Understanding global trends in FDI is essential to assess how capital flows evolve in response to economic, political and technological changes. Over the past decades, FDI patterns have been shaped by globalization, digital transformation and shifting economic power dynamics. While developed economies have traditionally been the main recipients of FDI, emerging markets have gained prominence due to their rapid industrialization and investment-friendly policies[90].

This section examines the major trends in global FDI, highlighting the fluctuations in investment flows and the increasing relevance of strategic sectors.

Figure 11 – Foreign direct investment inflows in most regions (billions of dollars and percentage change)



Source: UNCTAD (2024), p.6.

[89] See: Franco, C., Rentocchini, F., & Vittucci Marzetti, G. (2008), p. 3 – 20.

[90] See: UNCTAD (2024). p. 5 – 17.

Note: The classification into 'developing' and 'developed' economies follows a distinction historically used and maintained by the United Nations Statistics Division (UNSD), based on sovereign decisions by states.

Figure 11 shows the variations in FDI inflows across different regions for the years 2022 and 2023, measured in billions of dollars. The information highlights notable differences in investment patterns among regions, reflecting both global economic conditions and specific local factors.

Asia remains the leading destination for FDI, sustaining high investment levels in both years. However, a slight decrease in 2023 compered to 2022 may be due to elements such as regulatory shifts, geopolitical tensions or changes in investor interest towards other emerging markets[91].

Overall, developing economies show strong FDI inflows, reinforcing their increasing significance in the global investment arena. The consistent investment levels indicate that these areas continue to attract interest due to favourable policies, lower production costs and growing consumer markets. In contrast, Latin America and the Caribbean, along with Africa, report relatively lower FDI inflows, although Africa has experienced a slight increase in 2023, likely reflecting a growing interest in its resource-rich sectors.

On the other hand, developed economies display a more erratic trend. North America sees a decline in FDI inflows in 2023 compared to the previous year, possibly indicating economic slowdowns or shifts in monetary policies affecting capital movements. Europe shows a slightly negative FDI inflow in 2023, suggesting capital outflows or disinvestment, which may be connected to economic uncertainties, energy crises or adjustments in investment strategies following the pandemic.

Globally, total FDI inflows remain significant, but the stagnation or reduction in key regions points to a transformation in global investment trends[92].

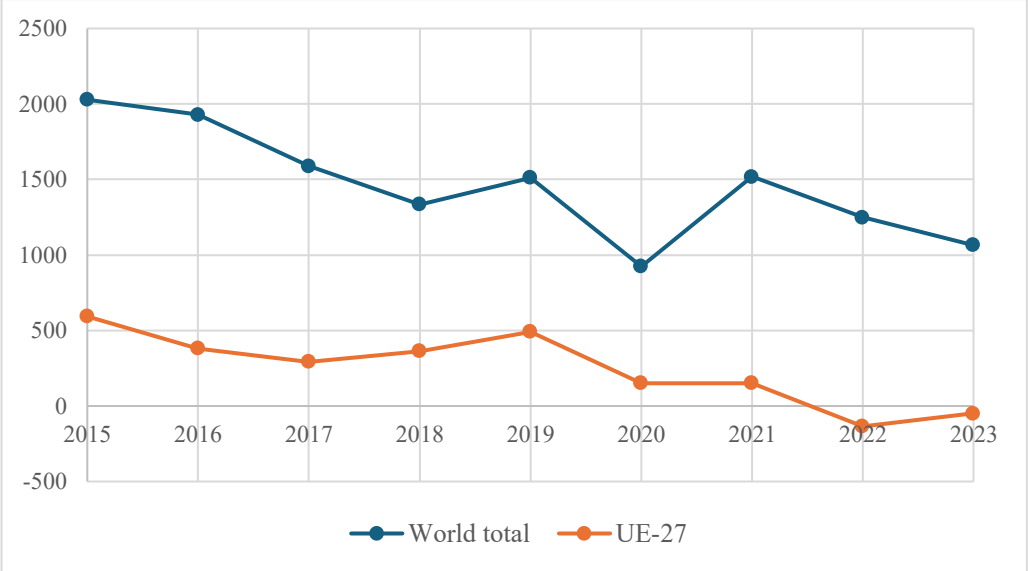
2.7.1 Focus on European Union

Global net Foreign Direct Investment inflows experienced a decline for the second consecutive year in 2023, falling below the levels recorded in 2021. In fact, according to

[91] See: UNCTAD (2024), p. 3 - 17.
[92] See: UNCTAD (2024), p. 3 - 17.

European Commission, global FDI inflows totalled 1.065$ billion, a decline from 1.249$ billion in the previous year (see figure 12)[93]. The UNCTAD World Investment Report confirmed this downward trend, reporting a 2% drop in global FDI flows in 2023, reaching $1.3 trillion[94].

Figure 12 – Net FDI inflows at global and EU level

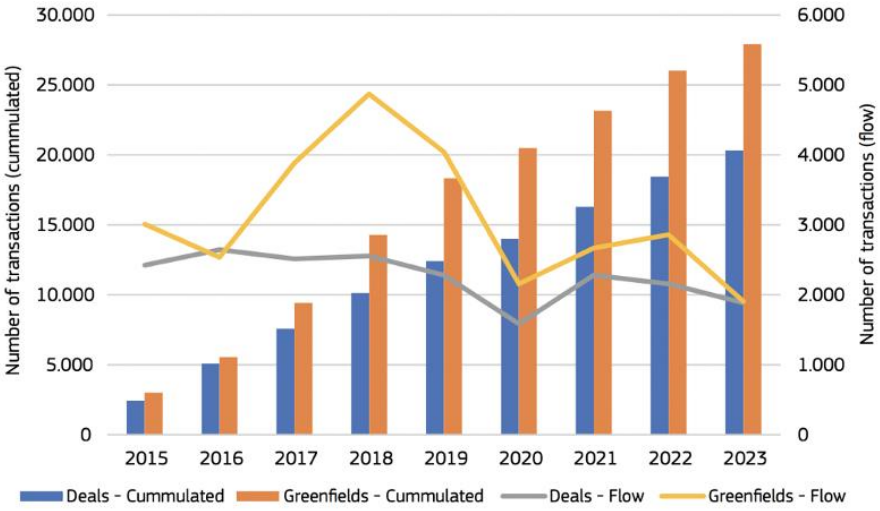


Source: OECD data, extracted on 7 May 2024 and reworked from the European Commission report on FDI. Note: The values on the Y-axis are expressed in billions of euros. The data refer to net inward FDI flows.

Regional patterns, however, varied significantly. The European Union (EU-27) defied the global trend, recording an increase in net FDI inflows compared to 2022, although total inflows remained negative -50€ billion (up from -135€ billion in 2022). In contrast, the United States (-6.2%) and China (-8%) saw further reductions in net FDI inflows, while the Netherlands and Luxembourg experienced significant disinvestments, driving negative values in the overall FDI balance[95]

[93] See: European Commission, (2024) p. 1 – 6.
[94] See: UNCTAD (2024) p. 3 – 17.
[95] See: European Commission, (2024) p. 1 – 6.

Figure 13 - Cumulative annual number of transactions and trends in flows in the EU-27 during the period 2015-2023



Source: European Commission (2024), p. 1-6.

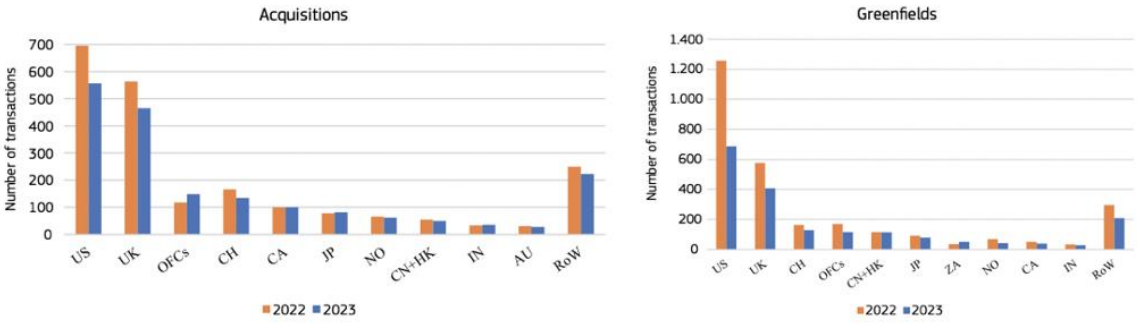
The total number of FDI operations has increased from 4.430 in 2015 to 48.231 in 2023, according to the report by the European Commission. The most market increases were observed in 2017 and 2018, with growth rates of 60% and 44%, respectively. This was followed by a more moderate annual increase of 26% in 2019, which was then impacted by the pandemic-related slowdown in 2020[96].

2.7.2 Main Countries of origin of foreign investors

We can study all the data from different point of view thanks to the report on foreign direct investment of the European Commission we compare 2022 and 2023 on foreign investment by home jurisdiction. As previously mentioned, there has been a significant reduction in investment activity[97]. However, certain areas, particularly offshore financial centres (OFCs), experienced a noteworthy increase of 26% in mergers and acquisitions (M&A) transactions (see figure 14).

[96] See: European Commission, (2024) p. 1 – 6.
[97] *Ibidem*

Figure 14 - Number of equity acquisitions (left) and greenfield investments (right) in 2023 and 2022 in the EU – Data by foreign jurisdiction (top ten investors)



Source: European Commission (2024), p. 1-6.

In 2023, the United States continued to lead as the primary investor in the EU-27, contributing to 30% of acquisitions (totalling 557 transactions) and 36% of greenfield investments (with 687 projects). Despite maintaining this top position, US investment saw a substantial decline from the previous year, with a 20% drop in acquisitions and a more pronounced 45% decrease in greenfield projects.

The United Kingdom ranked as the second-largest foreign investor in the EU, accounting for 25% of acquisitions (465 transactions) and 21% of greenfield investment (407 projects). British investment also contracted in 2023, showing a 17% decline in acquisitions and a 29% reduction in greenfield projects compared to 2022.

Offshore financial centres witnessed a significant growth of over 26% in M&A activities in 2023, capturing a 7.9% share of total acquisitions. Additionally, investments from Japan increased by 5.1%, and those from India rose by 6.1%. In contrast, investments from Switzerland (-19%), Norway (-6.1%), and China (-9.1%) saw declines, while investment flows from Canada remained stable[98].

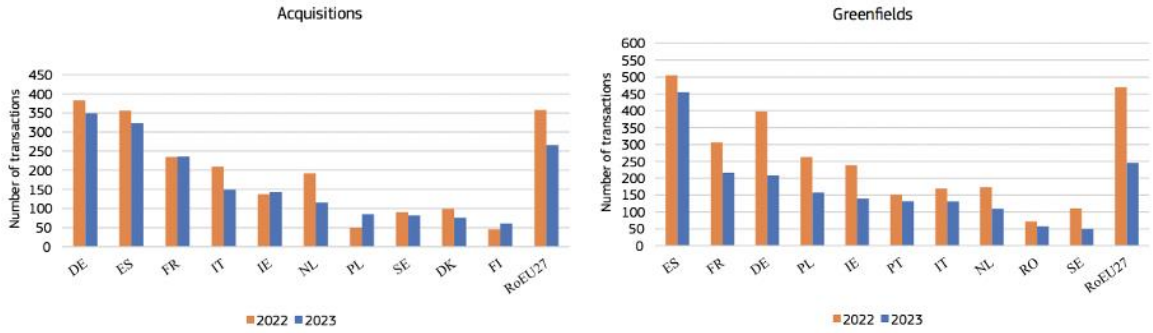
In terms of greenfield investments, all the top ten home jurisdictions, with the exceptions of South Africa, reported a decline in the number of projects compared to 2022. The decrease varied significantly, ranging from a modest decline of 0.9% in China to a steep drop of 39% in Norway, with offshore financial centres also experiencing a 31% reduction.[99]

[98] See: European Commission, (2024) p.1 – 6.
[99] *Ibidem*

2.7.3 Main Recipients of External Acquisitions

A similar analysis can be conducted from the perspective of recipient countries. In 2023, the number of foreign investment transactions within the EU decreased across most Member States compared to 2022 (see figure 15).

Figure 15 - Number of equity acquisitions (left) and greenfield investments (right) in 2023 and 2022 in the EU – Data by Member State (top ten EU-27 recipients)



Source: European Commission (2024), p. 1-6.

However, a few exceptions were noted, such as Poland, Finland, and Ireland, which recorded increases in share acquisitions.

The primary target countries for foreign acquisitions were Germany and Spain, capturing 19% (349 transactions) and 17% (323 transactions) of the total, respectively. Both countries experienced a similar annual decline in acquisition numbers, with a decrease of approximately 9%.

Other notable countries in terms of mergers and acquisition included France (13%), Italy (7.9%), and Ireland (7.6%). Most Member States saw a reduction in transactions in 2023, with the most significant declines recorded in Italy (-29%) and the Netherlands (-40%). On the other hand, some countries experienced growth in transaction numbers, including Ireland (+4.4%), Poland (+70%), and Finland (+33%). Additionally, France saw a slight increase in foreign acquisitions compared to 2022[100].

As regards greenfield investments, Spain and France remained the main target countries in 2023, receiving 24% (455 projects) and 11% (217 projects) of the investments

[100] See: European Commission, (2024) p. 1 – 6.

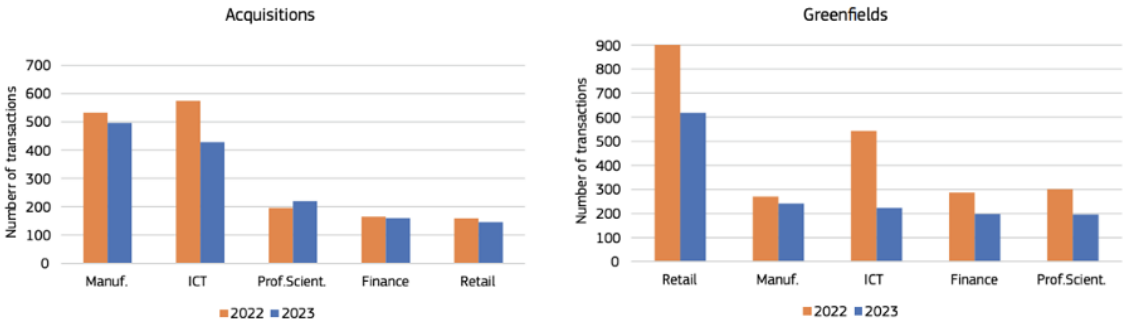
respectively. Germany, with a share of 11%, faced a significant contraction (-48%), while Spain and France also experienced a decline (-9.9% and -29% respectively).[101]

The uneven distribution of FDI flows within the EU underscores broader geopolitical and economic trends. Poland's increase in acquisitions, for instance, may reflect its growing role as a near shoring hub for Western European firms seeking to relocate operation closer to the EU. Similarly, Ireland's resilience could be tied to its business-friendly tax policies and strong ties with US multinational corporations.

2.7.4 Main Sectors of FDI

We can examine foreign direct investment from a different perspective by focusing on the key sectors involved in these operations. The European Commission's report on FDI provides valuable data on both greenfield investments and acquisitions, enabling a comparison of sectoral trends between 2022 and 2023[102].

Figure 16 - Number of equity holdings (left) and greenfield investments (right) in 2022 and 2023 – Data by NACE Rev.2 sector (five main categories)



Source: European Commission (2024), p. 1-6.

In terms of greenfield investments, a clear trend towards sectoral reorganization has emerged that retail sector attracted the highest number of new projects, accounting for 33% of the total greenfield investments. Manufacturing and ICT sectors represented around 12% of the total projects. However, the ICT sector experienced the most significant decline, with a sharp 59% drop compared to 2022, indicating a decrease in

[101] See: European Commission, (2024) p. 1 – 6.
[102] *Ibidem*

investor confidence. In contrast, the manufacturing sector demonstrated greater resilience, with a more moderate reduction of 10% in the number of projects.

As regard the acquisitions, the manufacturing sector accounted for 26% of total transactions, surpassing the ICT sector, which faced a 25% decline from the previous year. Despite this, manufacturing recorded only a slight contraction of 6.8%. The professional, scientific and technical sector stood out by experiencing a 12% increase in FDI, highlighting its growing attractiveness to investors. The financial and retail sectors maintained relatively stable investment flows, with shares of 8.5% and 7.7%, respectively[103].

[103] See: European Commission, (2024) p. 1 – 6.

Chapter III – Literature review and preliminary evidence

3.1 Overview of FDI impacts

In this chapter, we will delve into the decision-making processes of companies engaging in Foreign Direct Investment, analyzing the economic effects from two distinct perspectives. On one hand, we will examine the viewpoint of the investing firm, exploring the strategic benefits that drive companies to internationalize. On the other, we will assess the impact of FDI on the host country and its businesses, focusing on economic growth, employment and technology transfer. By adopting this dual perspective, we aim to gain a comprehensive understanding of the role of FDI in the global macroeconomic landscape.

3.2 Effects of FDI on the home country

In this section we aim to highlight the effects of FDI produces on the home country. Specifically, we consider the potential benefits that may arise when domestic firms invest abroad. These include the benefits of internalization, such as better control over operations and the reduction of transaction costs, as well as economies of scale achieved through the expansion of production and distribution across borders. FDI also enables increased specialization by allowing firms to concentrate high-value activities in strategic locations, optimizing resource allocation and enhancing overall efficiency. Furthermore, it often results in increased revenues by opening access to new markets and customer bases. These effects contribute significantly to improved firm performance and global competitiveness.

3.2.1 Increased revenues for investing firms

One of the main reasons companies pursue FDI is the opportunity for revenue growth. By entering international markets, businesses can avoid many limitations related to exporting, take advantage of new market possibilities and improve their long-term profitability. Several economic theories have examined how FDI leads to higher revenues, focusing on both cost efficiencies and strategic benefits.

- Markusen[104], who built upon transaction cost theory, suggested that firms choose FDI when the costs of managing international operations are lower than the costs

[104] See: Markusen, James R. (1995), p. 169–189.

associated with exporting, such as tariffs, shipping charges and intermediary expenses. By setting up subsidiaries or operating directly in foreign markets, companies can eliminate these extra costs while customizing their products or services to suit local consumer preferences, thereby maximizing their sales potential.

- Likewise, Vernon's product life cycle theory [105] explains that firms expand through FDI in response to market maturation and heightened competition in their home countries. Initially, companies produce goods domestically, but as production becomes more standardized and competitive pressures increase, they move production overseas to take advantage of lower costs, rising demand and economies of scale. This strategic transition allows businesses to continue growing by tapping into new revenue streams, even when domestic markets become saturated.

- Empirical studies further reinforce the connection between FDI and improved firm performance. Alfaro and Charlton (2007)[106] discovered that companies engaged in FDI consistently outperform those that do not, as international operations enable access to a wider range of markets, reducing reliance on any single economy. By diversifying their revenue streams, multinational enterprises (MNEs) can lower risks associated with economic downturns, policy changes or market fluctuations, ensuring more stable cash flows and long-term profitability.

- In addition to these direct financial benefits, FDI also produces technological and pecuniary externalities that further increase revenue potential. Bencivelli and Pisicoli (2021)[107] pointed out that the entry of MNEs into a host country can lead to productivity gains for local firms through knowledge spillovers. These technological externalities occur when proximity allows for the transfer of advanced techniques, management practices and innovation, benefiting both the

[105] See: Achinivu, G. K., Olaleke, O. P., Subi, J. T., Kehinde, A. O., & Anoruo, I. (2017), p. 282.
[106] See: Santos, E. (2023), p. 2-11.
[107] See: Bencivelli L. and Pisicoli B. (2021), p. 17-18.

MNE and local businesses. Furthermore, pecuniary externalities arise when MNEs collaborate with domestic firms, leading to increased demand for specialized inputs. This can reduce costs and increase revenues for local suppliers, especially through backward linkages, where firms achieve greater efficiency by integrating into the MNE's supply chain.

- Grossman and Helpman (1991) and Romer (1990)[108] demonstrate that long- term economic growth is influenced by firms' innovation activities in environments characterized by monopolistic competition and increasing returns to scale. This process yields immediate gains from a broader range of product types. Over time, ongoing enhancements in intermediate goods improve the productivity of final goods, thereby promoting economic growth.

  The Grossman and Helpman model[109] represents a significant endogenous growth framework that incorporates product innovation via the diversification of intermediate inputs. The model utilizes the following production function:

$$\mathrm{Y} = \mathrm{F}(\mathrm{K}, \mathrm{L}, \mathrm{G}). \tag{27}$$

  Where *Y* signifies total output, *K* indicates capital, *L* stands for labor and *G* represents the variety of intermediate goods available for production.
  The function *F* is presumed to display constant returns to scale, suggesting that per capita output remains consistent over time. The equilibrium condition in this model ensures a balance between investments in physical capital and innovation capital, represented as:

$$I(t) = \delta K(t) + cG(t). \tag{28}$$

  Where *I(t)* denote investment in both physical and innovation capital, δ signifies the depreciation rate and *c* represents the investment rate in innovation capital. In

[108] See: Ozawa, T., & Castello, S. (2003), p. 1983-1985.
[109] See: Santos, E. (2023), p. 2-11.

conclusion, the Grossman and Helpman model highlights how continuous innovation in intermediate goods, supported by a balanced investment between physical and innovation capital, serves as a fundamental driver of long-term economic growth in an environment of monopolistic competition and increasing returns to scale.

- A variation of this framework is the Romer model[110], which highlight product innovation as a primary force behind endogenous growth, utilizing increasing returns to scale at the firm level.
  This model is represented as:

$$Y = AK^{\alpha(LH)^{1-\alpha}}. \tag{29}$$

  Where *Y* is output, *K* is capital, *L* denotes labor, *A* reflects the level of technology, *H* represents an index measuring the variety of intermediate goods and α indicates the share of capital in output.
  This formulation demonstrates increasing returns to scale due to the diversity of intermediate goods. The equilibrium condition of the Romer model is given by:

$$rI(t) = \delta K(t) + cH(t). \tag{30}$$

  Where *r* indicates the user cost of capital and *H(t)* reflects investment in the diversity of intermediate inputs.

- The Rivera-Batiz and Rivera-Batiz[111] model assesses the role of FDI within an economy characterized by increasing returns due to specialization. It describes a small open economy that produces two tradable goods, with firms benefiting from specialization. The production function for good *X*[112] is:

[110] See: Santos, E. (2023), p. 2-11.
[111] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287-307.
[112] See: Santos, E. (2023), p. 2-11.

$$X = A\big(\theta(EL)\big)\mu\big(1-\theta(EX)\big)(1-\mu). \quad (31)$$

Where *A* indicates total factor productivity, *EL* represents domestic labor, *EX* denotes foreign labor, θ measures the degree of specialization and μ is the elasticity of substation between domestic and foreign labor. As a result, this model demonstrates that, in a small economy with increasing returns to specialization, FDI enhances economic performance by improving specialization and productivity through the interaction of domestic and foreign labor.

- In a similar vein, the Rodriguez-Clare[113] model introduces the concept of forward linkages, which refers to inputs that local firms supply to foreign affiliates. The production function follows a Cobb-Douglas form:

$$F(K,L,Z) = A(K\alpha L1-\alpha) \text{ x } \Pi\frac{\big(zi1-\rho(i)\big)\rho}{1-\rho}\ . \quad (32)$$

Where *A* signifies total factor productivity, α denotes the capital share in production, ρ measures the substitutability between intermediate inputs and *zi* refers to the level of each intermediate input. This model emphasizes how forward linkages, facilitated by local firms supplying inputs to foreign affiliates, enhance productivity and foster economic growth through the efficient integration of intermediate goods in a Cobb-Douglas production framework.

- The Alfaro et al.[114] model builds on these ideas by exploring how FDI enhances local financial markets, thereby promoting growth. It is represented as:

$$G = A(K,L,S). \quad (33)$$

[113] See: Rodriguez-Clare, A. (1996), p. 852-873.
[114] See: Santos, E. (2023), p. 2-11.

Where G represents the economic growth rate, K is capital, L is labor and S accounts for the presence of financial institutions. The production function is specified as:

$$A(K, L, S) = A^* \left(\frac{K}{L}\right)^{\alpha} \text{ x } S^{\beta}. \quad (34)$$

Where A^* captures total factor productivity, α denotes the capital share in production and β represents the influence of financial institutions in the production process.

In summary, these models provide diverse perspectives on the relationship between FDI and economic development, underscoring the significance of specialization, knowledge transfers and financial markets in shaping the impact of FDI on growth.

Like earlier models, there are frameworks that concentrate on vertical FDI externalities integrate macroeconomic dynamics while adhering to microeconomic foundations. These consist of two sectors: a final goods sector and an intermediate goods sector, where backward linkages are essential. However, they emphasize two contrasting effects of multinational corporations (MNCs). On one hand, MNCs can boost demand; on the other, they may create competitive pressures that could push less efficient local companies out of the marketplace. Notable models in this area include the work of Markusen and Venables and Lin and Saggi[115].

- Markusen and Venables[116] explore the potential of FDI to foster industrial growth, positing monopolistic competition in the intermediate goods sector. They utilize the following production function:

$$Y = f(K, L). \quad (35)$$

Where Y symbolizes output, K stands for capital and L represents labor.

[115] See: Santos, E. (2023), p. 2-11.

[116] See: Markusen, James R (1995), p. 169–189.

Regional investment is determined by local research and development (R&D) along with global R&D spillovers:

$$I = I * \left(\frac{RDf}{RD}\right)\theta. \quad (36)$$

In this equation, I is the investment, RD is domestic R&D while RD_f indicates foreign R&D input, adjusted for its geographical closeness to the area thanks to θ, that is the elasticity of R&D with respect to the output. Lastly this model shows that FDI can drive industrial development by enhancing local investment through a combination of domestic R&D efforts and global R&D spillovers, within a framework of monopolistic competition in intermediate goods[117].

- Conversely, Lin and Saggi[118] examine how ownership frameworks influence technology selection and innovation incentives in international joint ventures[119]. Their model considers strategic interactions between MNCs and local enterprises, assuming an oligopolistic market structure to reflect interfirm competition and its effects on equilibrium outcomes.

Both models demonstrate how FDI can act as a driving force for economic transformation while also necessitating structural changes within domestic firms, highlighting the intricate relationship between multinational investments, industrial advancement and competitive market dynamics.

3.2.3 Economies of scale

Closely linked to these advantages are economies of scale, which play a crucial role in enhancing productivity and consequently, increasing revenues. When companies expand

[117] See: Santos, E. (2023), p. 2-11.
[118] See: Santos, E. (2023), p. 2-11.
[119] Note: It is a collaborative agreement between two or more independent companies to achieve a common goal. It is an agreement in which the companies share resources, risks, and potentially profits to pursue a specific project.

internationally through FDI, they can lower production costs, streamline operations and improve their competitive position in global markets.

- A model by Helpman, Melitz and Yeaple (2004)[120] illustrate that only the most productive firms pursue FDI, as such international growth demands considerable financial and managerial resources. Their findings suggest that FDI is associated with superior firm performance and increased global competitiveness. Firms expanding internationally can capitalize on economies of scale by spreading fixed costs over larger outputs, thereby reducing per-unit costs and increasing profitability.

- Empirical evidence from Javorcik (2004)[121] confirms that MNCs investing abroad often achieve higher productivity levels due to access to superior resources and technological synergies. Additionally, the presence of MNEs in foreign markets facilitates knowledge transfer, fostering economies of scale in R&D innovation.

- The principle of economies of scale extends beyond advantages at the firm level to encompass industry-wide benefits. Marshall[122] introduced the idea of external economies of scale, which arise when firms benefit from intersectoral coordination (pecuniary externalities), interfirm knowledge externalities (technological externalities) and advantage associated with industry-wide cost reductions, such as specialized labor pools and supplier networks. These agglomeration economies are crucial in explaining the persistence of global production centers.

- Technological and pecuniary also play a role in achieving economies of scale. Bencivelli and Pisicoli[123] highlight how FDI generates spillover effects that increase productivity through both technological diffusion and cost reductions.

[120] See: Helpman, Elhanan, Marc Melitz, and Stephen Yeaple (2004), p. 300 - 316.
[121] See: Javorcik, B. S. (2004), p.605 - 627.
[122] See: Santos, E. (2023), p. 2 - 11.
[123] See: Bencivelli L. and Pisicoli B. (2021), p. 17 - 18.

Technological externalities emerge when knowledge-sharing occurs between multinational corporations and local firms, enhancing innovation capabilities. Pecuniary externalities arrive when increased demand from MNEs enables local suppliers to achieve economies of scale, reducing input costs for all firms in the value chain.

- Furthermore, Grossman and Helpman[124] developed an endogenous growth model linking FDI to technological progress, emphasizing how global competition fosters innovation and efficiency improvements. As firms expand internationally, they are incentivized to optimize production techniques, invest in human capital and improve product quality, all of which contribute to sustainable competitive advantages.

In sum, FDI enhances economies of scale through multiple channels, including operational efficiency, knowledge spillovers and industrial clustering. By leveraging global networks, multinational enterprises improve productivity, strengthen their market positions and sustain long-term competitive advantages. These macroeconomic insights underscore the role of FDI in shaping global business strategies and economic development.

3.2.4 Increasing specialization

FDI is crucial in promoting specialization within an economy. When foreign investment flows into sectors with significant differentiation potential, it helps expand the market for producer services. This expansion boosts efficiency and productivity in domestic companies by reducing expenses and facilitating technological advancement. The increasing emphasis on specialization within home economies, driven by MNCs and FDI, has generated extensive debate in macroeconomic studies.

[124] See: Santos, E. (2023), p. 2 - 11.

- Traditional trade theories, such as those proposed by Ricardo (1817)[125] and Heckscher-Ohlin (1933)[126], suggest that specialization based on comparative advantage improves overall efficiency and economic well-being. However, modern research highlights the complexities introduced by globalization and technological progress. Scholars like Helpman[127] argue that while economies of scale and knowledge spillovers are advantageous for advanced sectors, excessive reliance on specialization can lead to structural imbalances, particularly when critical manufacturing functions are outsourced.

- Romer[128] show that concentrating on high-value sectors, such as R&D and advanced manufacturing, can foster long-term productivity growth. This viewpoint aligns with endogenous growth theories[129], which underscore the vital role of innovation in economic progress. When MNCs retain R&D-intensive activities domestically, local firms benefit from knowledge transfer and skill development, enhancing a country's competitive position in innovative sectors. This approach resonates with Joseph Schumpeter's notion of creative destruction[130], so the dynamic process by which entrepreneurs continuously seek new ideas that render existing ones obsolete. By treating innovation as a distinct economic activity with specific drivers and outcomes, this perspective allows for a deeper understanding of how institutions, market structures, trade and public policies shape long-run growth through their influence on the incentives of economic agents to engage in innovation and knowledge creation.

- Another area of exploration is the impact of specialization on employment and wage structures. Research by Autor, Dorn and Hanson (2013) [131] illustrates that globalization-driven specialization can create labor market inequalities, as routine

[125] See: Deardorff, A. V. (2005), p. 1004 – 1016.
[126] See: Jones, R. W. (2008), p.1 - 13.
[127] See: Helpman, Elhanan, Marc Melitz, and Stephen Yeaple (2004), p. 300 - 316.
[128] See: Romer, P. M. (1987), p. 56 – 62.
[129] Note: They are economic models that explain economic growth as a process deriving from factors internal to the economic system itself, rather than from external factors.
[130] See: Aghion, P., Howitt, P., Brant-Collett, M., & García-Peñalosa, C. (1998), p. 1 - 3.
[131] See: Autor, D. H., Dorn, D., & Hanson, G. H. (2013), p. 2121 – 2168.

manufacturing positions decline while the demand for skilled workers rises. This phenomenon, often referred to as "job polarization", has been observed in many advanced economies, where an increased focus on high-skill services exacerbates income inequality. Additionally, an overemphasis on producing intermediate goods rather than final products or sectors rich in innovation may limit an economy's ability to extract value from global supply chains.

- Concerns about macroeconomic stability also arise when specialization results in sectoral concentration. Acemoglu[132] et al. asserts that economies heavily dependent on a narrow range of industries may become more vulnerable to external shocks, such as demand fluctuations or geopolitical events influencing global trade. This is particularly relevant in situations where FDI is focused on a few critical sectors, which can lead to abrupt capital outflows or industry-specific downturns. Research by Blanchard and Giavazzi (2002)[133] indicates that financial integration and capital mobility can exacerbate these vulnerabilities, necessitating policymakers to devise strategies that balance openness with domestic economic stability.

- The Chamberlain macroeconomic model[134] presents an economy where manufacturing plays a central role in production. This sector relies on three key inputs: labor, capital and a variety of specialized producer services. These services develop to meet the specific needs of manufacturing and include fields such as transportation, distribution, communication, banking, insurance, etcetera. The effectiveness and the availability of these services significantly influence the overall productivity of the manufacturing industry[135].

  A crucial takeaway from the model is that the degree of specialization in producer services is limited by market size and fixed costs. The actual number of services available in the market is always fewer than what could potentially exist due to

[132] See: Jude, C., & Levieuge, G. (2017), p. 715 – 742.
[133] See: Blanchard, O., & Giavazzi, F. (2002), p. 147 – 209.
[134] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 – 307.
[135] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 – 307.

these limitations. However, as the demand for these services from the manufacturing sector increases, new companies enter the market, resulting in a growth of specialized inputs. This expansion enables manufacturing firms to access more efficient service providers, thereby enhancing industrial efficiency and increasing output, even if total spending on inputs remains constant.

The production function for the manufacturing sector is defined as:

$$X_m = L^{\alpha} K^{\beta} V_m^{\gamma}, \qquad \alpha + \beta + \gamma = 1. \tag{37}$$

Where: X_m represents the total manufacturing output, L is raw labor input, K is the capital stock, V_m represents the aggregated level of specialized producer services, α, β, γ are elasticity coefficients reflecting the contribution of each factor to production[136].

The sub – production function for producer services follows a Constant Elasticity of Substitution (CES) form:

$$V_m = \left(\sum_{i=1}^{n} S_i^{\rho} \right)^{\frac{1}{\rho}}, \quad 0 < \rho < 1. \tag{38}$$

Where: S_i is the quantity of each producer service utilized in manufacturing, n represents the number of available specialized services, ρ is a parameter that determines the substitutability among different services[137].

Since each service enters the function symmetrically, the total demand for services can be written as:

$$S_t = nS_i \, . \tag{39}$$

By substituting this expression into the production function, we derive a formulation that incorporates the impact of specialization on productivity:

[136] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 - 307.

[137] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 - 307.

$$X_m = L^{\alpha} K^{\beta} (nS_i)^{\gamma}. \quad (40)$$

This equation highlights the role of specialization in industrial output. The term n^{γ} acts as a shift parameter, signifying that an increase in the number of specialized services available in the economy leads to greater manufacturing productivity. This relationship underscores the presence of external economies of scale, where the expansion of the service sector contributes to increased efficiency in manufacturing[138].

The model underscores the importance of FDI in improving industrial productivity by increasing the variety and number of producer services. When foreign capital enters the economy, it often brings new knowledge, technologies and business methodologies that broaden the range of available services. This leads to a more specialized and efficient service sector, which ultimately benefits manufacturing. Moreover, the model suggests that the specialization driven by FDI creates positive externalities. As the service sector expands, the advantages extend beyond mere increases in industrial output, contributing to overall economic well-being. Enhanced specialization promotes knowledge sharing, skill enhancement and technology spread, all vital for long-term economic growth.

Although specialization is crucial for enhancing industrial efficiency, its growth is not limitless. Market size and the nature of industrial demand impose restrictions on the extent of specialization. If industrial firms require highly specific services, but the market is too small to support a large number of specialized firms, the advantages of specialization may be constrained[139].

The labor and the capital utilized in the service sector derive from the requirements of the manufacturing industry. The relationship between industrial employment and services can be expressed as:

$$L_s = \frac{\alpha}{(\alpha + c\sigma)} \bar{L}. \quad (41)$$

[138] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 - 307.
[139] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 - 307.

Where L_s represents the labor employed in the service sector, $\bar{L}$ is the total available labor in the economy, α is a technological parameter related to labor requirements in services, c captures the impact of specialization on service demand and σ denotes the elasticity of substitution between industrial and service sector outputs. Similarly, the allocation of capital to manufacturing is given by:

$$K_m = \left[\frac{b}{\left(b + c(1-\sigma)\right)}\right]\bar{K}. \tag{42}$$

Where K_m indicates the capital allocated to the manufacturing sector, $\bar{K}$ is the total available capital in the economy and b is a technological parameter related to capital intensity in manufacturing.

Through some mathematical steps and substitutions, we get:

$$\widehat{X_m} = \left[c\left(\frac{(1-\sigma)}{\sigma}\right) + b\right]\hat{K}. \tag{43}$$

In this equation, X_m denotes proportional changes in industrial output and $\hat{K}$ is the proportional change in total capital stock, while $c\left((1-\sigma)/\sigma\right)$ capture the direct and indirect impacts of capital inflows on manufacturing growth[140].

This formulation highlights the twofold role of specialization in the economy. First, it directly enhances manufacturing productivity by supplying high-quality services tailored to industrial requirements. Second, it creates an environment that allows firms to concentrate on their core competencies, resulting in long-term improvements in efficiency and innovation.

However, as industries become less dependent on specialized services, the effect of specialization on productivity gradually reduces. Over time, once firms gain

[140] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 - 307.

access to a well-established range of business services, additional specialization may yield diminishing returns[141].

While foreign investment elevates domestic production, it also generates returns for foreign investors. These returns must be deducted from the total output to ascertain the net effect of a capital inflows on national income and economic welfare. However, as long as specialization continues to deliver productivity gains that surpass these capital outflows, FDI remains a powerful engine for economic development.

3.2.5 Internationalization of enterprises and access to new markets

In an increasingly globalized economy, internationalization has become a crucial strategy for companies seeking growth, resilience and competitive advantage. FDI plays a central role in this process, allowing forms to access new markets, leverage strategic assets and adapt more efficiently to global demand.

- As mentioned in the previous chapter, Dunning's OLI framework[142] states that firms engage in FDI to utilize ownership advantages such as proprietary technologies or strong brand recognition. These advantages tend to be more effective when firms can internalize their operations, which helps to lower transaction costs and enhance profitability. By establishing a direct presence in foreign markets, companies gain better control over production processes and supply chains, thus improving efficiency and increasing returns.

- Hymer[143] emphasized the significance of market power in the decision-making processes of firms regarding FDI. He argued that MNEs engage in international investments to maintain their monopolistic advantages, manage essential assets and create barriers that restrict competition in foreign markets. Through these actions, firms can secure larger market shares, experience less competitive pressure and ultimately attain increased profits. This view positioned FDI as a

[141] See: Rivera-Batiz, F. L., & Rivera-Batiz, L. A. (1990), p. 287 - 307.
[142] See: Dunning, J. H. (2001), p. 173 - 190.
[143] See: Dunning, J. H., & Rugman, A. M. (1985), p. 228 - 232.

strategic mechanism for global growth, enabling companies to optimize their long-term revenue potential while reinforcing their dominance in crucial industries.

Additionally, Hymer[144] provided early insights into the advantages of international diversification, suggesting that profits in one country could be negatively correlated with those in another. He proposed that investors, rather than the firms themselves, could achieve enhanced financial stability by diversifying their investments across various markets, a concept that foreshadowed later advancements in international finance theory. Although his dissertation adhered to traditional economic theories, it subtly shifted the focus from a purely efficiency-driven analysis of FDI to more intricate considerations of income distribution and social justice.

Later, Hymer adopted a more critical viewpoint, highlighting that MNEs not only pursue efficiency but also have the capacity to limit competition and extract economic rents at the expense of host countries. This dual contribution, addressing both the strategic role of MNEs in fortifying market power and the financial advantages of diversification, established the foundation for discussions on the broader implications of FDI, including the regulatory challenges presented by multinational corporations in an interconnected economy[145].

In conclusion, FDI serves as a powerful mechanism for business internationalization, enabling firms to expand their global footprint, optimize resource allocation and strengthen their market positioning. The next section will explore how these corporate strategies impact host countries, shaping their economic development, technological progress and industrial structures.

3.3 Effects of FDI on the host country

In this section, we aim to highlight the effects that FDI produces on the host country. FDI can contribute to the economic development of the recipient economy by introducing new

[144] See: Dunning, J. H., & Rugman, A. M. (1985), p. 228 - 232.
[145] See: Dunning, J. H., & Rugman, A. M. (1985), p. 228 - 232.

capital, creating employment of the recipient economy by introducing new capital, creating employ opportunities and enhancing productivity. A key benefit is the transfer of technology and managerial know-how, which can improve the efficiency of domestic firms and stimulate innovation. Additionally, wage spillovers may occur when foreign firms offer higher salaries or better working conditions, pushing local companies to raise their standards. These dynamics can strengthen the overall competitiveness of the host country and foster long-term growth.

3.3.1 Wage spillovers

While theoretical framework often highlights the potential for FDI to raise wage levels in the host country, empirical evidence remains mixed and context dependent.

- Lipsey (2004)[146] indicates that while large-scale empirical studies generally indicate positive effects of foreign presence on wages and the quantity and diversity of domestic exports, a consistent correlation between the magnitude of inward FDI stocks or flows and gross domestic product (GDP) or economic growth remains elusive. A significant area of focus in FDI studies is wage spillovers, although these investigations are less prevalent than those concerning productivity. Several recurring challenges emerge in studies related to wages.

  Firstly, wage levels are frequently assessed based on total wages or overall compensation per worker, with skill levels typically categorized into production versus nonproduction or blue-collar (manual labor) versus white-collar (administrative, office work) classifications. There are few studies that can accurately differentiate between wage disparities attributable to skills or education levels between employees in foreign-owned and domestically owned facilities performing the same tasks. Moreover, these studies often overlook variations in skill development and wage fluctuations for consistent workers in establishments under different ownership structures[147].

  Secondly, wage comparisons need to take into account characteristics associated with foreign ownership, such as plant size, capital intensity and the utilization of

[146] See: Lipsey, R. E., & Sjöholm, F. (2005), p. 23 - 43.
[147] See: Lipsey, R. E., & Sjöholm, F. (2005), p. 23 - 43.

purchased materials or components. Foreign-owned enterprises are generally larger, particularly in developing nations and often employ more sophisticated, capital-intensive or import-heavy technologies. This raises the question of whether these characteristics should be treated as control variables to mitigate their impact or whether they are so fundamental to foreign ownership that they cannot be ignored. Aitken, Harison and Lipsey contend that host countries may not be concerned whether the higher wages in foreign-owned plants stem from foreign ownership itself or other factors like size and technology.

Consistent empirical findings indicate a wage advantage in foreign-owned firms. Lipsey[148] notes that foreign enterprises typically offer higher wages compared to domestic ones, even when accounting for firm-specific characteristics. However, it is possible that foreign acquisitions of higher-wage domestic firms could distort these findings.

- Subsequent research, including studies by Figlio and Blonigen (2000) [149] supports the notion of wage spillovers. They provide evidence that substantial foreign investments can lead to wage increases in both foreign-owned and domestically owned establishments, particularly for skilled workers. Additionally, research by Girma, Greenaway and Wakelin (2003)[150] indicated that wage spillovers were more prevalent in sectors where the productivity gap between foreign and domestic firms was narrower.

3.3.2 Economic development

FDI can significantly enhance economic development by increasing the capital available in local economies. In developing nations, where capital is often limited compared to labor, policymakers frequently see the influx of capital as a key advantage of FDI, as it leads to higher investment levels and increases GDP in the host country[151].

[148] See: Lipsey, R. E., & Sjöholm, F. (2005), p. 23-43.
[149] See: Figlio, D. N., & Blonigen, B. A. (2000), p. 338-363.
[150] See: Girma, S., Greenaway, D., & Wakelin, K. (2003), p .119-133.
[151] See: Alfaro, L., & Chauvin, J. (2017), p. 8-15.

The financial conditions in the host country can influence total FDI in complex ways, affecting both the initiation of foreign investments and their funding through FDI. Strong financial conditions can attract foreign investments because they enable investors to finance a substantial part of their investments locally. Local financing is often preferred over cross-border financing[152] as it reduces the risks associated with exchange rate fluctuations linked to local currency transactions. Conversely, when firms can finance projects locally, the total capital that foreign companies bring may be reduced.

- Harrison, Love & McMillan (2004)[153] presented evidence suggesting that FDI can actually increase the availability of finance for domestic companies in some contexts, indicating that the impact of FDI on local credit conditions varies across countries and depends on existing financial conditions.

- Desbordes & Wei (2014)[154] examine the casual effects of host country financial development on greenfield FDI, noting that while FDI typically introduces new capital to the economy, it can also represent arbitrage activities by multinationals. For example, MNCs may exploit differences in interest rates, exchange rate regimes or tax treatments between countries to maximize short-term returns, rather than to contribute meaningfully to productive activity. In such cases, FDI becomes more of a financial strategy than a developmental investment[155].

- Razin & Sadka (2007)[156] argue that FDI can benefit the host economy even when such investments are driven by short-term or opportunistic motives. This is because foreign investors may be willing to pay a premium for local assets, which can ultimately benefit the host economy through long-term capital increases. In their model, foreign investors often have superior technical or managerial

[152] Note: Cross-border financing, in finance, is a transaction that involves the transfer of funds or assets between entities located in different countries. This type of financing, therefore, involves the use of financial instruments such as wire transfers, electronic funds transfers, or other payment methods to transfer money between entities operating in different jurisdictions.
[153] See: Alfaro, L., & Chauvin, J. (2017), p. 8 - 15.
[154] See: Desbordes, R., & Wei, S. J. (2017), p. 153 - 168.
[155] See: Alfaro, L., & Chauvin, J. (2017), p. 8 - 15.
[156] See: Alfaro, L., & Chauvin, J. (2017), p. 8 - 15.

expertise, which give them an advantage over local investors when it comes to identifying and selecting the most profitable or innovative projects. However, when many investors are competing for the same opportunities, they may be forced to bud higher prices. As a result, part of the benefit of their expertise is transferred to the domestic economy via these higher acquisition prices. But there is also a downside, described as "lemons" problem[157], based on the classic idea from economics that when sellers have more information than buyers, the market can break down. In this case, if a foreign investor decides to sell a local firm, potential buyers might suspect that the investor is selling not because they need liquidity, but because they have insider knowledge that the future performance is worse than it seems. This suspicion can cause the asset to be undervalued and the firm may end up being sold at a discount, harming the seller and potentially also distorting the market[158].

- Alfaro et al. (2004)[159] were among the first to empirically assess the role of financial markets in realizing gains from FDI, finding that the positive impact of FDI on economic growth becomes significant only when considering local financial market development. This conclusion is supported by Hermes & Lensink and Durham, who reach similar findings with different methodologies. To explore the underlying mechanisms, Alfaro et al. investigate how FDI influences growth through factor accumulation or total factor productivity (TFP). Their analysis indicates that the interaction between FDI and financial institutions primarily affects TFP growth, rather than the accumulation of physical or human capital. The scholars provide evidence that industries reliant on external finance experience a stronger relationship between FDI and growth in financially developed contexts[160].

[157] See: Razin, A., & Sadka, E. (2006), p. 6-21.
[158] See: Alfaro, L., & Chauvin, J. (2017), p. 8-15.
[159] See: Alfaro, L., & Chauvin, J. (2017), p. 8-15.
[160] See: Alfaro, L., & Chauvin, J. (2017), p. 8-15.

- Bloom & Reenen (2010)[161]'s research also indicates that foreign affiliates tend to be more productive than domestic firms, partly due to better management practices. Higher productivity can enhance national welfare if shared through increased wages. However, selection bias complicates the understanding of productivity differentials, as foreign investors often acquire already high-performing local firms. Recent studies controlling for selection show that foreign ownership leads to increased international trade activity and organizational improvements post-acquisition.

- Wang & Wang (2015)[162] emphasize that foreign ownership enhances the financial conditions of target firms, with foreign-acquired firms relying less on external debt and more on internal capital following acquisitions. Manova et al. (2015) further illustrate that foreign affiliates benefit from better access to finance, which enhances their export capabilities, particularly in sectors that require significant investment[163].

- Bilir et al. (2015)[164] propose that strong local financial markets not only attract foreign firms but also shape their competitive strategies within the local market. Their empirical analysis shows that when a country's financial system improves there is not only an increase in the number of foreign affiliates, but also a change in their business strategies. In particular, foreign firms tend to shift more of their output toward exports rather than focusing solely on the domestic market. This suggests that strong financial markets help foreign firms scale their operations, reduce costs and become more competitive globally. Thus, financial development supports both the quantity and quality of FDI, by enabling firms to expand and integrate more deeply into international trade.

[161] See: Bloom, N., & J. Van Reenen (2010), p.203 – 224.
[162] See: Wang, J., & X. Wang (2015), p. 325 – 338.
[163] See: Alfaro, L., & Chauvin, J. (2017), p. 8 – 15.
[164] See: Bilir, L. K., Chor, D., & Manova, K. (2019), p.192 – 220.

- During economic crises, research has shown that foreign firms, with their access to diverse capital markets, tend to be more resilient to local economic volatility. Desai et al. (2008) [165] found that U.S. multinational affiliates exhibited significant increases in sales and investment during currency depreciations, unlike local firms. Similarly, Blalock et al. (2008)[166] reported that only exporters with foreign ownership increased their capital significantly during Indonesia's 1997 financial crisis.

- Alfaro & Chen (2012)[167] analyze the performance of firms during the global economic crisis, finding that foreign subsidiaries outperformed local counterparts, particularly those with strong vertical links to parent firms, meaning close operational or supply-chain relationship. This advantage was linked to the ability to generate both finance and demand, highlighting the importance of internal support networks in sustaining performance under challenging financial conditions.

3.4 FDI and Competitiveness in the EU

Building on the macroeconomic literature reviewed in the previous section, which highlights the multifaceted role of FDI in fostering capital formation, productivity growth and international economic integration, this section turns to the European context. The recent Report on the Future of European Competitiveness[168], authored by Mario Draghi, provides an urgent and comprehensive response to the EU's long-standing structural weakness. These include persistently low productivity growth, fragmented capital markets and a decline in technological leadership – all of which are increasingly exacerbated by global geopolitical and trade tensions. Aware of the EU's decelerating growth trajectory since the early 2000s, the report underscores the strategic importance of restoring competitiveness. It highlights a widening productivity gap with the United States, stagnation in innovation-led growth and the pressing need for large-scale

[165] See: Alfaro, L., & Chauvin, J. (2017), p. 8 – 15.
[166] See: Blalock, G., P.J. Gertler, & D.I. Levine (2008), p. 568 – 591.
[167] See: Alfaro, L., & Chauvin, J. (2017), p. 8 – 15.
[168] See: Draghi, M. (2024).

investment and institutional reform. Among its key recommendations, the Draghi Report emphasizes the strengthening of Europe's position in critical sectors – such as semiconductors, biotechnology and automobile manufacturing – through increased public and private investment, a more integrated capital market and targeted industrial policy interventions. These measures are incorporated within a broader strategic vision built on three foundational pillars: closing the innovation gap with global leaders, implementing a coherent industrial decarbonization plan and reducing external dependencies in key area.

Central to the Draghi Report is the argument that enhancing competitiveness is essential not only to revive productivity and long-term growth, but also to preserve the European social model in a rapidly transforming world. Competitiveness, Draghi affirms, should no longer be pursued through a narrow focus on cost-reduction or export surpluses. Instead, it must be anchored in knowledge, technological capabilities and the ability to compete in key strategic sectors, especially where global conditions are distorted by subsidies or regulatory asymmetries. Within this context, FDI emerges as a catalyst for growth and a policy instrument, not just for attracting capital and innovation, but also for strategically reshaping supply chains and ensuring industrial resilience.

A valuable analytical contribution of the report is the classification of industrial sectors into four strategic categories, each requiring a differentiated policy approach[169]. The first includes sectors in which the EU faces such substantial cost disadvantages and little prospect for global competitiveness, such as certain segments of consumer electronics, the most rational course is to import while diversifying suppliers. The second category concerns sectors where the location of production matters – for employment, security of supply and regional cohesion – but not necessarily the origin of the underlying technology. Here, the EU is encouraged to combine FDI attraction with trade defence instruments to mitigate cost distortions resulting from foreign subsidies. A compelling example is the automotive sector, where recent announcements of inward FDI into European member states, coupled with the introduction of new tariffs, illustrate a policy mix aimed at preserving production capacity and employment without isolating the EU from global innovation flows. This is particularly important given the structural

[169] See: Draghi, M (2024), p. 41 – 41.

transformations the sector is undergoing, notably the transition to electric vehicles and the phasing out of internal combustion engines by 2035. The third category involves sectors where both the location of production and the origin of the technology are considered strategic. These include semiconductors, clean tech and biotechnologies. In such cases, the EU should deploy the full spectrum of industrial policy tools to attract investment, boost R&D and avoid critical dependencies. The fourth category includes sectors in which Europe retains global leadership but faces increasing external pressure due to foreign subsidies and regulatory arbitrage. In these cases, the emphasis must be placed on safeguarding existing strengths through regulatory simplification, improved capital access and multilateral engagement.

This section advances the empirical investigation of FDI by examining its manifestation through M&A within the strategic sectors identified in the Mario Draghi report[170]. To facilitate a comparative analysis between global and European markets, a comprehensive dataset was assembled. For the global benchmark, the S&P 500 index[171] was employed, while on the European side, sector-specific indices from Refinitiv were selected and converted into U.S. dollars using historical exchange rates, also sourced from Refinitiv, to ensure consistency in cross-regional comparisons. The most relevant M&A transactions in these sectors were identified using the Orbis database. All supporting data and full list of M&A events are provided in the appendices.

This methodological approach enables a multifaced understanding of how FDI operates in practice, beyond theoretical frameworks. By focusing on these three strategic sectors, the analysis aims to describe prevailing market dynamics and evaluate whether recent investment trends align with the policy imperatives set out in the Draghi report, thereby providing a grounded assessment of Europe's evolving competitiveness landscape.

3.4.1 Semiconductor sector

In his report, Mario Draghi underscores the critical importance of the semiconductor sector as a cornerstone of modern economic and technological sovereignty[172]. He

[170] See: Draghi, M. (2024).

[171] Note: The S&P 500 index is a widely recognized benchmark that tracks the stock performance of 500 large companies listed on US stock exchanges, including major global players in the sectors of interest.

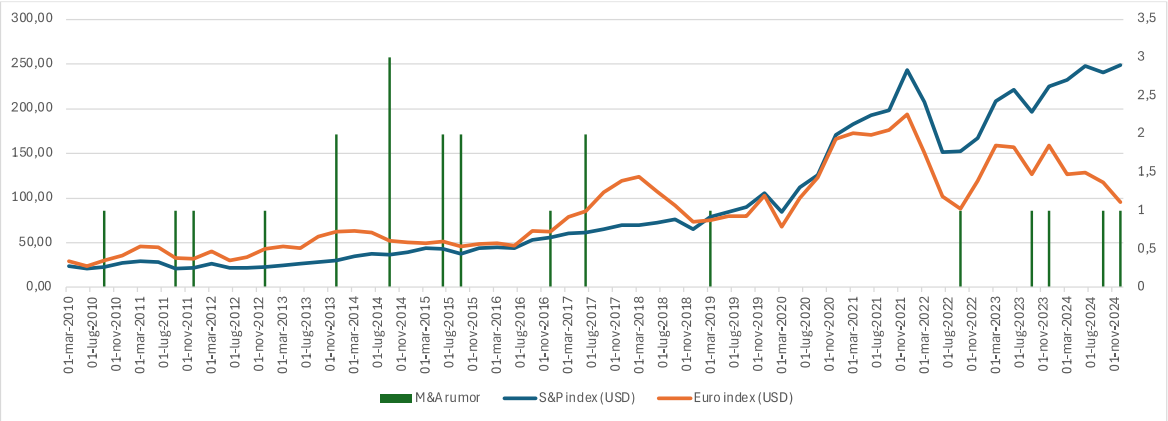
[172] See: Draghi, M. (2024), p. 93 – 96.

identifies semiconductors as one of the areas where Europe's strategic vulnerabilities are most evident.

Despite Europe having pockets of excellence and strong players in specific segments of the value chain, it lacks full-spectrum capabilities, particularly in advanced manufacturing and design. Draghi argues that this structural weakness has made Europe highly dependent on third countries – especially in Asia and the United States – for the most cutting-edge components and production technologies.

This dependence represents not only an economic challenge but a systemic risk, especially in the context of growing geopolitical instability, global supply chain disruptions and increasing global competition for technological leadership. According to Draghi, the fragmentation of efforts and the absence of a unified European strategy significantly reduce their effectiveness. A central goal must be reduce external dependencies and enhance Europe's ability to act autonomously in key sectors like semiconductors[173].

Figure 17 – Semiconductor industry and relevant M&A



Source: Author's own elaboration based on data from Refinitiv and Orbis.

Note: Index values (in USD) are sourced from Refinitiv, while M&A rumor event dates are derived from the Orbis database. The primary (left) y-axis represents index levels and the secondary (right) y-axis corresponds to the count of M&A rumors.

[173] See: Draghi, M. (2024), p. 93 – 96.

These concerns are reflected in the performance trends and M&A dynamics shown in Figure 17. The graph illustrates the evolution of the global semiconductor market index[174] (blue line) and the European semiconductor index[175] (orange line) from 2010 to 2024, alongside the phenomenon of M&A rumors[176] involving publicly listed semiconductor companies (indicated by green vertical lines).

Over the time span considered, the global semiconductor index shows a significant upward trend, particularly accelerating after 2020, indicating strong global growth in the semiconductor sector. This growth reflects the increasing strategic importance of semiconductors in areas such as artificial intelligence, 5G and digitalization. The European semiconductor index, although following a generally similar path, displays a more moderate and volatile trajectory.

The distribution of M&A rumors appears to congregate in certain periods, such as 2013-2015, likely driven by increased consolidation in response to technological convergence. It is notable that between 2019 and 2022, there were no significant M&A rumors. This gap can be attributed to a combination of economic and geopolitical factors. The outbreak of the Covid-19 pandemic early 2020 created a climate of uncertainty and financial instability, shown also by the fluctuations of semiconductor index, that also coincide with the global chip shortage[177]. During 2020, the industry's revenue forecast dropped by around $55 billion at the peak of the pandemic. This period was marked by three significant disruptions: a dramatic shift in demand patterns, notable supply chain challenges and disturbance in the workforce. These factors together led to a temporary pause in M&A, as companies redirected their efforts from growth to stabilization and risk management[178].

Comparing the two indices, it is evident that the global market outperforms the European market, especially after 2020. While both indices were aligned in earlier years, the global index shows a sharper and more sustained growth trajectory post 2020. This divergence may suggest that European firms have not capitalized on the same level of technological innovation, scale or policy support as their global counterparts.

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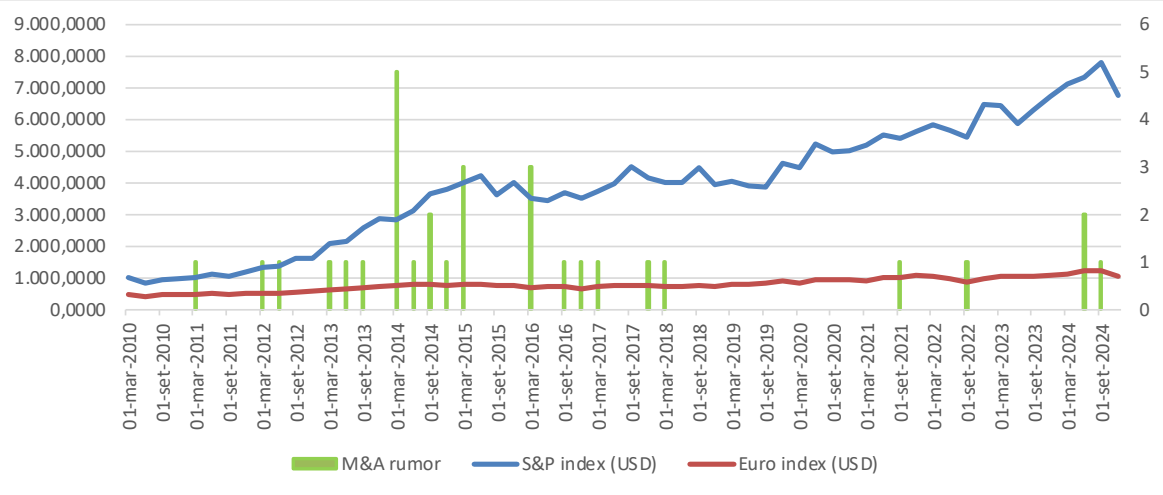
[174] Data is taken from Refinitiv Workspace.
[175] Data is taken from Refinitiv Workspace.
[176] Data is taken from Orbis.
[177] See: Mohammad, W., Elomri, A., & Kerbache, L. (2022), p. 476 – 483.
[178] See: Mohammad, W., Elomri, A., & Kerbache, L. (2022), p. 476 – 483.

3.4.2 Biotechnology sector

Draghi highlights the strategic importance of the pharmaceutical and biotech sector for the European Union, both in terms of economic value and geopolitical significance[179]. One of the main concerns is the fragmentation of the European ecosystem, which impedes the development and scaling-up of innovative therapies. In contrast, countries like the U.S. benefit from integrated and well-financed systems where early-stage research can swiftly transition into market-ready biotech products. Draghi emphasizes that Europe must strengthen its innovation capacity, accelerate regulatory procedures and channel investments more effectively to maintain its competitiveness in this vital sector[180].

Figure 18 – Biotechnology industry and relevant M&A



Source: Author's own elaboration based on data from Refinitiv and Orbis.

Note: Index values (in USD) are sourced from Refinitiv, while M&A rumor event dates are derived from the Orbis database. The primary (left) y-axis represents index levels and the secondary (right) y-axis corresponds to the count of M&A rumors.

The following graph shows the performance of the S&P biotechnology market index (blue line)[181] and the European biotechnology index (red line)[182] from 2010 to 2024. Green vertical bars indicate the dates when rumors of M&A[183] involving listed biotech

[179] See: Draghi, M. (2024), p. 205 – 219.
[180] See: Draghi, M. (2024), p. 205 – 219.
[181] Data is taken from Refinitiv Workspace.
[182] Data is taken from Refinitiv Workspace.
[183] Data is taken from Orbis.

companies were reported. The S&P biotechnology index demonstrates a clear and continuous upward trend over the entire period, with notable growth between 2012 and 2016 and again from 2020 to 2023. This growth reflects the expansion and innovation in the biotech sector, driven by increasing investment in health technologies, breakthroughs in genomics and the global response to public health crises such as the pandemic. In contrast, the European biotech index remains relatively flat throughout the entire period, showing only modest growth. This suggests a gap between the performance and scale of the European biotech sector compared to the U.S. market. M&A rumors are relatively frequent throughout the entire time frame, especially between 2013 and 2017, which could be associated with a phase of intense industry consolidation and innovation sharing. Interestingly, there is a second cluster of rumors between 2022 and 2024, potentially tied to a post-covid strategic repositioning and the search for new growth paths.

The performance gap between the S&P and European biotechnology indices is striking. While the U.S. biotech sector experienced substantial growth and volatility, the European index shows much more stability but also stagnation. This discrepancy may be attributed to differences in market size, regulatory environments, access to venture capital and the presence of large biotech players in the U.S. compared to Europe.

3.4.3 Automobile manufacturing sector

According to Mario Draghi[184], the automotive industry has traditionally been a key driver of European industrial competitiveness. However, the sector is undergoing a deep transformation due to shifting global demand towards emerging markets, the rise of electric vehicles and the growing emphasis on green mobility. These trends have eroded the EU's traditional leadership in automotive production and innovation. Draghi emphasized the need for coordinated industrial policies, investment in infrastructure, regulatory predictability and support for innovation. Addressing these challenges is essential to maintain the sector's contribution to European competitiveness, attract FDI and secure a leading position in the evolving global automotive industry[185].

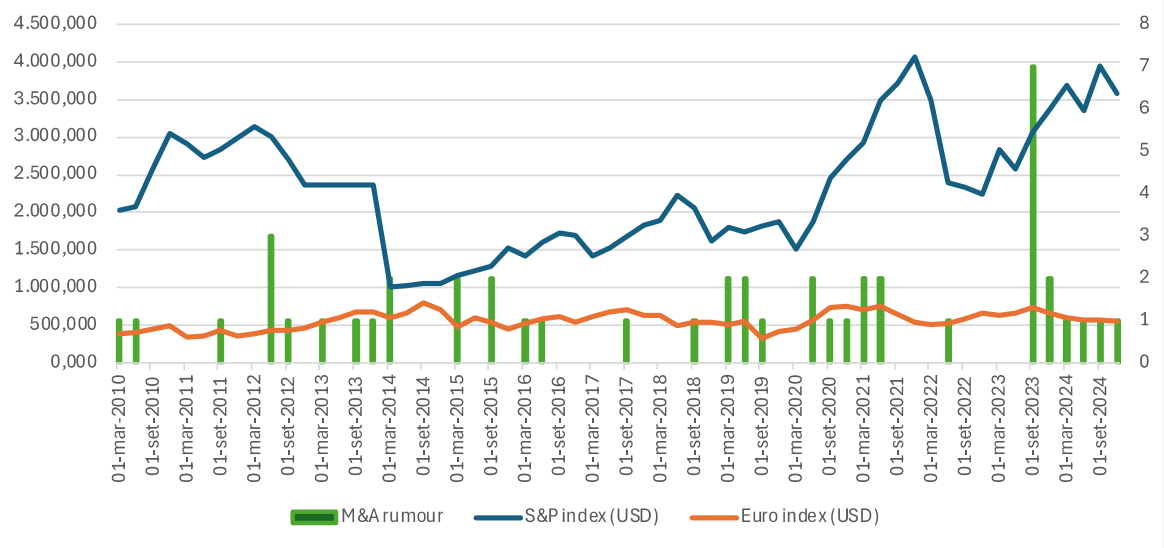
This strategic outlook, as outlined by Draghi, confirms the automotive industry's pivotal role in sustaining Europe's industrial competitiveness, while also highlighting its growing

[184] See: Draghi, M. (2024), p. 155 – 168.

[185] See: Draghi, M. (2024), p. 155 – 168.

exposure to global technological and economic shifts. To better understand these dynamics, the comparison between the global and European automobile manufacturing indices offer valuable insight into the sector's performance.

Figure 19 – Automobile industry and relevant M&A



Source: Author's own elaboration based on data from Refinitiv and Orbis.

Note: Index values (in USD) are sourced from Refinitiv, while M&A rumor event dates are derived from the Orbis database. The primary (left) y-axis represents index levels and the secondary (right) y-axis corresponds to the count of M&A rumors.

Figure 19 illustrates the performance of the global automobile manufacturing index (blue line)[186] and the European automobile manufacturing index (orange line)[187] from 2010 to 2024. In addition, the vertical green bars indicate moments when M&A rumors[188] involving listed companies in the automobile sector emerged. Over the observed period, the global automobile manufacturing index experienced significant fluctuations, reflecting the sector's volatility. Alter an initial peak in early 2012, the index saw a sharp decline in early 2014, like due to factors such as weakening demand in emerging markets and broader global economic uncertainty. Strating in 2020, the index rebounded quickly, reaching another peak between late 2021 and early 2022, driven by post-pandemic

[186] Data is taken from Refinitiv Workspace.
[187] Data is taken from Refinitiv Workspace.
[188] Data is taken from Orbis.

recovery, rising demand for electric vehicles and policy incentives promoting sustainable mobility. However, even during this phase, the index continued to undergo several shifts, including a dip in late 2022, before regaining upward momentum. The European automobile index follows a flatter and more stable trend throughout the period. It remains within a narrow range, showing moderate fluctuations but lacking the sharp growth seen in the global index. M&A appear frequently across the time frame, with particular clusters around 2012-2014 and 2020-2021. These periods could correspond to waves of consolidation, with some integration of new technologies. Interestingly, despite the covid-19 pandemic and the uncertainties associated with it, M&A rumors have been stable, with a huge increase during mid-2023.

Comparing the two indices, a clear divergence emerges after 2020. The global index accelerates sharply, indicating robust international momentum, likely fueled by large-scale investments, global demand for electric vehicles and cross-border collaborations. In contrast, the European index remains relatively static, reflecting perhaps slower adaptation to global shifts.

Conclusions

This thesis has investigated the evolving interplay between international trade, capital flows and macroeconomic performance, with a particular emphasis on the role of FDI in shaping strategic sectors of the European economy.

The analysis began by revisiting the fundamental economic theories of international trade in order to understand how trade shapes macroeconomic relationships in open economies. Within this context, the balance of payments emerges as a key tool for analysing external economic relations, capturing not only trade flows but also movements of capital. Particular attention is given to the financial account, as it increasingly captures the dynamics of cross-border capital movements and offers a clearer picture of the degree of financial integration in advanced economies. In fact, in the euro area, the financial account represents a substantial share of the overall balance of payments and data confirm that by the end of 2024, euro area countries held €12.62 trillion in direct investments assets abroad, with the United States and the United Kingdom as the primary destinations. Simultaneously, inward FDI liabilities amounted to €9.96 trillion, primarily originating from the Unites States, offshore financial centres and the United Kingdom.

These figures not only underscore the region's deep financial openness but also reveal the central role the euro area plays in global investment networks. Within this framework, FDI was explored as a key mechanism through which international capital affects both the home and host economies. Drawing from a wide body of literature, the analysis highlighted FDI's ability to influence productivity, innovation capacity, employment and long-term economic development.

Expanding on this theoretical foundation, the thesis then turned to an applied dimension: how FDI interact with strategic sectors in the European Union. The analysis was guided by the Report on the Future if the European Competitiveness by Mario Draghi[189], which offers a forward-looking policy framework for boosting Europe's productivity, technological leadership and economic resilience. The report identifies semiconductors, biotechnology and automobile manufacturing as sectors of critical importance for the EU's strategic autonomy and it positions FDI as a necessary lever for scaling innovation, attracting global expertise and mitigating asymmetric global competition.

[189] Draghi, M. (2024), p. 306 – 320.

The empirical investigation presented in this thesis analysed M&A activity within these sectors over the past decade, comparing global and European market dynamics. In the case of semiconductor sector, M&A rumours appear to be concentrated during a relatively stable period of moderate and steady growth (2014/2016), as discussed in Chapter 3. Subsequent changes in index performance correspond with external factors such as the covid-19 pandemic and shifts in the geopolitical context. Within this framework, FDI appears to have occurred during phases of sectoral consolidation and structural adjustment. Further, the biotechnology sector reinforces this interpretation. During a phase of general economic stability and sustained innovation there was a market increase in M&A activity. However, the relatively limited growth of the European biotechnology index suggests a non-uniform distribution of these effects. This may reflect differences in institutional and regulator environments across regions, as discussed in Chapter 2. The automobile manufacturing sector presents a more ambiguous picture. The performance of the global and European indices diverges notably, especially after 2020. Given the nature of the automotive sector, a durable good with consistent consumer demand, it is more difficult to draw definitive conclusions about the effect of M&A on overall market performance. Although M&A rumours are present across the timeframe, the sector's structural complexity and cyclical dynamics appears to be shaped by a combination of regulatory policies, technological development and broader macroeconomic factors.

From this comparative perspective, several patterns emerge. FDI is often pro-cyclical intensifying during phases of macroeconomic stability and it is often associated with strategic development at the sector level. At the same time, regional and institutional factors appear to influence the extent and nature of these effects. The findings suggest that the interaction between FDI and strategic sectors is context-dependent and shaped by multiple layers of policy, regulation and market structure.

In conclusion, the findings of this thesis support the view that FDI should be regarded not as a passive capital inflow, but as a strategic tool. When governed effectively it can contribute meaningfully to productivity growth, technological leadership and economic sovereignty. The evidence aligns with the key messages of the Draghi Report, that Europe's long-term competitiveness depends not only on attracting investment, but also on shaping it, ensuring that FDI reinforces strategic objectives and strengthens the Union's position in an increasingly fragmented and competitive global economy.

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Appendix A

Overview of M&A transactions considered in semiconductor sector

The following list presents the mergers and acquisitions transactions analysed in chapter three of this thesis. The data were retrieved from the Orbis database by applying the following filters: listed companies, semiconductor industry, geographic criteria[190] and M&A operations.

Below is the list of transactions, including the names of the acquiring and target companies, their country of origin, the type of operation and its final status:

1. Boe Technology Group co., Ltd (China) attempted to acquire Ses Imagotag SA (France) – Acquisition unknown stake % (Completed, 16/06/2017).
2. Boe Technology Group co., Ltd (China) attempted to acquire Store electronic systems SA (France) – 55.28% acquisition (Rumour – Expired, 16/06/2017).
3. Carlyle Group Lp (USA) attempted to acquire Blackberry Ltd (Canada) – 100% acquisition (Rumour – Withdrawn, 06/09/2011).
4. Enapter AG (Germany) attempted to acquire Marna Beteiligungen AG (Germany) – Acquisition increased from 30.19% to 100% acting in concert (Rumour, 04/12/2023).
5. Hitachi Ltd (Japan) attempted to acquire Renesas Electronics Corporation (Japan) – 100% acquisition (Rumour – Expired, 14/05/2015).
6. Icape Holding (France) attempted to acquire Tonnellerie Francois Freres sa (France) – 100% acquisition (Announced, 26/09/2024).
7. Lifco ab (Sweden) attempted to acquire Note ab (Sweden) – 100% acquisition (Withdrawn, 03/12/2012).
8. Microsoft Corporation (USA) attempted to acquire Nokia Oyj (Finland) – 100% acquisition (Rumour – Expired, 19/08/2010).
9. National Silicon Industry Group Co., Ltd (China) attempted to acquire Siltronic AG (Germany) – 57.8% acquisition (Rumour – Expired, 02/12/2016).
10. Pfizer inc. (USA) attempted to acquire Swedish orphan biovitrum Ab (Sweden) – 100% acquisition (Completed, 16/07/2014).

[190] Note: at least one of the parties involved in the transaction (i.e., the acquiror, the target or the vendor) had to be located in a member country of the European Union.

11. Pronox Technology sp (Poland) attempted to acquire Esotiq & Henderson SA (Poland) – 55.313% acquisition (Rumour – Expired, 14/10/2011).
12. Renesas electronics corporation (Japan) attempted to acquire Sequans communications sa (France) – Acquisition unknown remaining stake % (Withdrawn, 07/08/2023).
13. Samsung Electronics Co., Ltd (South Korea) attempted to acquire Aixtron se (Germany) – 100% acquisition (Rumour – Expired, 11/09/2014).
14. Samsung Electronics Co., Ltd (South Korea) attempted to acquire Fingerprint Cards Ab (Sweden) – 100% acquisition (Rumour – Expired, 11/10/2013).
15. Samsung Electronics Co., Ltd (South Korea) attempted to acquire NXP Semiconductors NV (Netherlands) – 100% acquisition (Rumour – Expired, 07/03/2019).
16. Siemens AG (Germany) attempted to acquire Siemens (Pakistan) engineering Co., Ltd (Pakistan) – Acquisition increased from 66.093% to 74.65% (Completed, 03/12/2013).
17. Siemens AG (Germany) attempted to acquire Siemens (Pakistan) engineering co., Ltd (Pakistan) – Acquisition increased from 74.66% to 88.51% (Completed, 01/11/2024).
18. Taiwan Semiconductor Manufacturing Co., Ltd (Taiwan) attempted to acquire Infineon Technologies AG (Germany) – 100% acquisition (Rumour – Expired, 31/08/2015).
19. Tedea Technological Development & Automation Ltd. (Israel) attempted to acquire Oceansix Future Paths Ltd. (Israel) – Acquisition increased from 57.38% to 59.46% (Completed, 21/09/2022).
20. Texas Instruments inc. (USA) attempted to acquire ASM Ag (Austria) – 100% acquisition (Rumour – Expired, 29/07/2014).
21. Tokyo Electron Ltd (Japan) attempted to acquire ASM International Nv (Netherlands) – 100% acquisition (Rumour – Expired, 03/07/2015).
22. Undisclosed Acquiror attempted to acquire Irtyshskoe Parokhodstvo OAO (Russia) – Acquisition 58.09% (Completed, 02/04/2015).

Appendix B

Overview of M&A transactions considered in biotechnology sector

The following list presents the mergers and acquisitions transactions analysed in chapter three of this thesis. The data were retrieved from the Orbis database by applying the following filters: listed companies, biotechnology industry, geographic criteria[191] and M&A operations.

Below is the list of transactions, including the names of the acquiring and target companies, their country of origin, the type of operation and its final status:

1. Angelini Pharma spa (Italy) attempted to acquire Recordati – Industria chimica e farmaceutica spa (Italy) – 51.8% acquisition (Rumour, 23/04/2024).
2. Astrazeneca Plc (United Kingdom) attempted to acquire Evotec AG (Germany) – 100% acquisition (Rumour – Expired, 25/07/2014).
3. BioMarin Pharmaceutical Inc. (USA) attempted to acquire PTC Therapeutics Inc. (USA) – 100% acquisition (Rumour – Expired, 23/02/2015).
4. CK Life Sciences Internazional (Holdings) Inc. (Cayman Islands) attempted to acquire PGG Wrightson Ltd (New Zealand) – 100% acquisition (Rumour – Expired, 31/10/2017).
5. Erg SA (Poland) attempted to acquire Bioerg SA (Poland) – Acquisition increased from 58.085% to 66% (Completed – Assumed, 01/06/2012).
6. Erg SA (Poland) attempted to acquire Bioerg SA (Poland) – Acquisition increased from 48.647% to 57.471% (Completed, 30/01/2012).
7. Eurofins Scientific SE (Luxembourg) attempted to acquire Vimta Labs Ltd (India) –Acquisition increased from 13.73% to 51.08% (Rumour – Expired, 09/05/2014).
8. Gilead Sciences Inc. (USA) attempted to acquire Galapagos NV (Belgium) – 100% acquisition (Rumour – Expired, 20/03/2017).
9. Gilead Sciences Inc. (USA) attempted to acquire Genefit SA (France) – 100% acquisition (Rumour – Expired, 26/01/2016).
10. GlaxoSmithKline Plc (United Kingdom) attempted to acquire Genimab a/s (Denmark) – Acquisition increased from 9.88% to 100% (Rumour – Expired, 16/05/2013).

[191] Note: at least one of the parties involved in the transaction (i.e., the acquiror, the target or the vendor) had to be located in a member country of the European Union.

11. Halozyme Therapeutics Inc. (USA) attempted to acquire Evotec SE (Germany) – 100% acquisition (Rumour – Withdrawn, 20/06/2024).
12. Hybrigenics SA (France) attempted to acquire Bone Therapeutics SA (Belgium) – 100% acquisition (Rumour – Expired, 06/09/2021).
13. Johnson & Johnson (USA) attempted to acquire Galapagos NV (Belgium) – 100% acquisition (Rumour – Expired, 08/12/2014).
14. Novartis AG (Swiss) attempted to acquire Acorda Therapeutics Inc. (USA) – 100% acquisition (Rumour – Expired, 17/02/2014).
15. Novartis AG (Swiss) attempted to acquire Dynavax Technologies corporation (USA) – 100% acquisition (Rumour – Expired, 17/02/2014).
16. Novartis AG (Swiss) attempted to acquire Evotec AG (Germany) – 100% acquisition (Rumour – Expired, 06/03/2018).
17. Novartis AG (Swiss) attempted to acquire Genfit SA (France) – 100% acquisition (Rumour – Expired, 04/03/2015).
18. Novartis AG (Swiss) attempted to acquire Insmed Inc. (USA) – 100% acquisition (Rumour – Expired, 14/01/2014).
19. Novartis AG (Swiss) attempted to acquire Nektar Therapeutics Inc. (USA) – 100% acquisition (Rumour – Expired, 17/02/2014).
20. Novartis AG (Swiss) attempted to acquire Thrombogenics NV (Belgium) – 100% acquisition (Rumour – Withdrawn, 24/02/2014).
21. Pfizer Inc. (USA) attempted to acquire Nicox SA (France) – Acquisition increased from 1.86% to 100% (Rumour – Expired, 22/01/2013).
22. Roche Holding AG (Swiss) attempted to acquire BioMarin Pharmaceutical Inc. (USA) – 100% acquisition (Rumour – Expired, 19/09/2013).
23. Roche Holding AG (Swiss) attempted to acquire Sage Therapeutics Inc. (USA) – 100% acquisition (Rumour – Expired, 16/01/2015).
24. Sanofi SA (France) attempted to acquire Adocia sas (France) – 100% acquisition (Rumour – Expired, 26/01/2016).
25. Santhera Pharmaceuticals Holding AG (Swiss) attempted to acquire Newron Phamaceuticals spa (Italy) – 100% acquisition (Rumour – Expired, 25/01/2011).
26. Sesen Bio Inc. (USA) attempted to acquire Carisma Therapeutics Inc. (USA) – 100% acquisition (Completed, 21/09/2022).

27. Shire plc (United Kingdom) attempted to acquire Amicus Therapeutics Inc. (USA) – 100% acquisition (Rumour – Expired, 27/08/2014).
28. Swedish Orphan Biovitrum ab (Sweden) attempted to acquire Mirum Pharmaceuticals Inc. (USA) – 100% acquisition (Rumour, 26/07/2024).
29. United SA (Poland) attempted to acquire Bioerg SA (Poland) – 65.984% acquisition (Completed, 29/03/2016).
30. United SA (Poland) attempted to acquire Bioerg SA (Poland) – Acquisition increased from 7.164% to 87.239% (Completed, 28/12/2016).

Appendix C

Overview of M&A transactions considered in automobile manufacturing sector

The following list presents the mergers and acquisitions transactions analysed in chapter three of this thesis. The data were retrieved from the Orbis database by applying the following filters: listed companies, automobile manufacturing industry, geographic criteria[192] and M&A operations.

Below is the list of transactions, including the names of the acquiring and target companies, their country of origin, the type of operation and its final status:

1. Accredited Investors attempted to acquire Archer Aviation Inc. (USA) – Capital increase 18.127% (Completed assumed, 12/08/2024).
2. Adage Capital Management LP (USA) attempted to acquire Interprivate Acquisition Corporation (USA) – Capital increase 5.632% (Completed assumed, 31/03/2021).
3. Bayerische Motoren Werke AG (Germany) attempted to acquire SGL Carbon SE (Germany) – Acquisition increased from 15.72% to 100% (Rumour - Expired, 21/10/2013).
4. Bayerische Motoren Werke AG (Germany) attempted to acquire Solid Power Inc. (USA) – Capital increase unknown stake (Completed, 03/05/2021).
5. Boeing Company (USA) attempted to acquire Archer Aviation Inc. (USA) – Capital increase 20.199% (Completed, 10/08/2023).
6. Carlyle Group LP (USA) attempted to acquire Faurecia SA (France) – 57% acquisition (Rumour – Expired, 07/01/2013).
7. Daimler AG (Germany) attempted to acquire Baic Motor Corporation Ltd. (China) – Capital increase 12% (Completed assumed, 31/03/2014).
8. Daimler AG (Germany) attempted to acquire Renault SA (France) – Capital increase 3.1% (Completed assumed, 08/04/2012).
9. Deutsche Bank AG (Germany) attempted to acquire Pan Ocean Co., Ltd. (South Korea) – 100% acquisition (Rumour – Expired, 05/02/2014).
10. Dr Ing hc F Porsche AG (Germany) attempted to acquire Varta AG (Germany) – Capital increase unknown stake (Pending, 07/10/2024).

[192] Note: at least one of the parties involved in the transaction (i.e., the acquiror, the target or the vendor) had to be located in a member country of the European Union.

11. Fe New NV (Netherlands) attempted to acquire Ferrari NV (Netherlands) – 100% acquisition (Completed, 03/01/2016).
12. Fiat Chrysler Automobiles NV (Netherlands) attempted to acquire Volkswagen AG (Germany) – 100% acquisition (Rumour – Expired, 03/03/2015).
13. Fiat Chrysler Automobiles NV (Netherlands) attempted to acquire Volkswagen AG (Germany) – 100% acquisition (Rumour – Expired, 08/09/2017).
14. Fiat Spa (Italy) attempted to acquire Rcs Mediagroup Spa (Italy) – Capital increase unknown stake (Completed, 22/07/2013).
15. Guangzhou Automobile Group co., Ltd. (China) attempted to acquire Fiat Chrysler Automobiles NV (Netherlands) – Acquisition unknown majority stake (Rumour – Expired, 18/05/2016).
16. Micromobility.com Inc. (USA) attempted to acquire Hopium SA (France) – Capital increase unknown stake (Rumour, 16/10/2023).
17. Peugeot SA (France) attempted to acquire Fiat Chrysler Automobiles NV (Netherlands) – 100% acquisition (Rumour – Expired, 12/03/2015).
18. Porsche Automobil Holding SE (Germany) attempted to acquire Volkswagen AG (Germany) – Acquisition increased from 50.7% to 52.2% (Completed, 26/09/2015).
19. Porsche Automobil Holding SE (Germany) attempted to acquire Volkswagen AG (Germany) – Acquisition increased from 52.2% to 53.1% (Completed, 19/03/2019).
20. Porsche Automobil Holding SE (Germany) attempted to acquire Volkswagen AG (Germany) – Acquisition unknown stake (Rumour – Expired, 19/03/2019).
21. Putnam Investments LLC (USA) attempted to acquire Atlas Crest Investment Corporation (USA) – Capital increase 16% (Completed assumed, 30/06/2021).
22. Renault SA (France) attempted to acquire Daimler AG (Germany) – Capital increase 3.1% (Completed assumed, 08/04/2012).
23. Renault SA (France) attempted to acquire Mercedes-Benz Group AG (Germany) – 100% acquisition (Rumour – Expired, 23/04/2020).
24. Renault SA (France) attempted to acquire Nissan Motor Co., Ltd. (Japan) – Capital increase 1.97% (Completed assumed, 07/04/2012).

25. Renault SA (France) attempted to acquire Transition SA (France) – Capital increase 31.035% (Pending – awaiting shareholder approval, 28/07/2023).
26. Renault SA (France) attempted to acquire Transition SA (France) – Capital increase unknown stake (Pending – awaiting shareholder approval, 28/07/2023).
27. Stellantis NV (Netherlands) attempted to acquire Alliance nickel Ltd. (Australia) – Capital increase 11.481% (Completed, 28/09/2023).
28. Stellantis NV (Netherlands) attempted to acquire Element 25 Ltd. (Australia) – Capital increase 10.376% (Completed, 11/07/2023).
29. Stellantis NV (Netherlands) attempted to acquire Fiat Chrysler Automobiles NV (Netherlands) – 100% acquisition (Withdrawn, 16/01/2021).
30. Stellantis NV (Netherlands) attempted to acquire Kuniko Ltd. (Australia) – Capital increase 24.836% (Completed, 17/07/2023).
31. Stellantis NV (Netherlands) attempted to acquire Renault SA (France) – 100% merger (Rumour – Withdrawn, 06/06/2019).
32. Stellantis NV (Netherlands) attempted to acquire Renault SA (France) – 100% acquisition (Rumour, 05/02/2024).
33. Stellantis NV (Netherlands) attempted to acquire Renault SA (France) – 100% merger (Rumour – Expired, 10/06/2019).
34. Stellantis NV (Netherlands) attempted to acquire Vulcan Energy Resources Ltd. (Australia) – Capital increase 8.001% (Completed, 28/06/2022).
35. Stellantis NV (Netherlands) attempted to acquire Zhejiang Leapmotor Technology Co., Ltd. (China) – Capital increase 14.53% (Completed, 20/11/2023).
36. Volkswagen AG (Germany) attempted to acquire Anhui Jianghuai Automobile Group Corporation Ltd. (China) – 50% acquisition (Completed assumed, 31/07/2020).
37. Volkswagen AG (Germany) attempted to acquire Dr Ing hc F Porsche AG (Germany) – Acquisition increased from 49.9% to 100% (Completed, 01/08/2012).
38. Volkswagen AG (Germany) attempted to acquire Gotion High-tech Co., Ltd. (China) – Capital increase 20% (Rumour – Expired, 23/08/2019).

39. Volkswagen AG (Germany) attempted to acquire Paccar Inc. (USA) – 100% acquisition (Rumour – Withdrawn, 29/07/2014).
40. Volkswagen AG (Germany) attempted to acquire Quantumscape Corporation (USA) – Capital increase unknown stake (Completed assumed, 21/12/2020).
41. Volkswagen AG (Germany) attempted to acquire Quantumscape Corporation (USA) – Capital increase 20.199% (Completed, 13/09/2018).
42. Volkswagen AG (Germany) attempted to acquire Rivian Automotive Inc. (USA) – Capital increase unknown stake (Completed assumed, 25/06/2024).
43. Volkswagen AG (Germany) attempted to acquire Sigma Lithium Corporation (Canada) –100% acquisition (Rumour – Informal offer/non-binding, 28/07/2023).
44. Volkswagen AG (Germany) attempted to acquire Sixt SE (Germany) – Capital increase 15% (Rumour – Expired, 16/09/2020).
45. Volkswagen AG (Germany) attempted to acquire Suzuki Motor Corporation (Japan) – Acquisition increased from 19.893% to 100% (Rumour – Expired, 18/09/2011).
46. Volkswagen AG (Germany) attempted to acquire Suzuki Motor Corporation (Japan) – Capital increase 19.893% (Completed, 15/01/2010).
47. Volkswagen AG (Germany) attempted to acquire Suzuki Motor Corporation (Japan) – Capital increase 0.652% (Completed, 23/06/2010).