EUROPEAN CLUSTER
COLLABORATION PLATFORM

Input paper on the cluster policy landscapes and collaboration opportunities in the European Union and selected Latin American countries

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Executive Summary

This input paper presents the economic profile and the cluster landscape of four selected countries in Latin America: Brazil, Chile, Colombia and Mexico. These four countries have previously been selected based on various quantitative and qualitative factors.[1] The first part of this paper shows the economic profiles of these four countries, which is followed by an assessment of key value chains between the EU and the four selected countries. In the second part of the paper, a closer look is taken at the existing cluster landscapes and policies in Brazil, Chile, Colombia and Mexico as well as existing and possible future cluster cooperation between the EU and these countries.

Economic profile of selected Latin American countries: Brazil, Chile, Colombia & Mexico

- The countries of **Brazil, Chile, Colombia, and Mexico** have a combined population of 417 million, accounting for 66% of the total GDP of LATAM Member States, which amounts to approximately EUR 6.6 trillion. Even though the combined economy of Latin America faced significant volatility and three recessions over the last 30 years, it demonstrated resilience and substantial growth over the period.
- **Brazil's economy** has shown steady yet volatile growth, averaging 2.3% over the past two decades. In 2023, Brazil's GDP stood at EUR 1,761.8 billion, making it the largest economy in Latin America, with a GDP per capita PPP of EUR 19,000. Key sectors include financial services, public administration, and manufacturing, while exports are dominated by agricultural products, minerals, and services.
- **Chile's economy** has experienced solid and consistent growth, averaging 3.8% over the past two decades. In 2023, Chile's GDP reached EUR 252.1 billion, with the highest GDP per capita PPP in Latin America at EUR 31,800. Key sectors include financial services, public administration, and mining, with exports led by copper, agriculture, and metals, highlighting Chile's position as the world's largest copper producer.
- **Colombia's economy** has been volatile, with an average growth rate of 3.3% over the past two decades. In 2023, Colombia's GDP stood at EUR 321.6 billion, with a GDP per capita PPP of EUR 19,900. Key sectors include financial services, public administration, and wholesale trade, while exports are largely driven by petroleum, coal, and agriculture, with coffee as the main export.
- **Mexico's economy** has experienced steady but modest growth, averaging 2% over the last two decades. In 2023, Mexico's GDP reached EUR 1.2 trillion, with a GDP per capita PPP of EUR 23,859. Key sectors include wholesale trade, hospitality, manufacturing, and financial services, while exports are dominated by the manufacturing sector, particularly vehicles, machinery, and electrical equipment. Tourism also plays a significant role in Mexico's service exports.

[1] These include the size of the economy, trade volume with the EU27, trade openness, economic complexity.

EU27 business & value chains with Brazil, Chile, Colombia & Mexico

- Out of the four selected countries, Brazil and Mexico are the two **most important trading partners** for the EU27 by trade volume.
- The **trade structure** between the four countries is highly diverse. For Brazil and Chile, especially Agri-food value chains and crude materials & mineral fuels are among the most traded commodities. Imports from Colombia are dominated by coal. Commodities related to the Mobility-Transport-Automotive & Aerospace ecosystem are especially prevalent in the trade between the EU27 and Mexico.
- Looking ahead, the selected countries also show great relevance and potential for the **Green Transition** and the **Digital Transition**. This is based on the potential supply of strategic raw materials as well as advances in hydrogen and renewable energy.

Cluster Landscapes and Policy of Brazil, Chile, Colombia & Mexico

- Although the definition of a cluster organisation may differ from the European understanding, **organisations and the related policies have a relatively long history** in the four assessed Latin American countries.
- The cluster landscape of **Brazil** consists of 73 cluster organisations. Most of those are linked to the agricultural sector (65), with the remaining ones being manufacturing cluster organisations (8). Brazil's cluster policy, centered on Local Production Systems (APLs), focuses on collaboration, infrastructure, technology transfer, and strategic coordination to drive industrial and regional development.
- In **Chile**, 41 cluster organisations operate all over the country. These cluster organisations are linked to the tourism and agriculture sectors (14), followed by entertainment and arts (4) and electricity, water, and gas (3). Chile's cluster policy has evolved from being non-existent to playing a significant role in the Andean economy, focusing on smart specialisation in six key sectors and supporting small businesses and innovation through initiatives like Serotec and CORFO.
- **Colombia** is home to 85 cluster organisations, which operate in many different sectors. Most of them are linked to manufacturing (20), followed by agriculture (17) and public services & health (10). There is no dedicated framework at either the national or regional level. Instead, the Colombian cluster policy is characterised by a mix of industrial- and independent regional policies. Red Cluster Colombia serves as the National Cluster Network in Colombia.
- The **Mexican** cluster landscape is characterised by 24 cluster organisations. Most of these cluster organisations are linked to manufacturing sectors (9), followed by agriculture (4) and tourism (3). Mexico's cluster policy has been evolving since the 1990s, driven by the National Science and Technology Council (CONACYT), which promotes science, technology, and innovation through initiatives like the "Special Program for Science, Technology and Innovation 2021-2024," focusing on social well-being, environmental care, and biocultural protection.

Outlook: Potential for future EU – Latin American cluster collaboration

- The assessments in this input paper show the different strengths of the four selected Latin American countries and the potential for further collaboration. Many different existing ties between **European cluster organisations and organisations in Latin American** countries can be found, not least due to s such as the Low Carbon Business Action (LCBA) and the European Strategic Cluster Partnerships – Going International (ESCP-4i). Moreover, the four Latin American countries are among the 15 **most targeted countries for internationalisation activities** of ECCP-registered cluster organisations.
- The various **trade agreements** between the EU and the four Latin American countries offer further opportunities in strengthen collaboration between said regions. As of December 2024, one can highlight the **EU-Mercosur Trade Agreement**, which covers Brazil and the EU-Colombia-Peru-Ecuador Trade

Agreement for Colombia. Moreover, the EU-Chile Advanced Framework has recently been signed and there is an agreement “in principle” on key trade aspects between the EU and Mexico.

- Further starting points for collaboration include the **EU-LAC Global Gateway Investment Agenda**, which focuses on topics of the Twin Transition and in this context, one can highlight the existing Memorandum of Understanding between the EU and Chile to further strengthen cooperation on sustainable critical raw materials. In addition, the **Horizon Europe** funding programme is generally open to participants from Latin America and participants from Colombia are also eligible for funding under this programme.
- The **ECCP's dedicated collaboration services** provide access to over 1,200 EU cluster organisations. As of October 2024, 25 cluster organisations from Mexico and two cluster organisations from Colombia are registered on the ECCP. No cluster organisations from Brazil and Chile are profiled on the ECCP, indicating potential for future registrations from these Latin America countries.

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Economic profile of selected Latin American countries: Brazil, Chile, Colombia & Mexico

EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

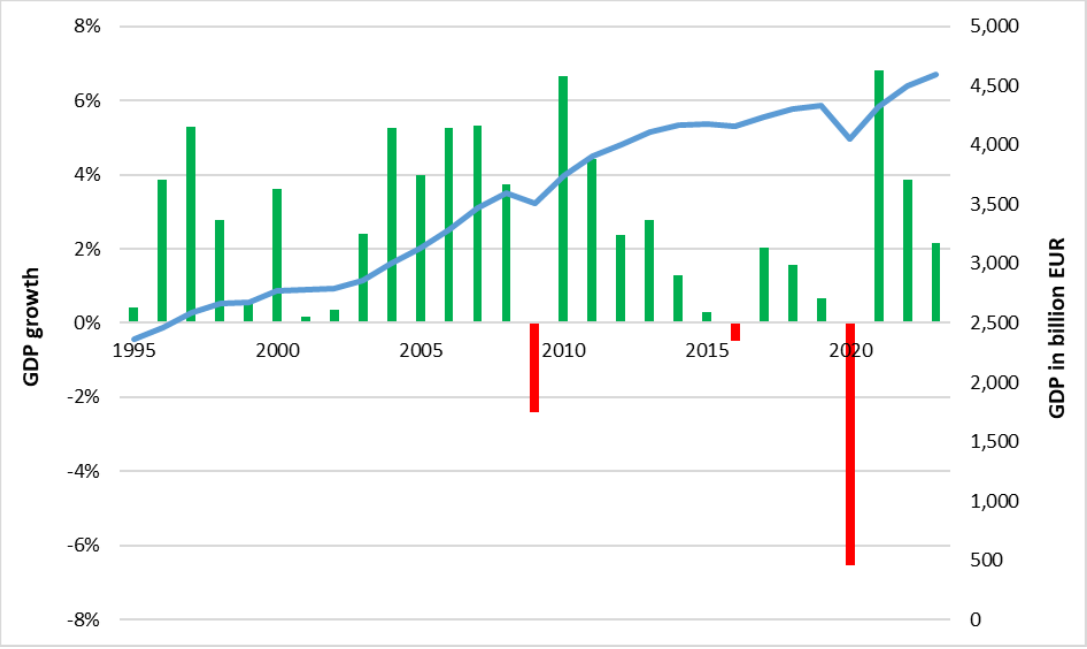
1. Economic profile of selected Latin American countries: Brazil, Chile, Colombia & Mexico

This section offers an overview of the economic structure and key sectors of four selected Latin American countries—Brazil, Chile, Colombia, and Mexico. The analysis is based on secondary data sources, such as the World Bank and data from the Economic Commission for Latin America and the Caribbean (CEPAL), to ensure consistent and comparable insights across countries. These four countries were selected based on an assessment of various quantitative and qualitative factors.[2] Each of the countries provides a unique economic structure, which will be presented in the following sub-chapters.

1.1 The Latin American economy

The region of Latin America[3] hosts a population of 417 million, slightly less than the EU27 countries (449 million). Even though the combined economy of Latin America faced a lot of volatility and three recessions over the last 30 years, the economy nearly doubled. In 2023 the GDP (constant 2015 EUR) stood at EUR 4.6 trillion compared to EUR 2.4 trillion in 1995 as seen in Figure 1.

Figure 1: GDP growth (left) and GDP in constant 2015 EUR (right) of Latin America



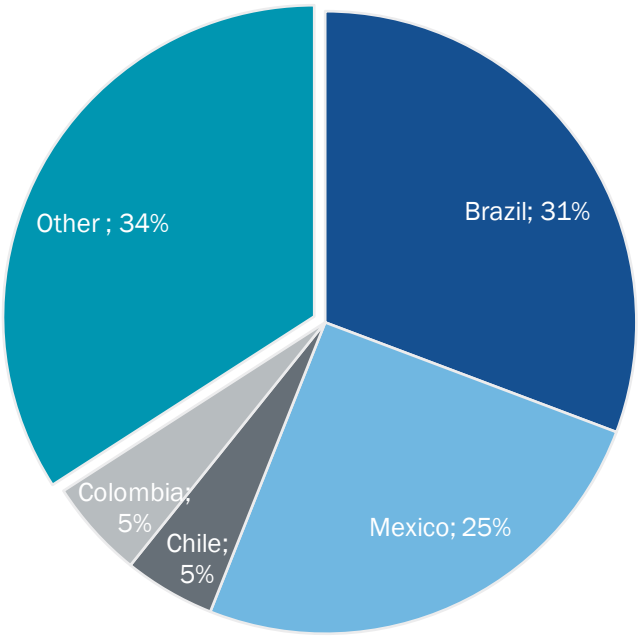
Source: ECCP (2024), own calculation based on the World Bank. Note: USD has been converted to EUR based on the ECB data.

[2] These include the size of the economy, trade volume with the EU27, trade openness, economic complexity.
[3] The definition of Latin America used in this chapter includes the Caribbean islands.

Among Latin American nations, Brazil, Mexico, Chile, and Colombia play a central role in shaping the region's economic landscape. Together, these four countries have a combined population of 417 million, comparable to the EU27's population of 449 million. Economically, they contribute 66% of Latin America's total GDP, amounting to approximately EUR 4.3 trillion, underscoring their significance as key drivers of growth within the region.

Brazil is the largest economy in Latin America, contributing 31% of the region's total GDP with a value of EUR 1.76 trillion. Mexico follows as the second-largest contributor at 25%, while Chile and Colombia each account for 5% of the region's GDP. The remaining 34% is distributed among other Latin American countries, as shown in Figure 2.

Figure 2: Latin American GDP share by country



Source: ECCP (2024), own calculation based on the World Bank.

1.2 Brazil: Economy & key sectors

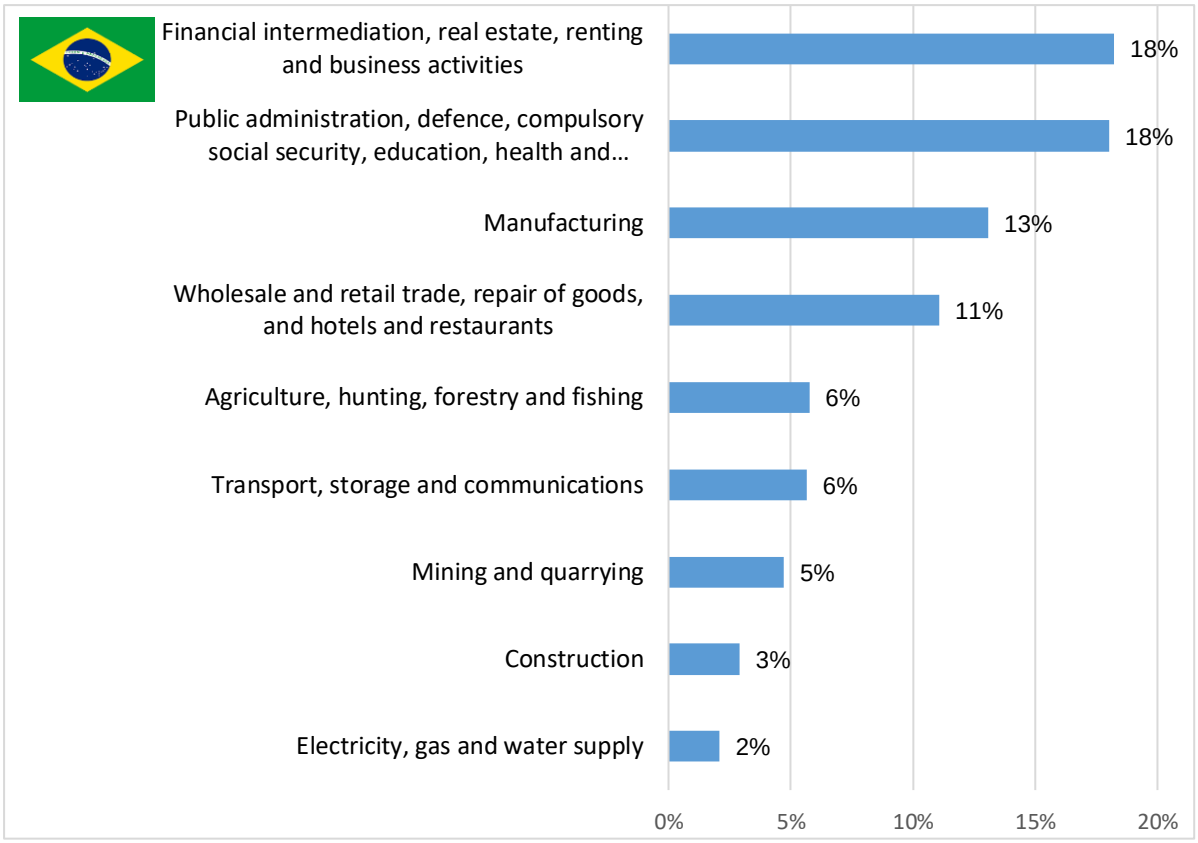
With a population of 216.4 million, Brazil is the most populous country in Latin America.[4] In 2023, the country recorded a total GDP of approximately EUR 2.0 trillion (current prices), establishing itself as the largest economy in the region.[5] Its GDP per capita (PPP) in the same year was EUR 19,026, slightly below the average for Latin America and the Caribbean (EUR 20,171).[6] Economic growth in Brazil has been highly volatile over the last two decades with an average growth rate of 2.3%.

Figure 3 illustrates the contribution of various economic sectors to GDP, providing an overview of the **key sectors** driving the Brazilian economy. The largest contributors to Brazil's GDP in 2022 were "Financial intermediation, real estate, renting, and business activities" and "Public administration, defence, etc.," each accounting for 18% of the total GDP. The financial sector, in particular, demonstrated notable resilience, playing a crucial role in

[4] World Bank (2024): Population, total . Data retrieved on 30.09.2024.
[5] World Bank (2024): GDP (current US$). Data retrieved on 30.09.2024.
[6] World Bank (2024): GDP per capita, PPP (current international $). Data retrieved on 30.09.2024.

supporting economic recovery during the COVID-19 pandemic.[9] The manufacturing sector followed, contributing 13% to the GDP, highlighting Brazil's industrial strength in areas such as automotive, machinery, and processed goods. Additionally, "Wholesale, retail trade, repair of goods, and hotels and restaurants" accounted for 11% of GDP, reflecting the significance of consumer-driven activities within the economy. Other notable sectors included "Transport, storage, and communications" (6%), "Agriculture, hunting, forestry, and fishing" (6%), "Mining and quarrying" (5%), "Construction" (3%), and the "Electricity, gas, and water supply" sector (2%). These figures highlight the diversified nature of Brazil's economy and the contributions of various sectors to its overall performance.

Figure 3: GDP share by sector in Brazil, in 2022



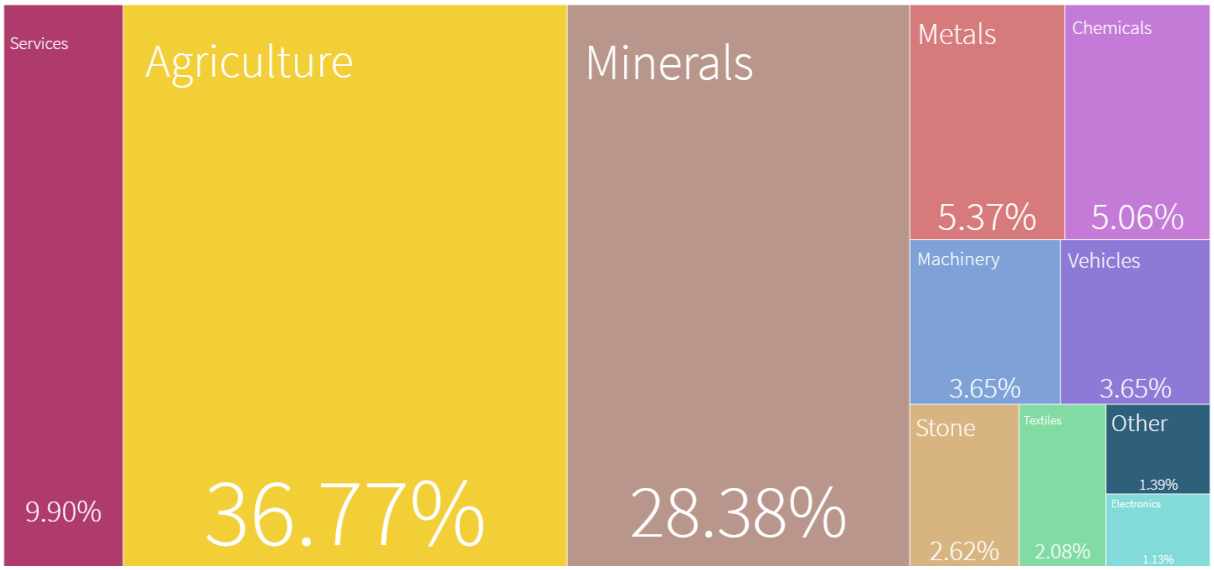
Source: ECCP (2024), own calculation based on CEPALSTAT.

Figure 4 provides an overview of the **leading export sectors**, highlighting their share of total exports. Despite agriculture contributing only 6% of GDP, it remains the most significant export sector, accounting for 37% of total exports. Soybeans alone represent 13% of Brazil's exports, reflecting their growing importance in recent economic cycles. While soybean exports have historically been vital to Brazil's economy, their relevance has increased steadily, even in the face of challenges such as global supply chain disruptions and changing market

[9] IMF (2021): Country Report Brazil 2021. Available online: https://www.imf.org/en/Publications/CR/Issues/2021/09/22/Brazil-2021-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-466076 (last access 07.11.2024).

dynamics. [11] Minerals constitute the second-largest export category, representing 28% of total exports. These are predominantly exported to countries in Asia and Oceania, with China being the largest importer, followed by Malaysia, Japan, Bahrain, and Oman.[12] The services sector accounts for 10% of Brazil's total exports, with tourism playing a relatively minor role within this category. This distribution underscores the diversity of Brazil's export base and its reliance on both primary and industrial sectors for trade revenue.

Figure 4: Brazil's composition of export sectors by share, in 2021



Source: Atlas of Economic Complexity (2024).

[11] See https://www.indexbox.io/blog/brazil-soya-bean-exports-2023-1/#:~:text=Soya%20Bean%20Export%20in%20Brazil%20Climbs%2014%25%20to,exports.%20...%203%20Export%20Prices%20by%20Country%20 (last access 07.11.2024).

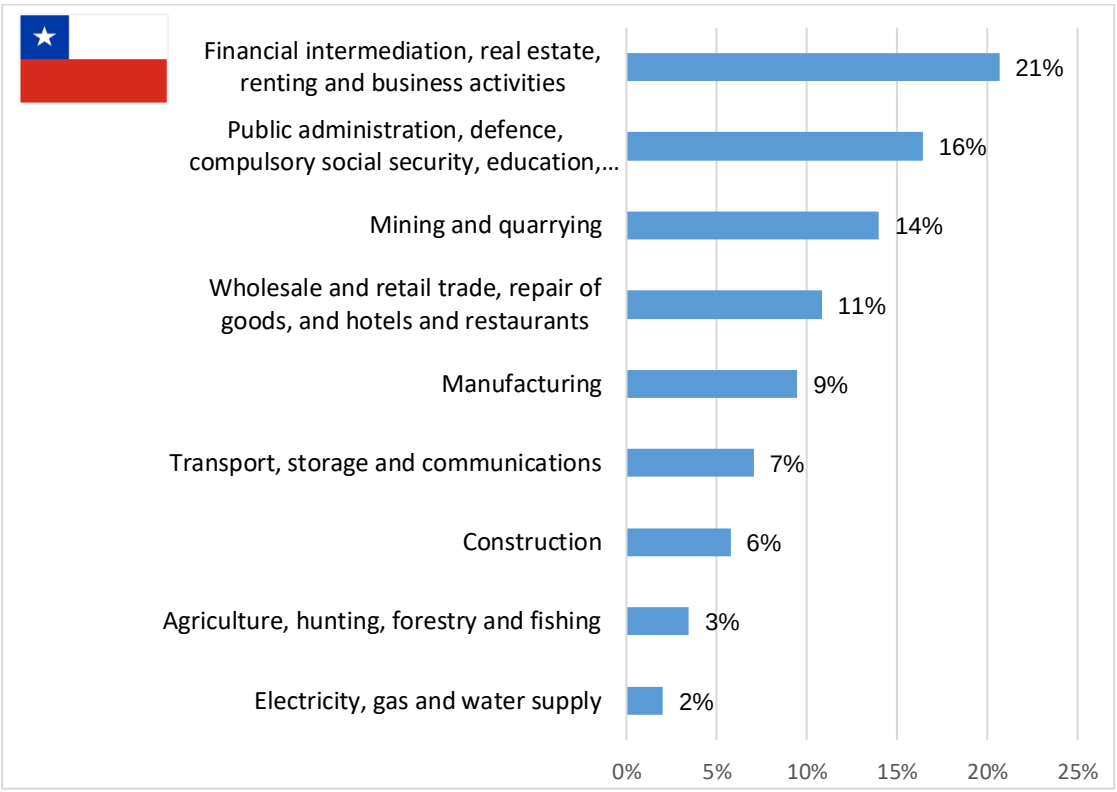
[12] See https://wits.worldbank.org/CountryProfile/en/Country/BRA/Year/2021/TradeFlow/Export/Partner/all/Product/25-26_Minerals#:~:text=In%202021%2C%20the%20top%20partner%20countries%20and%20regions,Minerals%20include%20China%2C%20Malaysia%2C%20Japan%2C%20Bahrain%20and%20Oman. (last access 08.11.2024).

1.3 Chile: Economy & key sectors

With a population of 19.6 million inhabitants, Chile is one of Latin America's medium populated countries and by far the least-populated Latin American country analysed in this paper[16]. In 2023, the economy had a total GDP of EUR 310 billion (current prices)[17], implying that the GDP per capita PPP reached EUR 30.765 in that year, being the highest among the four Latin American countries analysed, thus above Latin America's average (EUR 20.171).[18] Over the last few decades, Chile's average economic growth has presented a solid 3,5%.

Figure 5 illustrates the contribution of various economic sectors to GDP, providing an overview of the **key sectors** driving the Chilean economy. In 2022, the activities that contributed the most to the Chilean Annual Gross Domestic Product (GDP) were "Financial intermediation, real estate, renting and business activities", representing 21% of annual GDP, followed by "Public administration, defence, compulsory social security, education, health and social work, and other community, social and personal service activities" (16%), and "Mining and quarrying" (14%). The rest of the activities that contribute to GDP are "Wholesale and retail trade, repair of goods, and hotels and restaurants" (11%), "Manufacturing" (9%), "Transport, storage and communications" (7%), "Construction" (6%), "Agriculture, hunting, forestry and fishing" (3%) and "Electricity, gas and water supply" (2%). The good performance in these fields made Chile one of the better performing Latin American countries in the last years, in GDP growth and GDP per capita terms[19].

Figure 5: GDP share by sector in Chile, in 2022

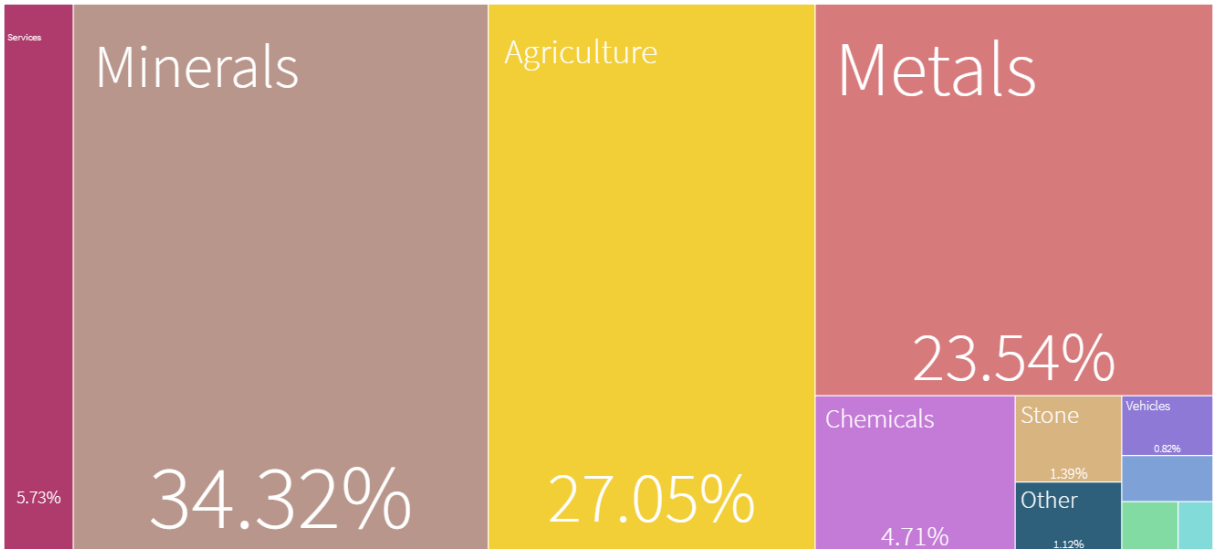


Source: ECCP (2024), own calculation based on CEPALSTAT.

[16] World Bank (2024): Population, total . Data retrieved on 30.09.2024.
[17] World Bank (2024): GDP (current US$). Data retrieved on 30.09.2024.
[18] World Bank (2024): GDP per capita, PPP (current international $). Data retrieved on 30.09.2024.
[19] World Bank data (last access 08.11.2024).

Figure 6 provides an overview of the **leading export sectors**, highlighting their share of total exports. Figure 6 shows the importance of the mining sector by representing 14% of GDP, which is further underlined by the export structure of Chile. Minerals represent 34% of total exports with copper alone accounting for 29% of total exports. This mineral external trade is mainly directed to China, the US, Japan, South Korea and Brazil, making it the World's biggest Copper Ore exporter in the year 2022[20]. Chile also has the world's largest lithium reserves[21] while being the second largest producer in 2023.[22] This is followed by agriculture (27%) and metals (24%) with the most exported goods being refined copper and copper alloys (19% of total exports). The export structure highlights the importance of copper for Chile as the country is the world's largest producer of copper. [23]

Figure 6: Chile's composition of export sectors by share, in 2021



Source: Atlas of Economic Complexity (2024).

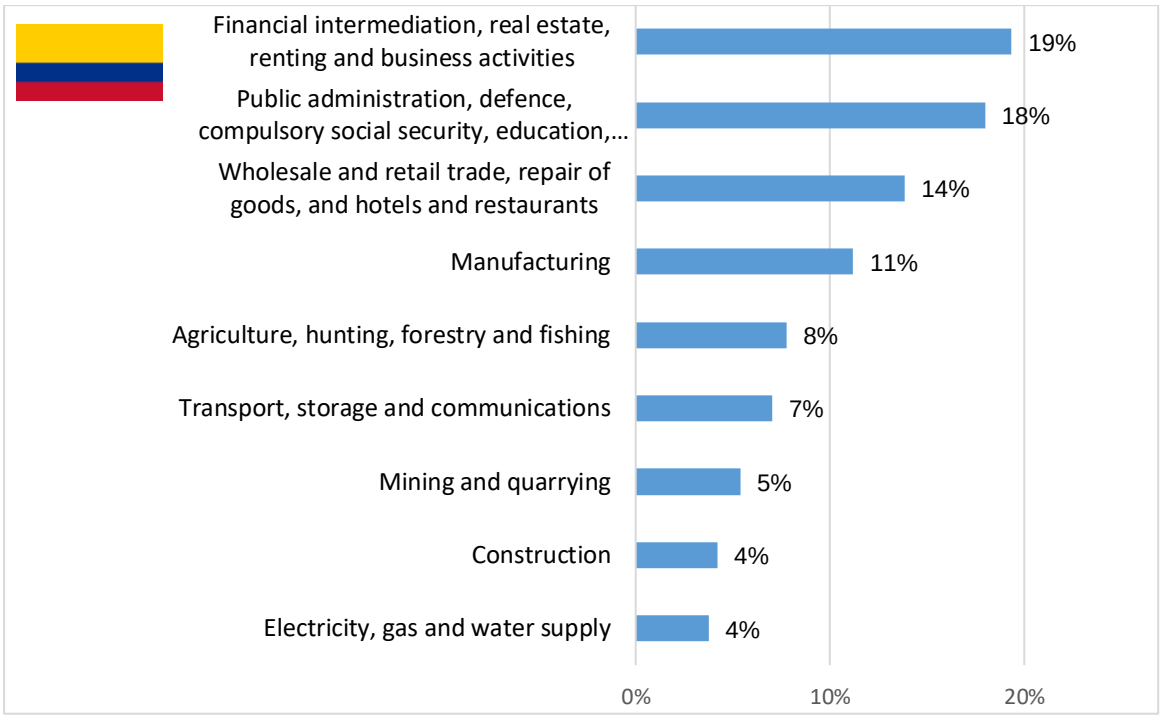
[20] See OEC World Chile (last access 08.11.2024).
[21] Columbia University (2024): A Journey Through Chile's Lithium Landscape. Available under: https://globalcenters.columbia.edu/news/journey-through-chiles-lithium-landscape#!#:~:text=Within%20the%20%E2%80%9Clithium%20triangle,%E2%80%9D%20Chile%20has%20the%20world's,production%20experienced%20a%20threefold%20increase%20from%202015%20onwards (last access 08.11.2024).
[22] U.S. Geological Survey (2024): Lithium. Available online: https://pubs.usgs.gov/periodicals/mcs2024/mcs2024-lithium.pdf (last access 28.11.2024).
[23] See also IMF (2021): Chile: A Role Model of Export Diversification Policies? Available online: https://www.imf.org/en/Publications/WP/Issues/2021/05/27/Chile-A-Role-Model-of-Export-Diversification-Policies-50220 (last access 08.11.2024).

1.4 Colombia: Economy & key sectors

Colombia is, with a population of 52 million people, Latin America's third most populated country, behind Mexico and Brazil, which places it as well as the third most populated country among the ones analysed in this paper[24]. In the year 2023, the economy had a total GDP of EUR 336 billion (current prices)[25], which has implied that Colombia's GDP per capita PPP reached in that same year EUR 19.917, slightly below the Latin American average (EUR 20,171)[26]. Economic growth in Colombia has been highly volatile over the last decades, although the country has still managed to average on 3,7%.

Figure 7 illustrates the contribution of various economic sectors to GDP, providing an overview of the **key sectors** driving the Colombian economy. The sectors that contributed most to the Colombian GDP in the year 2021 were, "Financial intermediation, real estate, renting and business activities", representing 19% of GDP, followed by "Public administration, defence, compulsory social security, education, health and social work, and other community, social and personal service activities", (18%) and "Wholesale and retail trade, repair of goods, and hotels and restaurants activities", with 14% of GDP. Additionally, other activities that contributed to Colombia´s Annual GDP were "Manufacturing" (11%), "Agriculture, hunting, forestry and fishing" (8%), "Transport, storage and communications" (7%), "Mining and quarrying" (5%), "Construction" (4%) and "Electricity, gas and water supply" (4%).

Figure 7: GDP share by sector in Colombia, in 2022

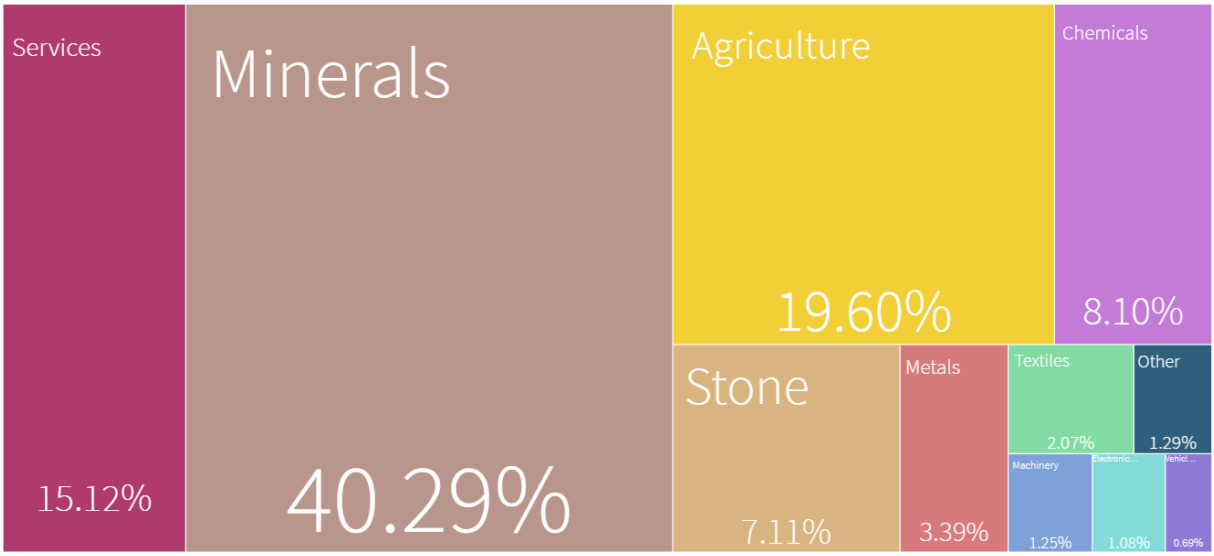


Source: ECCP (2024), own calculation based on CEPALSTAT.

[24] World Bank (2024): Population, total . Data retrieved on 30.09.2024.
[25] World Bank (2024): GDP (current US$). Data retrieved on 30.09.2024.
[26] World Bank (2024): GDP per capita, PPP (current international $). Data retrieved on 30.09.2024.

Figure 8 provides overview of the **leading export sectors**, highlighting their share of total exports. Even though mining and quarrying only accounted for 5% of the GDP in 2021, it represented 40% of total exports with petroleum oils and coal accounting for 23% and 10% of total exports. Despite declining production, security issues, infrastructure constraints and environmental and regulatory pressures, Oil and petroleum remain the most relevant exports for the Latin American country[27]. This is followed by the agricultural sector (20% of total exports), with coffee being the most exported agricultural goods. This figure makes Colombia the third biggest Coffee exporter in the World after Brazil and Vietnam, being the US and the European Union the markets where this good is imported.[28] The service sector represented 15% of total exports. Although the importance of service exports is currently lagging, Colombia's service exports are clearly growing, particularly in IT and business process outsourcing (BPO)[29].

Figure 8: Colombia's export sectors by share, in 2021



Source: Atlas of Economic Complexity (2024).

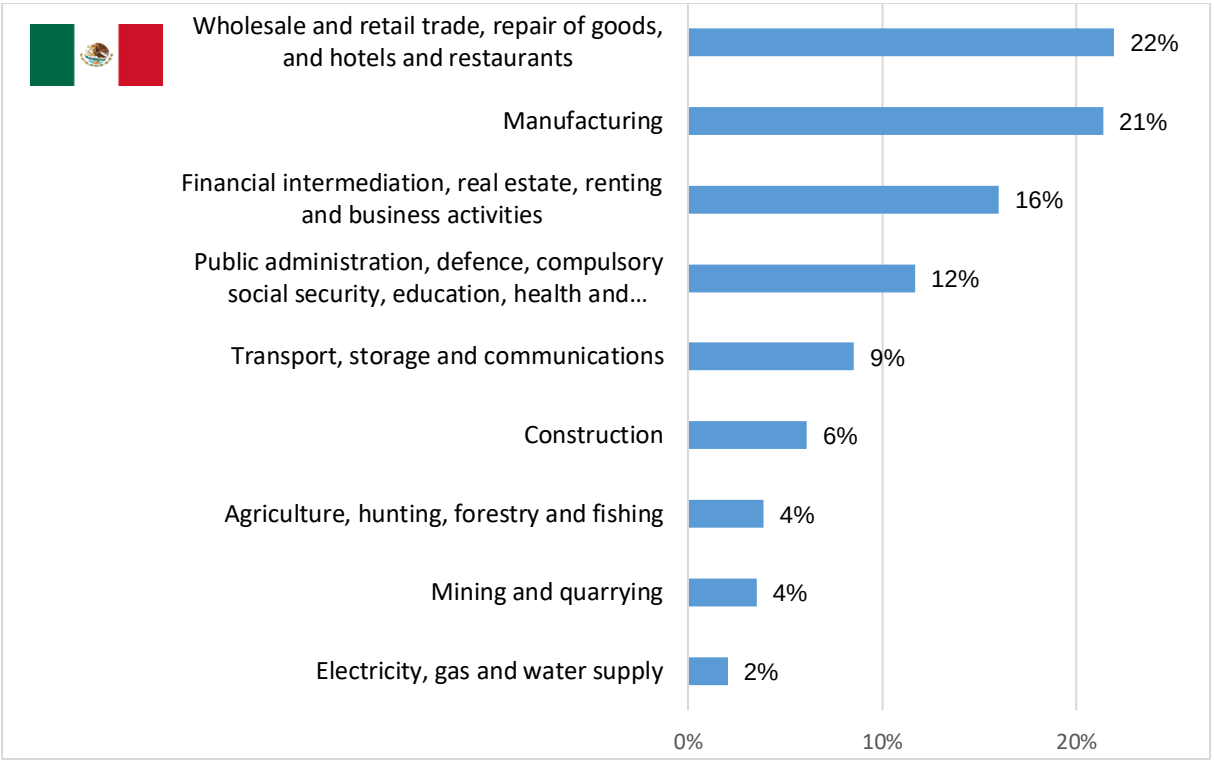
1.5 Mexico: Economy & key sectors

Surpassing 128 million people living inside its borders, Mexico ranks second in the list of Latin America's most populated countries, just after Brazil. It is also the second most populated Latin American country mentioned in this paper[30]. In 2023, the economy had a total GDP of EUR 1.65 trillion (current prices)[31]. Thus, Mexico's 2023 GDP per capita PPP reached EUR 23.664, just above Latin America's average (EUR 20,171)[32]. Mexico's average economic growth has been the smallest among the four Latin American countries just with 1,7%.

[27] IMF (2023): Export Diversification in Colombia: A Way Forward and Implications for Energy Transition. Available online: https://www.elibrary.imf.org/view/journals/002/2023/121/article-A003-en.xml (last access 08.11.2024) .
[28] See https://www.fao.org/markets-and-trade/commodities-overview/food-and-agricultural-markets-analysis-FAMA/coffee/es#:~:text=Los%20mayores%20pa%C3%ADses%20productores%20de%20caf%C3%A9%20son%20el,Am%C3%A9rica%20son%20los%20mayores%20mercados%20consumidores%20e%20importadores. (last access 08.11.2024).
[29] See https://www.trade.gov/country-commercial-guides/colombia-information-and-communication-technology-ict (last access 08.11.2024).
[30] World Bank (2024): Population, total . Data retrieved on 30.09.2024.
[31] World Bank (2024): GDP (current US$). Data retrieved on 30.09.2024.
[32] World Bank (2024): GDP per capita, PPP (current international $). Data retrieved on 30.09.2024.

Figure 9 illustrates the contribution of various economic sectors to GDP, providing an overview of the **key sectors** driving the Mexican economy. Regarding 2022 data on Mexico´s share of annual GDP by activity, the one that contributed most to annual GDP is "Wholesale and retail trade, repair of goods, and hotels and restaurants", implying 22% of GDP. The "Manufacturing" industry is of great importance for the country, comprehending 21% of GDP mainly focusing on aerospace, automotive, electronics, medical devices and applied manufacturing productivity[33]. "Financial intermediation, real estate, renting and business activities", land in the third position, and contribute by 16% to GDP. Other activities that also had a relevant share in Annual GDP in Mexico were "Public administration, defence, compulsory social security, education, health and social work, and other community, social and personal service activities" (12%), "Transport, storage and communications" (9%), "Construction" (6%), "Agriculture, hunting, forestry and fishing" (4%), "Mining and quarrying" (4%) and "Electricity, gas and water supply" (2%).

Figure 9: GDP share by sector in Mexico, in 2022



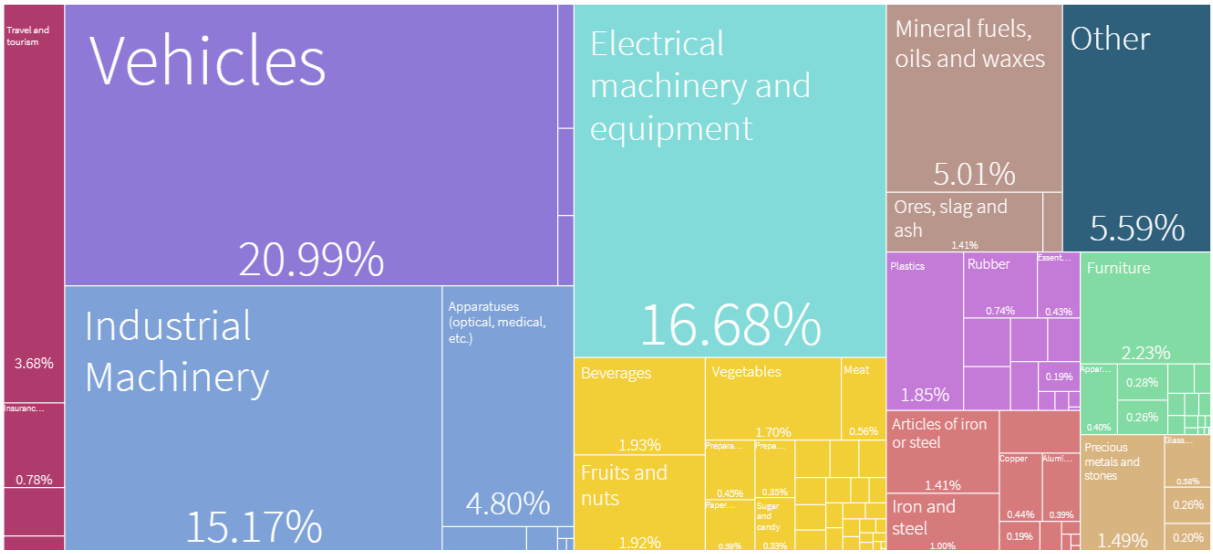
Source: ECCP (2024), own calculation based on CEPALSTAT.

Figure 10 provides an overview of the **leading export sectors**, highlighting their share of total exports. As the manufacturing sector accounted for 21% of Mexico's GDP in 2021, this part of the economy corresponded to more than 67% of the country's exports. The vehicles (22%), machinery- (21%), and electrical and machinery equipment- industries (17%) corresponded to the most significant industries for Mexican exports. These vehicles and manufacturing products are mainly exported to the US and Canada, but also to other Latin American countries, such as Brazil, or even other countries like Germany or China. In fact, around 80% of Mexican vehicle

[33] See https://insights.tetakawi.com/manufacturing-in-mexico-everything-you-need-to-know#:~:text=Major%20manufacturing%20industries%20in%20Mexico%201%201.%20Aerospace,5%205.%20Appliance%20Manufacturing%20and%20Furniture%20Manufacturing%20 (last seen 08.11.2024).

exports go to the United States, making it by far the primary destination[34]. Next in relevance appears to be the Agricultural sector (9%) as the most important primary sector exporting activity. The topmost exported products concerning Mexico's agricultural exports include avocados, tomatoes, berries and peppers among others, being again the US the biggest importer of all these products.[35] Concerning the Service sector (5% of total exports), tourism is the activity that most contributed to exports on this terrain (4% of total exports).

Figure 10: Mexico's composition of export sectors by share, in 2021



Source: Atlas of Economic Complexity (2024).

[34] See https://latinamericanpost.com/business-and-finance/mexico-rises-in-global-automotive-exports-boosted-by-strong-industry/#:~:text=Among%20the%20most%20exported%20vehicles%20from%20Mexico%20in,Canada%2C%20several%20Latin%20American%20countries%2C%20and%20other%20regions. (last access 08.11.2024).

[35] See https://www.trade.gov/country-commercial-guides/mexico-agriculture (last access 08.11.2024).

02

EU27 business & value chains with Brazil, Chile, Colombia & Mexico

EUROPEAN CLUSTER COLLABORATION PLATFORM

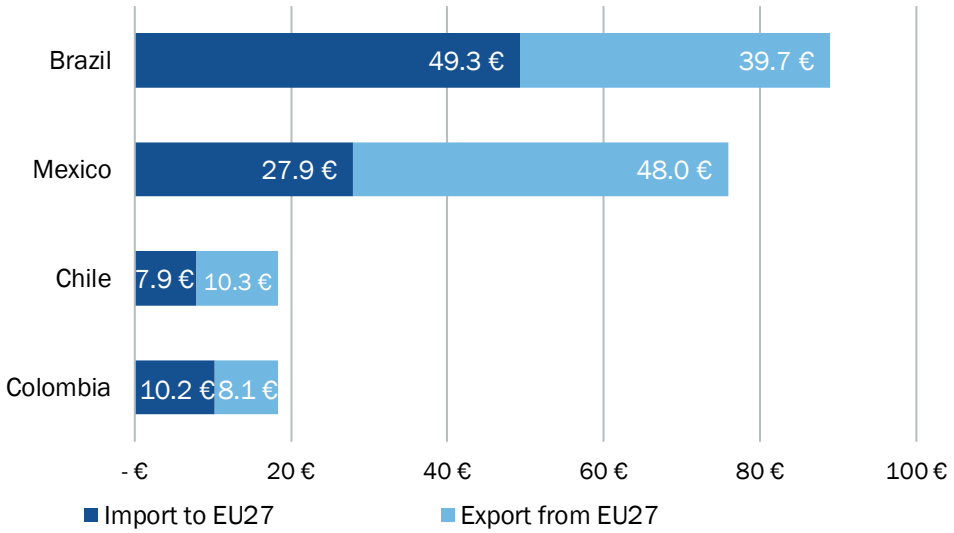
Strengthening the European economy through collaboration

2. EU27 business & value chains with Brazil, Chile, Colombia & Mexico

This chapter focuses on outlining important value chains between the EU27 and Brazil, Chile, Colombia & Mexico. Below are the main trading partners of the selected Latin American countries in the EU27, as well as the main sectors and commodities that dominate the trade flows between these regions. To achieve this purpose, the UN Comtrade database has been used as a key source of information to gain insights into the trade flows between the EU27 Member States and the Latin American countries.

To give a broad overview of the situation, Figure 11 shows the **trade volumes** between Brazil, Mexico, Chile and Colombia and the EU27 by imports and exports. The figure shows that the largest trade volume is found in the trade between the EU and Brazil (EUR 89 billion), followed by the trade volume between the EU and Mexico (EUR 76 billion). The total trade between the EU and Chile and the EU and Colombia amounts to around EUR 18 billion respectively. The trade with Mexico results in an approximately EUR 20 billion surplus for the EU, while it turns out to be an almost EUR 9.6 billion deficit on the EU's site in the trade relation with Brazil.

Figure 11: Trade volume between Brazil, Mexico, Chile & Colombia and the EU27, by import / export in 2022, values in billion EUR



Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

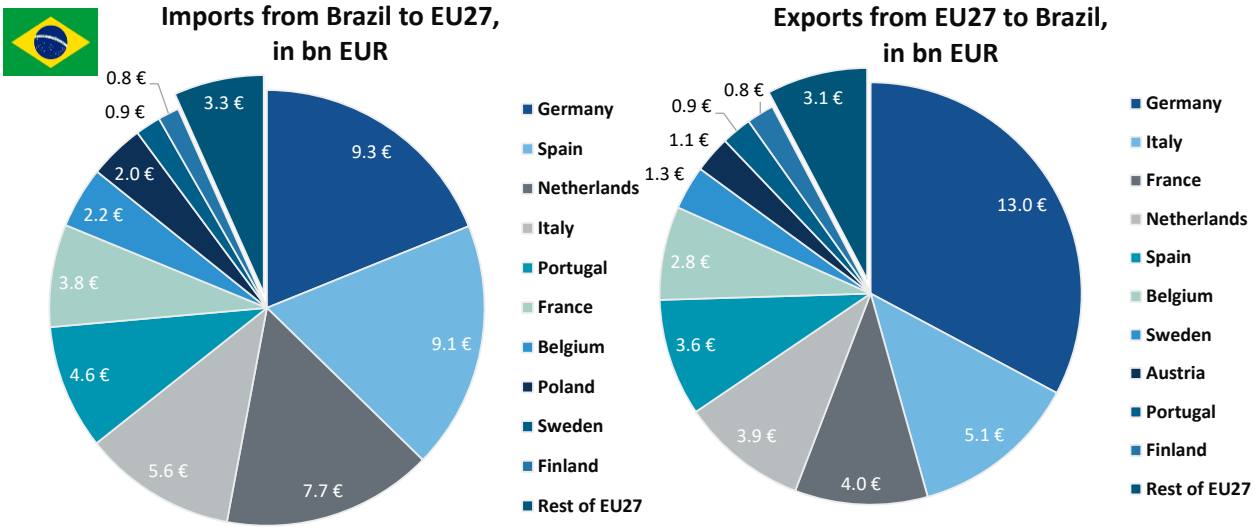
The upcoming sections examine the most relevant trading partners and traded goods and commodities for each of the selected Latin American countries.

2.1 EU27 and Brazil: Analysis of business & value chains

Figure 12 shows the top ten EU27 trading partners for Brazil by imports to and exports from the EU27 for 2022. It reveals that the most important countries for EU imports from Brazil are Germany, Spain and the Netherlands since these countries together account for more than 50% of all EU imports from Brazil. Although it counts as one of the smaller European economies, Portugal is the 5th most important importer of goods from Brazil. This could be explained by the close historic and cultural ties between the two countries as evidenced also by bilateral agreements.[36] On the export side, Germany, Italy and France together account for more than 50% of all EU exports to Brazil. However, it is worth noting that this is largely due to the exports from Germany (EUR 13 billion), representing more than 33% of all EU exports to Brazil.

Regarding Free Trade Agreements, Brazil is part of Mercosur together with Argentina, Paraguay, and Uruguay. The four countries signed the EU-Mercosur Trade Agreement in 2019, which aim is to increase bilateral trade and investments and to lower tariff and non-tariff trade barriers, notably for SMEs.

Figure 12: 10 most important EU27 trading partners for Brazil, by imports to EU27 and export from the EU27 in 2022, values in billion EUR

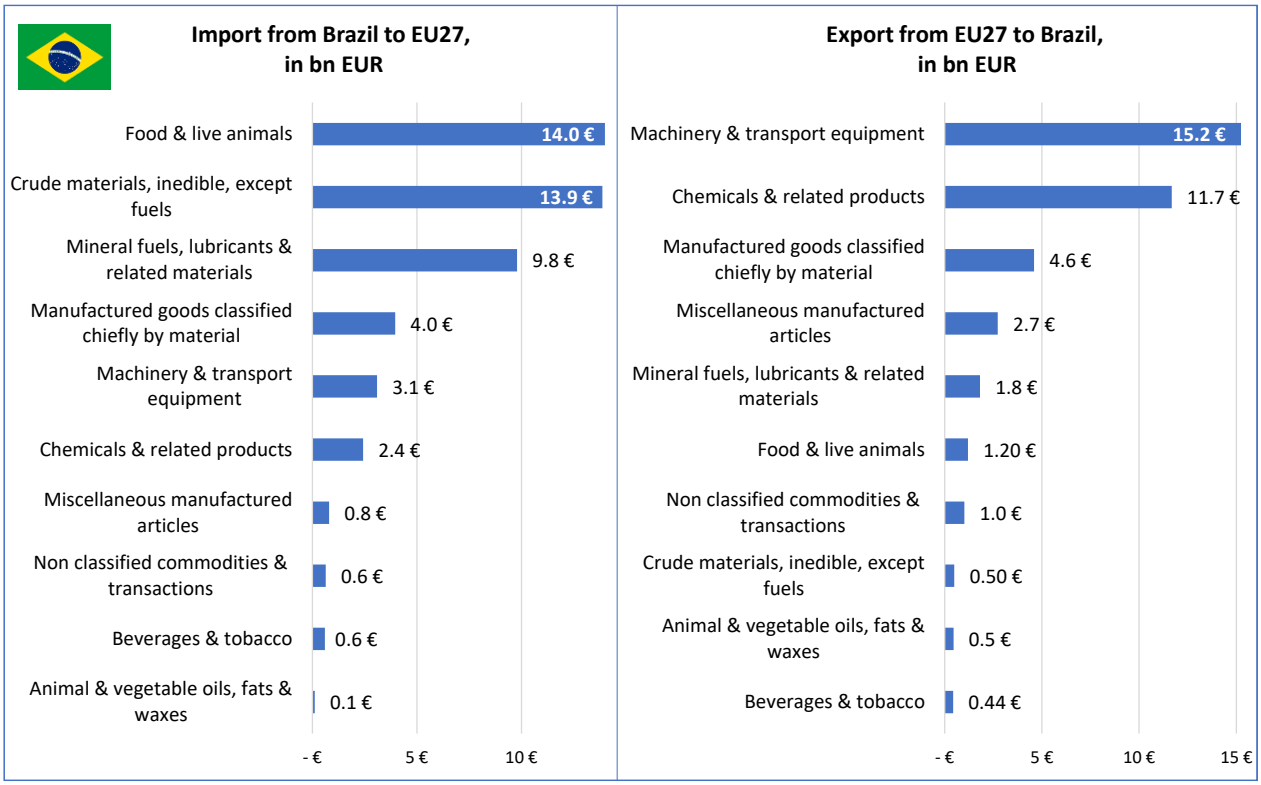


Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

Observing another aspect of trade, Figure 13 illustrates the traded goods between the EU27 & Brazil by imports to and exports from the EU27 in 2022. The examination reveals that food and live animals account for 30% of all imports from Brazil to the EU, which points to the relevance of **Agri-food value** chains in the trade relations between the EU and Brazil. Moreover, what stands out from this figure is that crude materials and mineral fuels are among the most imported type of goods from Brazil to the EU. This stands out the relevant role that Brazil plays in the provision of raw materials and energy-sector goods to the European economy. The strength of these exporting sectors is also outlined in Chapter 1.2. Additionally, exports of **machinery and transport equipment** account for almost 40% of all EU exports to Brazil.

[36] See https://www.gov.br/planalto/en/latest-news/2023/04/brazil-and-portugal-take-bilateral-relations-to-the-next-level (last access 21.10.2024).

Figure 13: Overview of traded goods between the EU27 & Brazil, by imports to EU27 and exports from the EU27 in 2022, values in billion EUR



Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

This analysis of traded goods is further refined by an examination of the ten most important commodities traded between the EU27 and Brazil by import to and export from EU27 in 2022. Figure 14 further complements the prior analyses of the traded goods by showing that the imports of crude petroleum account for almost 20% of all EU imports from Brazil. However, Brazil shows great potential for the production of green hydrogen, which points to significant potential for the **Renewable Energy** ecosystem[37]. This is evidenced by bilaterial energy partnerships between Brazil and the European countries[38] and the commitment of European firms to produce green hydrogen in Brazil.[39] There are also two Brazilian flagship projects under the EU Global Gateway initiative, focusing on renewable energy and green hydrogen.[40] The top 10 imported commodities also further outline the relevance of raw materials in the EU-Brazil trade relations since iron (EUR 2.3 billion) and copper ores (EUR 2 billion) are among the most relevant imported commodities to the EU from Brazil. Moreover, this examination further substantiates the relevance of value chains linked to the **Agri-food** ecosystem since the top 10 imported commodities include a number of commodities such as soya beans and coffee. This is related to Brazil's economic profile assessment in Chapter 1.2. In addition, the traded commodities also show the importance of value chains

[37] The concept of the EU Industrial ecosystem has been introduced as part of the "A new industrial strategy for Europe" of the European Commission to provide an analytical tool, which is not related to a fixed nomenclature. for more information on the Industrial ecosystems, see https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en (last access 29.11.2024).

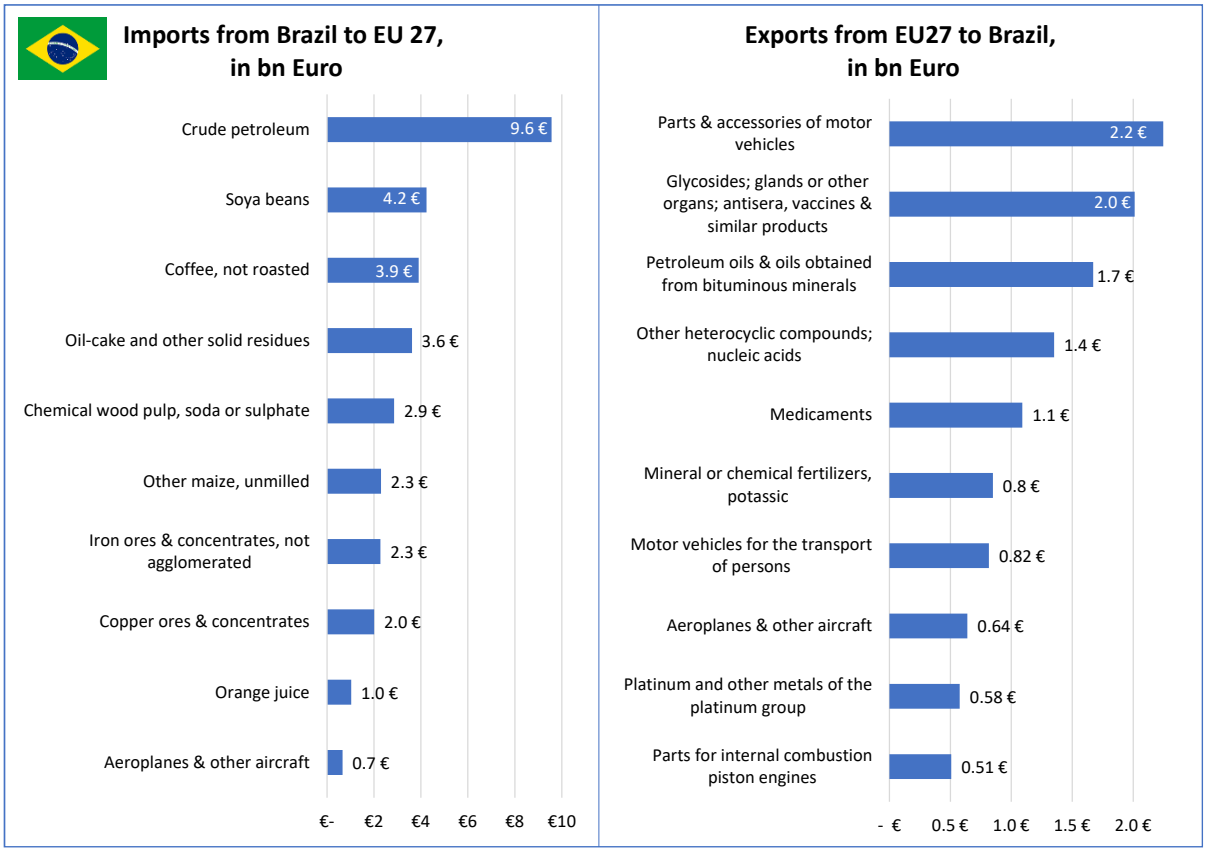
[38] See https://www.bmwk.de/Redaktion/EN/Hydrogen/Internationale-Wasserstoffzusammenarbeit-Beispiele/international-cooperation-on-hydrogen-with-brazil.html (last access 21.10.2024).

[39] See https://www.linde.com/news-and-media/2024/linde-to-increase-green-hydrogen-production-in-brazil (last access 21.10.2024).

[40] See https://international-partnerships.ec.europa.eu/countries/brazil_en (last access 29.11.2024).

linked to the **Mobility-Transport-Automotive** and the **Aerospace & Defence** industrial ecosystems with commodities such as aeroplanes and parts and accessories of motor vehicles being among the most relevant commodities traded between Brazil and the EU. As a concluding remark, the export of commodities such as medicaments, glycosides & vaccines points to the relevance of the **Health** industrial ecosystem in the trade relations between the EU and Brazil.

Figure 14: 10 most important commodities traded between the EU27 & Brazil, by import to EU27 & export from EU27 in 2022, values in billion Euro



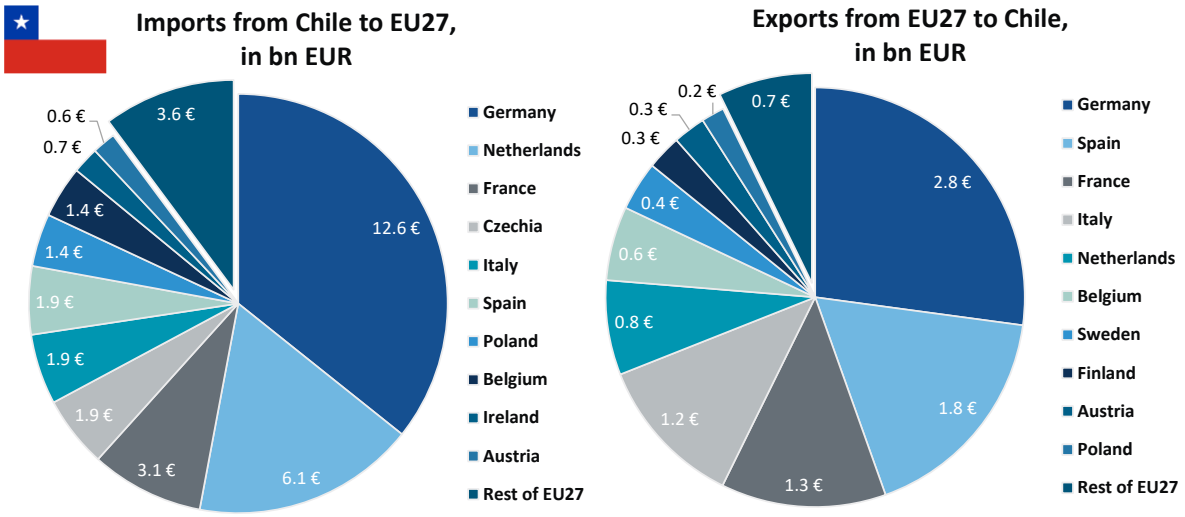
Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

2.2 EU27 and Chile: Analysis of business & value chains

Similar to Chapter 2.1, Figure 15 shows the ten most important **EU27 trading partners for Chile** by imports to the EU27 and exports from the EU27 in 2022. On the side of the imports to the EU, the dominance of German (EUR 12.6 billion) and Dutch (EUR 6.1 billion) imports emerge, which account for more than 50% of all EU imports from Chile. On the export side, the picture is a bit more mixed. Here, Germany (EUR 2.8 billion), Spain (EUR 1.8 billion) and France (EUR 1.3 billion) are the most important EU exporters to Chile. Given the historic ties between Spain and Chile (and many of the other countries examined in this paper), the relevance of Spain in the trade relations with Chile comes as little surprise. Also, Spain has been advancing trade with Chile through bilateral exchanges and the agreement on Memorandums of Understanding.[41]

Moreover, in December 2023, the EU-Chile Advanced Framework agreement was signed, an agreement that focuses on trade and investment liberalization - around 99.9% of EU exports will be tax-free, which is expected to boost EU exports to Chile. It improves EU access to Chile's raw materials like lithium and copper, vital for the green economy as well as digitalisation, and enhances opportunities for EU services, investments, and government procurement contracts in Chile.

Figure 15: 10 most important EU27 trading partners for Chile, by imports to EU27 and export from the EU27 in 2022, values in billion EUR

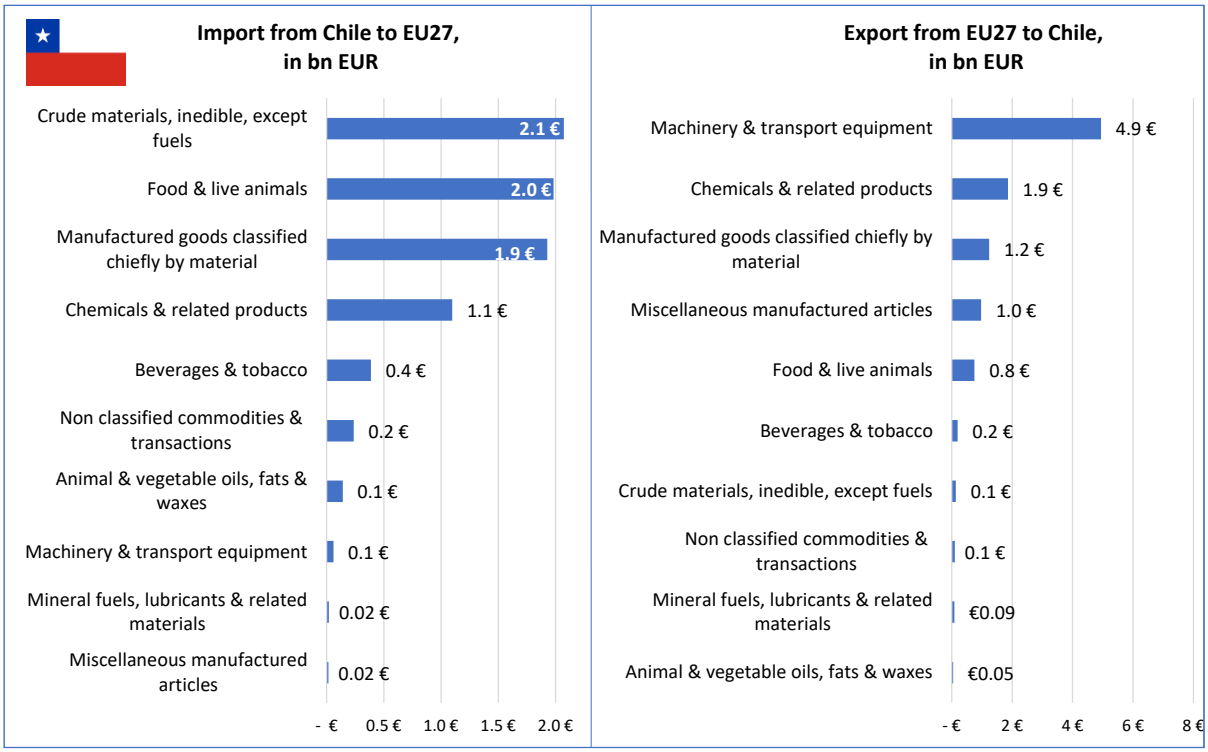


Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

Further supporting information on Chile's trade with the EU can be found in Figure 16, as it shows the trade between the EU and Chile by traded goods, outlining imports and exports. This assessment shows that the imports of **crude materials**, **food and live animals** as well as **manufactured goods** account for 25% of all EU imports respectively. Moreover, exports **of machinery and transport** equipment make up almost 50% of all EU exports to Chile and trade of **chemicals** and related products accounts for around 15% of the total trade value.

[41] See https://www.exteriores.gob.es/en/Comunicacion/NotasPrensa/Paginas/2022_NOTAS_P/20220930_NOTA078.aspx (last access 21.10.2024).

Figure 16: Overview of traded goods between the EU27 & Chile, by imports to EU27 and exports from the EU27 in 2022, values in billion EUR



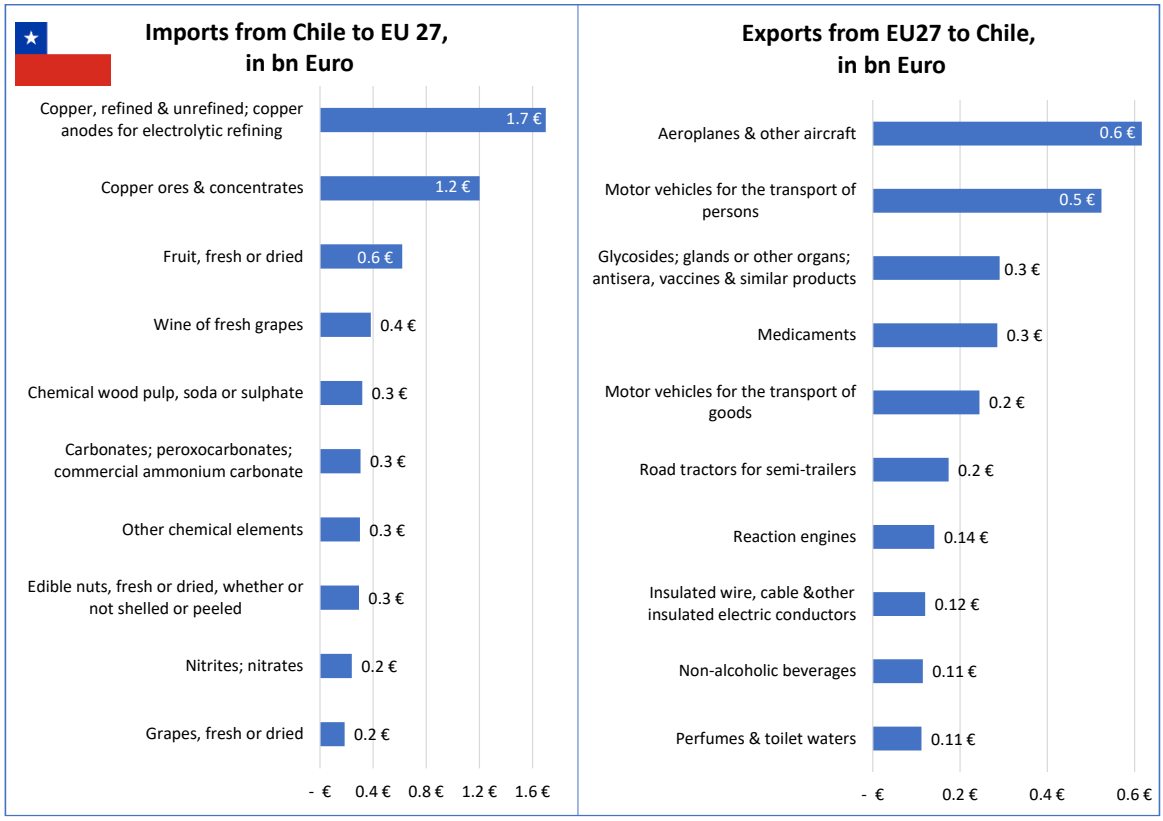
Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

Figure 17 further refines the assessment of traded goods by examining the ten most important commodities traded between the EU27 & Chile by import to and export from EU27 in 2022. This assessment further underlines the relevance of Chile for the European supply of raw materials since copper is the most important commodity imported to the EU. This is in line with the findings for the export structure of Chile presented in Chapter 1.3. In this context, it must be stressed that Chile is the world's largest copper exporter.[42] Furthermore, one has to highlight Chile's deposits of raw materials needed for the Green Transition (e.g., Lithium), which points to the relevance of the **Renewable Energy** industrial ecosystem for further trade relations between the EU and Chile.[43] In this context, Chile's involvement in the European Global Gateway initiative can be highlighted where European Member States are fostering cooperation in developing the green hydrogen economy in Chile.[44]

In addition to the prior assessment of the traded goods, the top 10 imported commodities include items such as fruits and wine, which further underline the relevance of **Agri-food** value chains for the trade between the EU and Chile. On the export side, the most relevant commodities include items such as aeroplanes, motor vehicles and road tractors, which further point to the importance of value chains linked to the industrial ecosystems of **Aerospace and Defence** and **Mobility-Transport-Automotive**. Similar as in the case of Brazil, exported commodities from the EU such as medicaments, antisera and vaccines also speak for relevant value chains in the EU-Chile trade relations that are linked to the **Health** industrial ecosystem.

[42] See https://oec.world/en/profile/bilateral-product/copper-ore/reporter/chl (last access 21.10.2024).
[43] See https://www.imf.org/en/News/Articles/2024/02/15/cf-making-chiles-economy-more-dynamic-greener-and-inclusive (last access 21.10.2024).
[44] See https://international-partnerships.ec.europa.eu/policies/global-gateway/developing-chiles-green-hydrogen-potential_en (last access 29.11.2024).

Figure 17: 10 most important commodities traded between the EU27 & Chile, by import to EU27 & export from EU27 in 2022, values in billion Euro



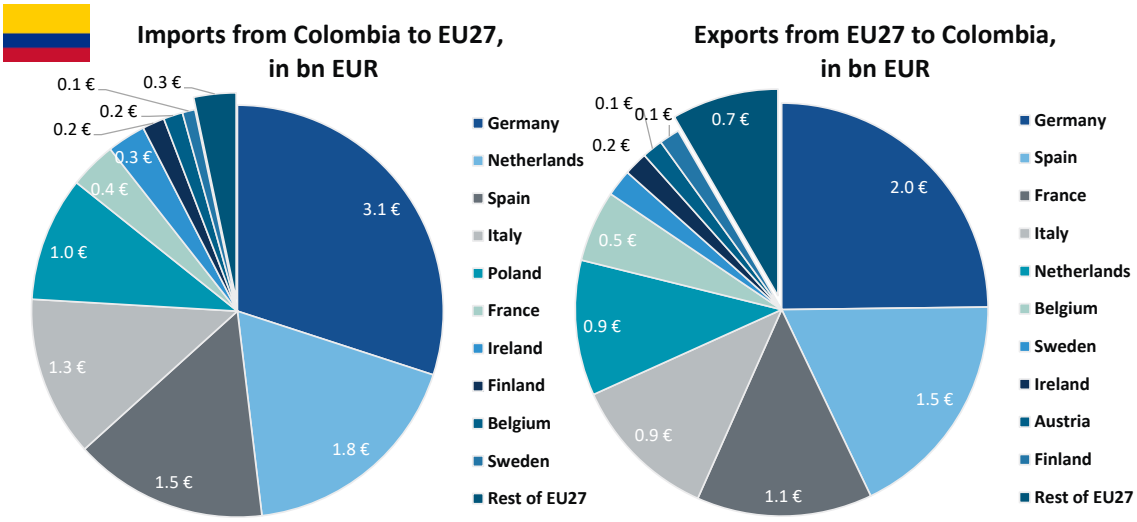
Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

2.3 EU27 and Colombia: Analysis of business & value chains

Figure 18 shows the ten most important EU27 **trading partners for Colombia** by imports to and exports from the EU27 in 2022. Similar to the examinations in Sections 2.1 and 2.2, the structure of European trading partners for Colombia shows a strong concentration of imports on Germany which imported goods with a value of around EUR 3.1 from Colombia in 2022. Germany together with the Netherlands (EUR 1.8 billion), Spain (EUR 1.5 billion) and Italy (EUR 1.3 billion) account for around three-quarters of all European imports from Colombia. On the export side, Germany (EUR 2.0 billion), Spain (EUR 1.5 billion) and France (EUR 1.1 billion) are the most important trading partners for Colombia and jointly represent more than 50% of all EU exports to Colombia.

The EU has a comprehensive trade agreement with Colombia and Peru, provisionally applied since 2013, and with Ecuador since 2017. This agreement enhances market access, lowers or eliminates tariffs, and creates a more stable business environment with improved rules on non-tariff barriers, competition, transparency, and intellectual property rights. It also opens up government procurement and investment markets while liberalizing payments, capital movements, and services. This agreement entered into full implementation on the first of November 2024.[45]

Figure 18: 10 most important EU27 trading partners for Colombia, by imports to EU27 and export from the EU27 in 2022, values in billion EUR

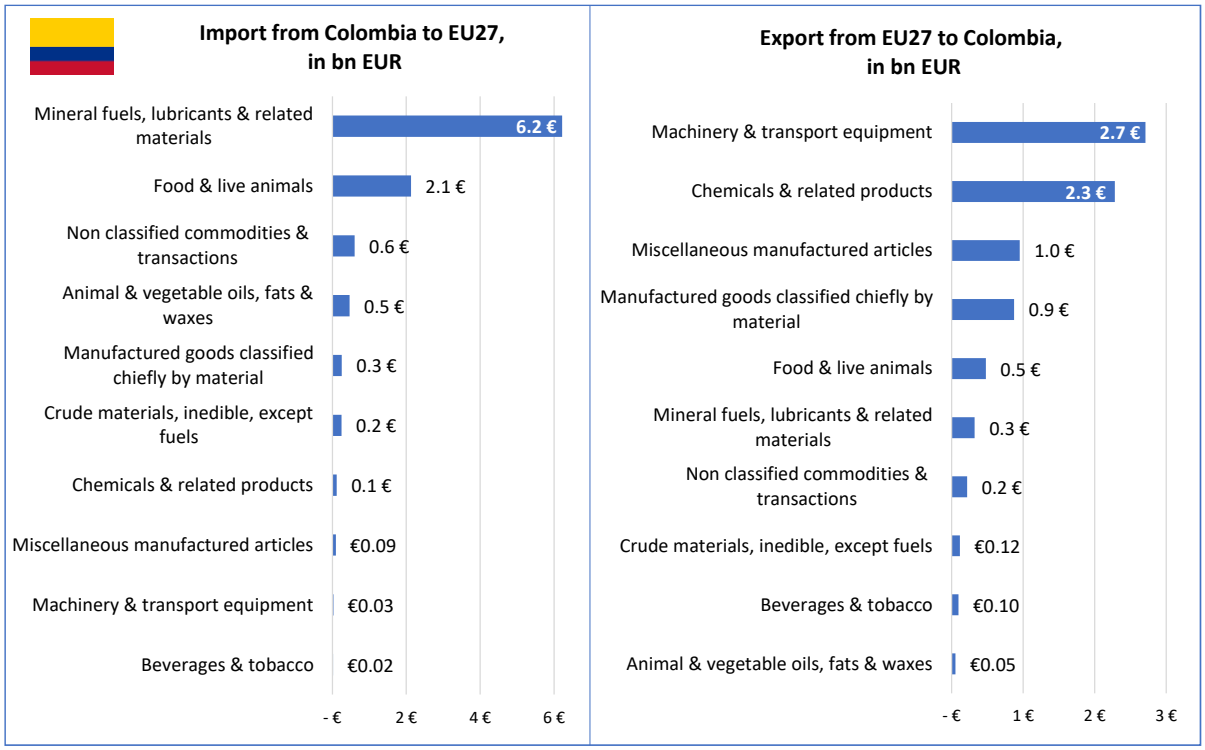


Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

Figure 19 provides an overview of traded goods between the EU27 and Colombia by imports to the EU27 and exports from the EU27 in 2022. A key finding that emerges from this assessment is that European imports of **mineral fuels** and related materials account for 60% of all EU imports from Colombia. This is followed by European imports of **food and live animals** , accounting for 21% of all EU imports from Colombia. On the export side, the main goods exported from the EU to Colombia include **machinery and transport equipment**, which represent 33% of all European exports to Colombia. This is followed by **chemicals** and related products that amount to around 28% of all European exports to Colombia.

[45] See https://www.consilium.europa.eu/en/press/press-releases/2024/10/14/eu-andean-countries-council-greenlights-the-conclusion-of-the-trade-agreement-with-colombia-peru-and-ecuador/ (last access 04.11.2024).

Figure 19: Overview of traded goods between the EU27 & Colombia, by imports to EU27 and exports from the EU27 in 2022, values in billion EUR

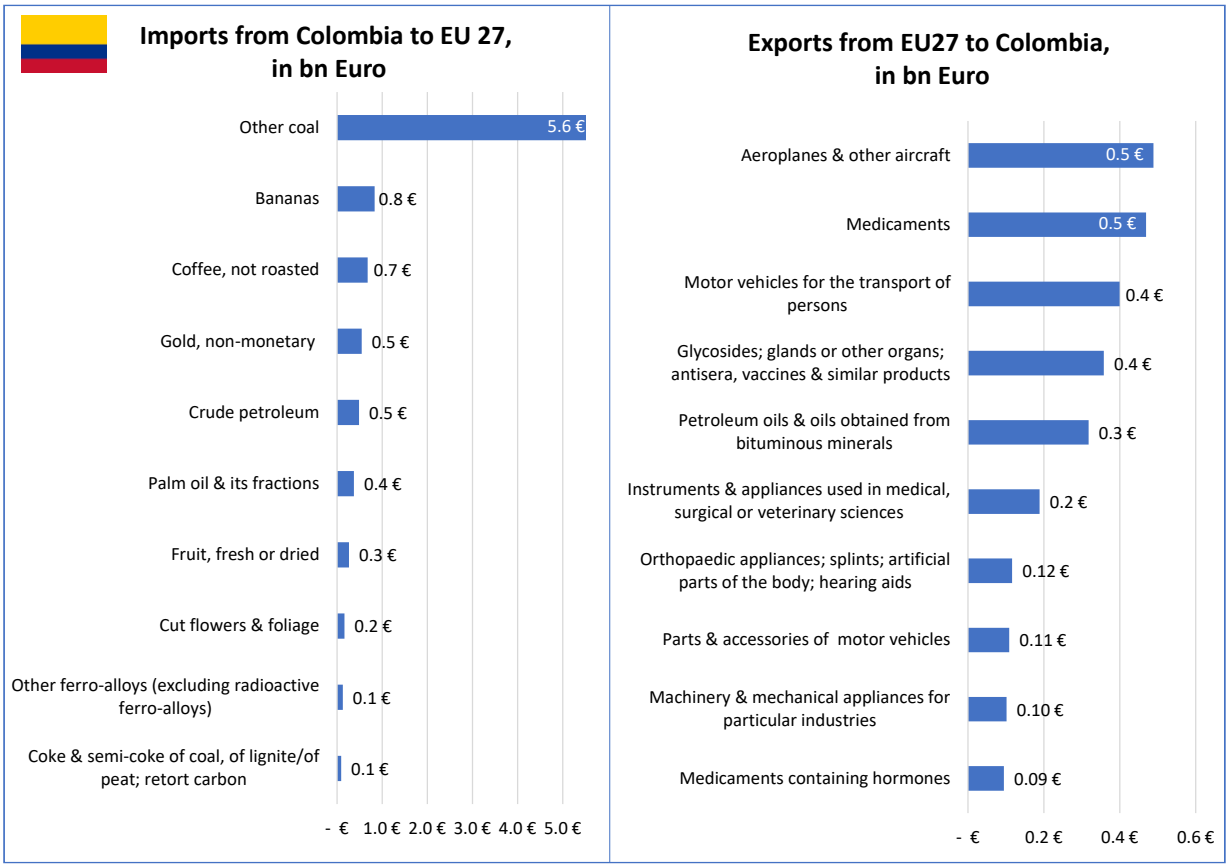


Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

Figure 20 deepens the assessment of traded goods by providing an analysis of the ten most important commodities traded between the EU27 and Colombia by import to EU27 & export from EU27 in 2022. This examination reveals that the imports of coal account for 55% of all European imports from Colombia. This further substantiates the assessment of the Colombian export structure that is presented in Chapter 1.4. However, Colombia is advancing towards ending its coal production.[46] This is also reflected in its leading position concerning **Renewable Energies** with a relevant clean hydrogen industry.[47] The assessment of the top ten commodities imported to the EU further illustrates the relevance of imports from Colombia for the **Agri-food** industrial ecosystem with key commodities such as bananas and coffee. **Raw materials** (e.g., gold) and ferro-alloys, are also included in this list. The latter points are oriented towards the value chains of **Energy Intensive Industries.** The top ten commodities exported from the EU to Colombia outline the importance of value chains linked to the **Mobility-Transport-Automotive** as well as **Aerospace & Defence** industrial ecosystems since aeroplanes and motor vehicles are key exported commodities. Similar to the examination of EU trade with Brazil and Chile, key exported commodities to Colombia include items such as medicaments, antisera and vaccines, which speak for relevant **Health-related** value chains.

[46] See https://www.sei.org/publications/just-transitions-coal-colombia-policy-reality/ (last access 21.10.2024).
[47] See https://blogs.worldbank.org/en/energy/as-colombia-leads-on-renewables--boosting-its-clean-hydrogen-ind (last access 21.10.2024).

Figure 20: 10 most important commodities traded between the EU27 & Colombia, by import to EU27 & export from EU27 in 2022, values in billion Euro



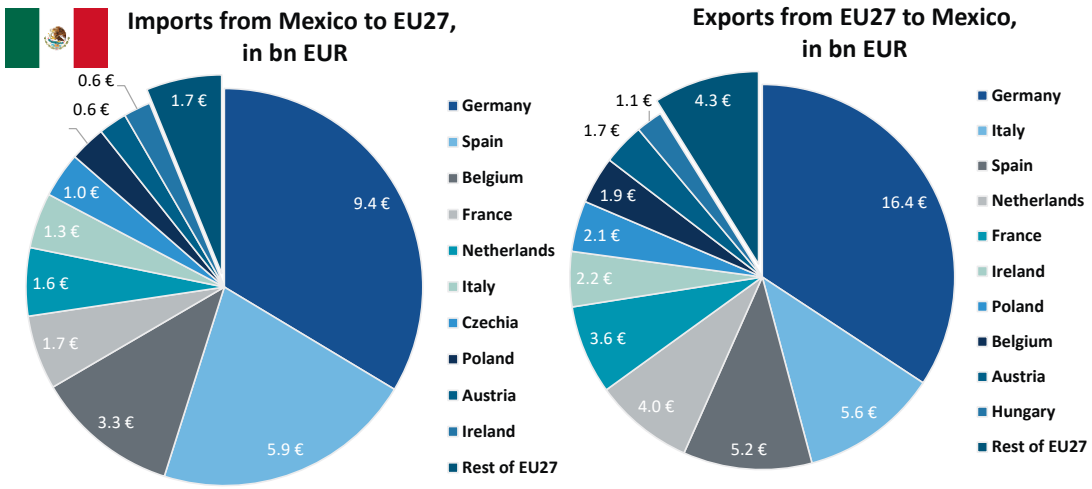
Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

2.4 EU27 and Mexico: Analysis of business & value chains

Figure 21 below shows the ten most important EU27 **trading partners for Mexico** by imports to the EU27 and exports from the EU27 in 2022. The most important European importers are Germany (EUR 9.4 billion) and Spain (EUR 5.9 billion), which together represent more than 50% of all European imports from Mexico. The dominance of Germany is even more visible when looking at European exports, where Germany exported goods with a value of more than EUR 16 billion to Mexico. This is followed by Italy and Spain, which exported EUR 5.6 billion and EUR 5.2 billion respectively to Mexico.

The EU and Mexico reached an agreement in principle in 2018 on key trade aspects of a new trade deal, replacing the 2000 EU-Mexico Global Agreement. While the original agreement brought trade benefits, some barriers remained. The new deal aims to eliminate high Mexican tariffs on EU food and drinks, boost EU services exports to Mexico, and ensure protections for workers' rights and the environment.

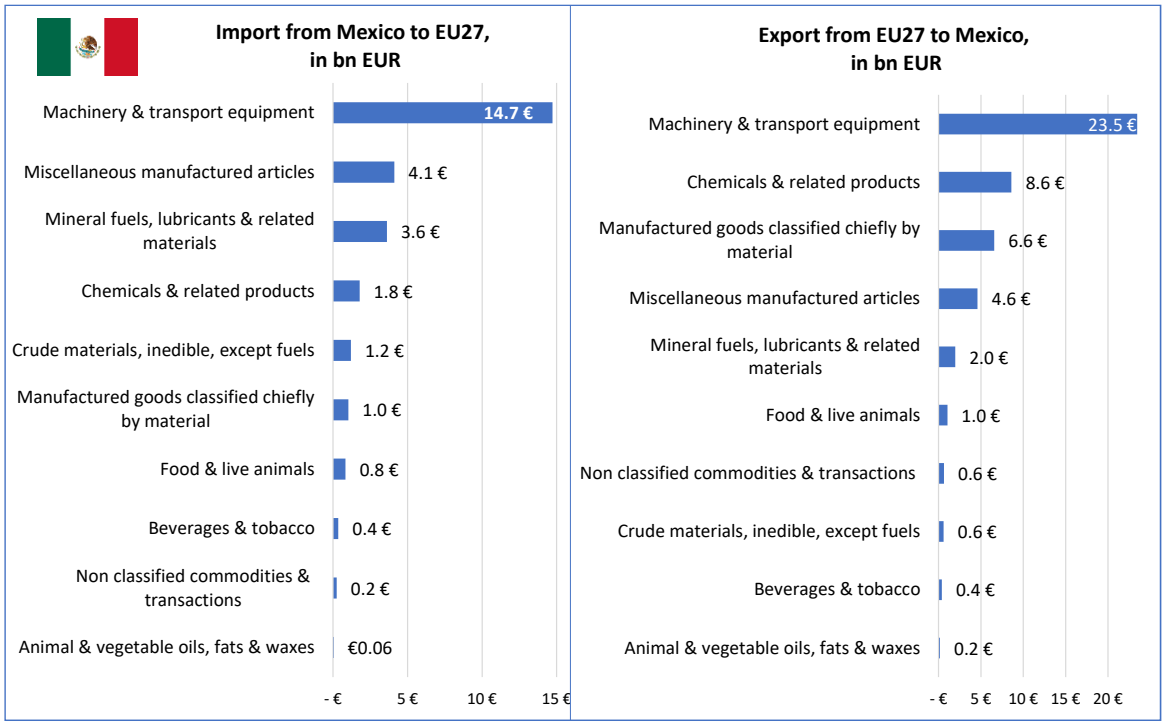
Figure 21: 10 most important EU27 trading partners for Mexico, by imports to EU27 and export from the EU27 in 2022, values in billion EUR



Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

Figure 22 shows the traded goods between the EU27 and Mexico by imports to the EU27 and exports from the EU27 in 2022. A key finding from this assessment is the role of **machinery and transport equipment** in the EU-Mexican trade relations, which accounts for 50% of the total trade volume between the EU and Mexico. This is also in line with the assessment of the general export structure of Mexico in Chapter 1.5. Next to this, the top three imported goods from Mexico include **manufactured articles**, **mineral fuels** and related products. On the export side, the top three exported goods from the EU to Mexico include **chemicals** & related products as well as manufactured goods.

Figure 22: Overview of traded goods between the EU27 & Mexico, by imports to EU27 and exports from the EU27 in 2022, values in billion EUR

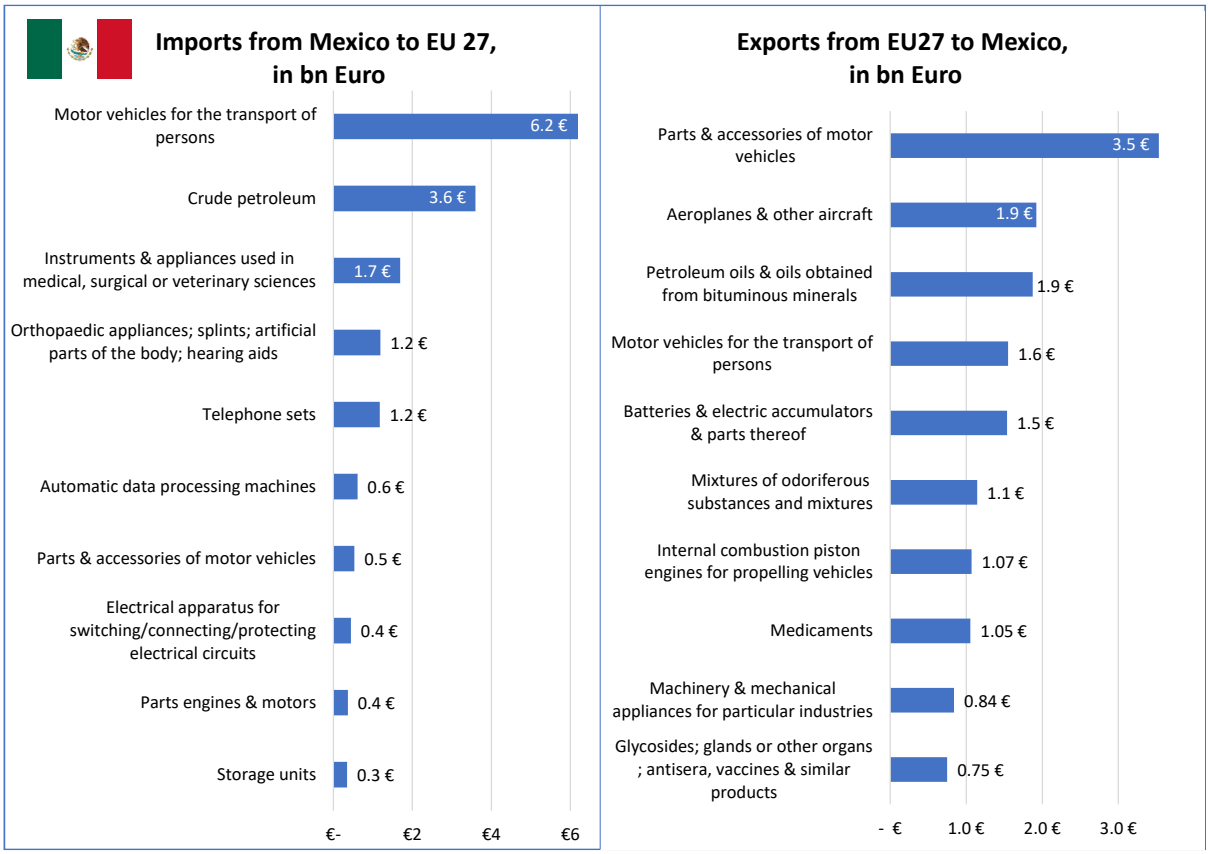


Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

Zooming further into the traded goods, the following Figure 23 includes the ten most important commodities traded between the EU27 and Mexico by import to and export from EU27 in 2022. A key finding from this assessment is that the top 10 traded commodities (both imports and exports) include numerous commodities of the **Mobility-Transport-Automotive** industrial ecosystem such as motor vehicles and parts of motor vehicles. This can be explained by the fact that Mexico is a key producer of cars and that many European OEMs have production sites in Mexico.[48] On top of that, the export of commodities such as aeroplanes & engines for propelling vehicles with a value of EUR 3 bn points to the importance of **Aerospace & Defence** value chains for the EU-Mexican trade relations. Moreover, the top ten traded commodities include various (e.g., medicaments, orthopaedic appliances, etc.) related to the **Health** industrial ecosystem. Also, the top 10 traded commodities include data processing machines and electrical appliances for electrical circuits, which point towards the relevance of the **Electronics** ecosystem. Additionally, the Mexican electronics sector has witnessed significant growth over the last few years. This can be linked to nearshoring efforts of the USA. [49]

[48] See https://www.automobil-produktion.de/management/vda-mexiko-fuer-deutsche-zulieferer-immer-wichtiger-275.html (last access 21.10.2024).
[49] See https://www.bakerinstitute.org/research/nearshoring-mexico-seizing-opportunities-and-facing-challenges and https://www.bcg.com/publications/2024/shifting-dynamics-of-nearshoring-in-mexico (last access 21.10.2024).

Figure 23: 10 most important commodities traded between the EU27 & Mexico, by import to EU27 & export from EU27 in 2022, values in billion Euro



Source: ECCP (2024). Own calculation based on UN Comtrade data. Data exported 22.08.2024.

03

Cluster Landscapes and Policy of Brazil, Chile, Colombia & Mexico

EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

3. Cluster Landscapes and Policy of Brazil, Chile, Colombia & Mexico

This section explores the cluster landscapes of Brazil, Chile, Colombia, and Mexico, focusing on the number, location, and economic orientation of clusters. The primary source of information is the CEPAL cluster platform, which identifies 258 clusters and other territorial productive articulation initiatives, supplemented by additional sources where necessary. It is important to note that the definition of organisations used in this paper may differ from the EU definition of cluster organisations in certain contexts. Following the landscape, this section also presents relevant cluster policies and recent developments in the cluster and industrial ecosystems of the selected Latin American countries.

3.1 Brazil: Cluster Landscape and Policy

According to the CEPAL cluster platform, there are **73 cluster organisations**[51] in Brazil (see Figure 24), of which 65 cluster organisations are in the **agri-food sector** and eight are in **manufacturing**. This further underlines the agricultural sector's strong importance for the Brazilian economy as shown in Figure 4, where agricultural goods represent the largest share of exports. Regarding the distribution of cluster organisations, most agricultural cluster organisations are located in the northeast of the countries and generally close to the country's coastal line. The manufacturing cluster organisations are also mostly located in the northeast as well as around the capital city of Brasilia.

Figure 24: Overview of the regional distribution cluster organisations

Source: CEPAL (2024). Mapa de iniciativas clúster.

[51] See CEPAL (2024): https://geo.cepal.org/dp-clusters/reportcountry.html?lang=es (last access 18.12.2024).

Brazil's cluster policy has evolved significantly since the 1990s, shifting from import-substitution strategies to the development of **Local Production Systems** (Arranjos Produtivos Locais, APLs). APLs provide support on infrastructure, equipment, training, technology transfer and centres, design offices, export promotion, and monitoring & evaluation systems. In 1999, the first dedicated public policies supporting the development of APLs were initiated. Institutional support was formalised in 2004 under the **Industrial, Technological, and Foreign Trade Policy** (PITCE), through the Brazilian Agency for Industrial Development (ABDI). The APL programme has been active since and focuses on fostering collaboration, infrastructure, technology transfer, and export promotion, with strategic coordination ensured through biannual meetings and state-level strategies. The APL strategy has been complemented by major industrial policy programmes (e.g. the Plano Brasil Maior 2011), the National Regional Development Plan, but also **new policy approaches like Smart Specialisation**. Looking at the landscape of the APLs in Brazil, there is a total of **391 APLs, with roughly 195,000 companies, providing 1.78 million jobs** in Brazil**.** Although they are spread all over the country, most APLs are located in the Nordeste region, accounting for 177 APLs. The Sudeste region is home to the second-highest number of APLs, with up to 130, while the states of São Paolo, Bahia and Minas Gerais have 60, 54 and 48 APLs respectively. A map with the geographical distribution of the APLs can be found in Figure 28 in the Annex.

3.2 Chile: Cluster Landscape and Policy

According to the CEPAL cluster platform, Chile has **41 cluster organisations**[52], as shown in Figure 25. The cluster organisations operate across a variety of sectors, namely:

- Tourism (16)
- Agriculture, livestock, hunting, forestry and fishing (14)
- Arts, entertainment and recreation (4)
- Electricity, gas and water supply (4)
- Construction (1)
- Financial intermediation, real estate, business and renting activities (1)
- Manufacturing (1)
- Wholesale and retail trade, and repair of goods, hotels and restaurants (1)
- Transportation, warehousing and communications (1)

Most of these cluster organisations are, concentrated in the middle of the country, from the capital Santiago de Chile, southwards. The northern part of the country is home to the biggest part of the **mining** sector in Atacama and Antofagasta. In contrast, the **financial and technology services** sector and cluster are naturally settled around the Capital. **Agriculture and food processing sectors** can be mostly found in the central and southern regions of the country. The coastal regions present fishing agglomerations of industry and cluster organisations, while tourism is evenly distributed all over the country.

[52] See https://geo.cepal.org/dp-clusters/initiatives.html?lang=es (last access 18.12.2024).

Figure 25: Overview of the regional distribution of Chilean cluster organisations

Source: CEPAL (2024). Mapa de iniciativas clúster.

Chile's cluster policy has evolved from being non-existent to playing quite a significant role in the Andean country's economy. Back in the 1990's, Chile's economy still had a considerable way to go in terms of development as it relied mostly on traditional sectors such as mining, agriculture and fishing. These sectors are not particularly reliant on innovation. At the same time, the government prioritised promoting these industries and attracting foreign direct investment, hence leaving diversification and innovation aside. This changed in 2005, once Chile first adopted a cluster policy as part of its broader "**National Innovation Strategy for Competitiveness**". This constituted Chile's first attempt to move beyond the traditional sectors and foster innovation-driven growth. However, this just constituted the beginning of these cluster policies. The Chilean Policy from 2014-2018 focused on the concept of **"strategical programmes for smart specialisation"**[53], a cluster policy supporting key target sectors along with additional "enabling platforms". In this case, the six target sectors identified include "Agri-food", "Aquaculture and fishing", "Mining", "Building", "Creative industries" and "Tourism". Moreover, the **Serotec programme**, directed by the Ministry of Economy, Development and Tourism,

[53] ECCP (2024): International Cooperation - Chile. Available under: https://www.clustercollaboration.eu/international-cooperation/chile#:~:text=The%20current%20Chilean%20policy%20%282014-2018%29%20focusing%20on%20the,that%20supports%20target%20sectors%20and%20additional%20%E2%80%9Cenabling%20platforms%E2%80%9D (last access 08.11.2024).

has been conceived to support micro and small businesses and entrepreneurs.[54] It aims to reduce the difficulties and disadvantages faced by smaller companies compared to larger ones, for example, in terms of access to financing. Lastly, to support entrepreneurship, innovation, and competitiveness, and to strengthen human capital and technological capabilities, the government agency CORFO aims to foster a society that offers more and better opportunities, contributing to the country's development.[55]

3.3 Colombia: Cluster Landscape and Policy

According to the CEPAL cluster platform, Colombia has a diverse cluster landscape with 85 cluster organisations[61] (see Figure 26). These organisations are primarily concentrated in the Northern and Western regions, around major cities and economic hubs such as Bogotá, Cali, Medellín, and Barranquilla, and operate across a variety of sectors, namely:

- Manufacturing industries (20)
- Agriculture, livestock, hunting, forestry and fisheries (17)
- Social services, health, public administration, education, and defense (10)
- Tourism (9)
- Transportation, storage and communications (7)
- Construction (6)
- Financial intermediation, real estate, business and renting activities (6)
- Arts, entertainment and recreation (5)
- Electricity, gas and water supply (5)

Another source of cluster information is the Colombian cluster network Red Cluster Colombia from the Ministry of Commerce, Industry and Tourism (*Ministerio de Comercio, Industria y Turismo*). In contrast to the CEPAL cluster database, it counts 161 cluster organisations within Colombia, the distribution of those can be found in Figure 29 in the Annex. Based on the information provided by Red Cluster Colombia, two further findings on Colombian cluster organisations emerge. First, Colombian cluster organisations are often linked to the **regional chamber of commerce**. Regarding the **founding date** of these cluster organisations, approximately 45% of the 161 cluster organisations were established since 2019, while another 45% were founded between 2006 and 2014. This points to a certain degree of maturity of the Colombian cluster landscape.

[54] SERCOTEC (2024): ¿Quiénes Somos? Available under: https://www.sercotec.cl/quienes-somos/ (last access 08.11.2024)
[55] CORFO (2024): Sobre Corfo. Available under: https://www.corfo.cl/sites/cpp/sobrecorfo (last access 08.11.2024)
[61] See https://geo.cepal.org/dp-clusters/initiatives.html?lang=es (last access 18.12.2024).

Figure 26: Overview of the regional distribution of Colombian cluster organisations

Source: CEPAL (2024). Mapa de iniciativas clúster.

Considering **cluster policy in Colombia**, the results are very clear. From the mid-1990s until the late-2000s, not many cluster organisations have been established.[64] The most remarkable support of cluster organisations came during the early 2010s, which also implied an important increase in the number of cluster organisations established during those years, while the following years until now have been quite active, still not as much as the preceding ones. Currently, there is no dedicated framework at either the national or regional level. Instead, the Colombian cluster policy is characterised **by a mix of industrial- and independent regional policies**. Relevant policy stakeholders in Colombia include the Ministry of Commerce, Industry & Tourism and the entrepreneurship and innovation agency innpulsa. A pivotal moment in the evolution of cluster organisations in Colombia was the launch of the "**Competitive Routes Programme**" in 2012, which played a significant role in fostering their development.[65]

[64] See https://geo.cepal.org/dp-clusters/initiatives.html?lang=es (last access 18.12.2024)
[65] Gobierno de Colombia et al. (2018): Iniciativas Clústers en Colombia. Available online: https://www.innpulsacolombia.com/wp-content/uploads/2024/01/libro_iniciativas_cluster_en_colombia.pdf (last access 21.10.2024).

An example of a current broad policy with cluster elements from Colombia includes the Productive Development Policy. The policy has the objective of promoting transformation towards more productive activities and greater diversification of goods production and exports and outlines 90 actions across seven areas. These include the following: **"**Transfer of knowledge and technology", **"**Innovation and entrepreneurship", **"**Human capital"**,** **"**Financing"**,** **"**Supply chains"**,** **"**Quality" and **"**Foreign trade".

The policy also includes a prioritisation of 18 sectors (from cocoa and coffee over pharmaceuticals to software and IT) and the policy focuses on developing public-private partnerships. More information on cluster policy in Colombia is available in the **Cluster Policy Factsheet** for Colombia.[66]

3.4 Mexico: Cluster Landscape and Policy

According to the CEPAL cluster platform, Mexico's cluster landscape includes 24[70] cluster organisations (see Figure 27). The cluster organisations operate across a variety of sectors:

- Manufacturing industries (9)
- Agriculture, livestock, hunting, forestry and fisheries (4)
- Tourism (3)
- Social services, health, public administration, education and defence (2)
- Transportation, storage and communications (2)
- Arts, entertainment and recreation (1)
- Construction (1)
- Electricity, gas and water supply (1)
- Mining and quarrying (1)

The distribution of cluster organisations further highlights the importance and strength of the manufacturing sector for the Mexican economy as it is the second biggest sector regarding GDP shares and the biggest source of exported goods (see Figure 9 and Figure 10). Although most organisations can be found in the central region, the automotive industry has a strong presence in the northern part of the country, in cities like Chihuahua or Monterrey. The strongest agglomeration concerning automotive organisations among the central regions of the country can be found around Puebla.

[66] ECCP (2023): Country Factsheet Colombia. Available online: https://www.clustercollaboration.eu/sites/default/files/2023-country-factsheets/ECCPfactsheet_Colombia_2023.pdf (last access 21.10.2024).
[70] see CEPAL (2024): https://geo.cepal.org/dp-clusters/initiatives.html?lang=es (last access 18.12.2024).

Figure 27: Overview of the regional distribution of Mexican cluster organisations

Source: CEPAL (2024). Mapa de iniciativas cluster.

Mexico's **cluster policy** has been evolving since the 1990s when Mexico took steps to promote science, innovation and technology. To enhance these fields in national development, **Mexico's National Science and Technology Council (CONACTY)** launched several initiatives. This council coordinates the national strategies and capabilities in scientific and humanistic research, as well as technological development and innovation. In this regard, the CONACTY developed a "**Special Program for Science, Technology and Innovation 2021-2024**".[71] This initiative has promoted a policy on humanities, science, technology and innovation in Mexico while it has focused at the same time on social well-being, environmental care and biocultural protection. At the same time, CONACTY also provides coordination of the system of Public Centres, which is formed out of 26 national and international institutions. This last bit aims to strengthen the scientific community through various calls for scholarships, both in the country and abroad.

Additionally, by the early turn of the century, the Mexican Government established "Nacional Financiera" (NAFIN). This early 2000s activity is a state-run development bank, strictly designed for the state to invest in high technology startups and support entrepreneurial activities as well as innovation in sectors that require a more developed technology.[72] Nonetheless, Mexico's current main focus lies on improving regional innovation systems, by supporting SMEs while integrating them into global value chains. This originates from diverse national policies and strategies, to foster economic competitiveness and innovation.

[71] Gobierno de Mexico (2021): Programa Especial de Ciencia, Tecnología e Innovación 2021-2024. Available under: https://www.siicyt.gob.mx/index.php/normatividad/nacional/programa-especial-de-ciencia-tecnologia-e-innovacion-peciti/programa-especial-de-ciencia-tecnologia-e-innovacion-peciti-2/4965-programa-especial-de-ciencia-tecnologia-e-innovacion-peciti-2021-2024/file (last access 08.11.2024).

[72] Gobierno de Mexico (2024): Nacional financiera historia. Available under: https://nafin.com/portalnf/content/sobre-nafin/historia.html (last access 08.11.2024).

04

Outlook: Potential for future EU – Latin American cluster collaboration

4. Outlook: Potential for future EU – Latin American cluster collaboration

The previous chapters have examined the economic profile, relevant trade and business linkages as well as the cluster landscapes of Brazil, Chile, Colombia and Mexico. This chapter summarises the key findings and outlines the potential for further cluster collaboration between the four Latin American countries and the EU27 Member States.

Concerning the **economic profile**, this input paper shows that Brazil, Chile, Colombia and Mexico jointly account for 66% of the total GDP (EUR 6.6 trillion) of all Latin American countries, with Brazil and Mexico being the largest economies in terms of GDP. Across all four countries, services and industry are the most important sectors in terms of their contributions to GDP. For Brazil, Chile and Colombia, the export structure is characterised by raw materials, oil & fuels. For Mexico, the export structure is characterised by vehicles and electrical machinery.

In terms of the **EU27 business and value chain linkages** with Brazil, Chile, Colombia and Mexico, one can highlight that similarly to the economic profile, Brazil and Mexico are the two most important trading partners for the EU by trade volume. Overall, the trade structure between the four countries is highly diverse, which shows the complexity and the potential of existing trade linkages between the Latin American countries and the European Union. For Brazil and Chile, especially Agri-food value chains and crude materials and mineral fuels are among the most traded commodities. Imports from Colombia are dominated by coal. Commodities related to the Mobility-Transport-Automotive & Aerospace ecosystem are especially prevalent in the trade relations between the EU and Mexico. Looking ahead, the selected countries also show great relevance and potential for the Green Transition, be it through the supply of relevant natural resources or advances in hydrogen production and renewable energies.

The various existing **trade agreements** between the EU and the four Latin American countries ground the foundation for further strengthening the economic ties between those regions. As of December 2024, there is the EU-Colombia-Peru-Ecuador Trade Agreement. Moreover, the EU-Chile Advanced Framework[73] has recently been signed and an agreement “in principle” on key trade aspects exists between the EU and Mexico.[74] The negotiations for an EU-Mercosur Agreement, which would include Brazil, reached a political agreement on 6 December 2024.[75]

The assessment of the **cluster landscapes** of Brazil, Chile, Colombia and Mexico shows that although the definition of a cluster organisation in those countries may vary from the European understanding perspective, organisations and related policies have a relatively longstanding history among the assessed countries. Judging only by the number of cluster organisations on the CEPAL cluster platform, Colombia (85 cluster organisations) and Brazil (73 cluster organisations) have the largest cluster landscape of the four examined countries. The existence of such a landscape provides many possibilities for further strengthening the collaboration between Latin American countries and the European Union.

[73] See https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/chile/eu-chile-agreement_en (last access 06.12.2024).
[74] See https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/mexico/eu-mexico-agreement_en (last access 06.12.2024).
[75] See https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/mercosur/eu-mercosur-agreement_en (last access 06.12.2024).

With regard to the collaboration potential, one can also mention the **Low Carbon Business Action (LCBA)** project, which has taken place in locations in Brazil, Chile, Colombia and Mexico.[76] Under these actions, several agreements between European SMEs and companies based in the aforementioned countries have been established, which enabled the transfer of green technology between the involved companies. Cluster organisations and other intermediaries played a key role in fostering these collaborations.[77] Furthermore, the **EU-LAC Global Gateway Investment Agenda** can be outlined in this context. This initiative mobilises strategic investments in key areas including for the Green and Digital transition.[78] As outlined in Chapters 2.1 and 2.2, key projects (e.g., on the production of hydrogen in Brazil) are already conducted. For Chile, it can also be highlighted that a Memorandum of Understanding has been signed with the EU that aims at strengthening the cooperation on sustainable critical raw materials.[79] These policy initiatives underscore the potential for further cooperation among cluster organisations on both sides.

Moreover, one can highlight that Mexico has been a key destination for the European Strategic Cluster Partnerships – Going International (**ESCP-4i**).[80] Next to this, an assessment of the ECCP-registered cluster organisations shows that as of November 2024 Brazil, Chile, Colombia and Mexico are among the top 15 **targeted countries for internationalisation activities** of cluster organisations. Thereby, Mexico is the 5th most targeted and Brazil the 7th most targeted country of the internationalisation activities. demonstrates the presence of **many existing ties** between European cluster organisations and the Latin American countries, which can further be deepened in the future.

The activities around the **EU-CELAC Strategic Roadmap** for Research and Innovation cooperation can provide further potential for both creating new collaborations and deepening existing collaboration between the two regions.[81] More precisely, funding for collaborative projects can be found in the **Horizon Europe** funding programme, which is generally open for participants from Latin America.[82] Here, it is noteworthy to mention that participants from Colombia are eligible for funding while participants from Brazil, Chile and Mexico can participate but at their own costs. [83]

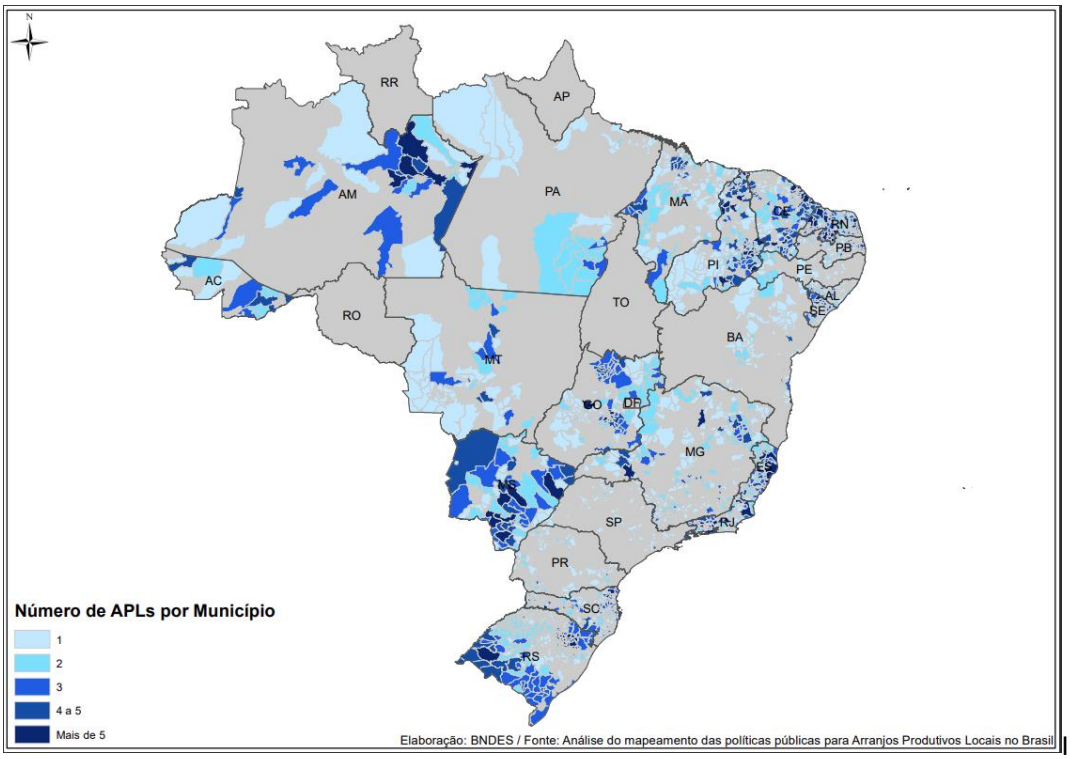
As a concluding remark, the different services of the ECCP such as international matchmaking activities and the ECCP Mapping Tool can be highlighted. This ECCP Mapping tool enables international users to find European cooperation partners and to access to a network of more than **1,200 cluster organisations in the EU27**.[84] These cluster organisations can be identified and directly contacted via this tool. For

[76] See https://fpi.ec.europa.eu/projects/low-carbon-and-circular-economy-business-action-americas_en?prefLang=es (last access 06.11.2024).
[77] See also Prognos et al. (2021): Evaluation Study of & Potential Follow-Up to Cluster Initiatives under COSME, H2020 & FPI (DG GROW, Unit D2 - Industrial Forum, alliances, clusters). Study on behalf of the European Commission. Available under: https://op.europa.eu/de/publication-detail/-/publication/a2c3e9e1-3deb-11ec-89db-01aa75ed71a1 (last access on 06.11.2024).
[78] See https://international-partnerships.ec.europa.eu/policies/global-gateway/eu-lac-global-gateway-investment-agenda_en (last access 02.12.2024).
[79] See https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3897 (last access 02.12.2024).
[80] See https://www.clustercollaboration.eu/content/mexico (last access 06.11.2024).
[81] See https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/europe-world/international-cooperation/regional-dialogues-and-international-organisations/latin-america-and-caribbean_en (last access 06.11.2024).
[82] See https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/europe-world/international-cooperation/regional-dialogues-and-international-organisations/latin-america-and-caribbean_en (last access 06.11.2024).
[83] See https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_v3.0_en.pdf (last access 29.11.2024).
[84] See also ECCP (2024): The European Cluster Panorama Report 2024. Available online: https://www.clustercollaboration.eu/sites/default/files/document-store/Cluster_Panorama2024.pdf (last access 06.11.2024).

instance, more than 100 cluster organisations in the industrial ecosystem Agri-Food, around 100 cluster organisations in the industrial ecosystem Health and 90 cluster organisations in the industrial ecosystem Mobility-Transport-Automotive can be identified there. As of October 2024, there are 25 cluster organisations from Mexico and two cluster organisations from Colombia registered on the ECCP. No cluster organisations from Brazil and Chile are profiled on the ECCP, indicating further potential for cluster organisations from these Latin American countries to register.

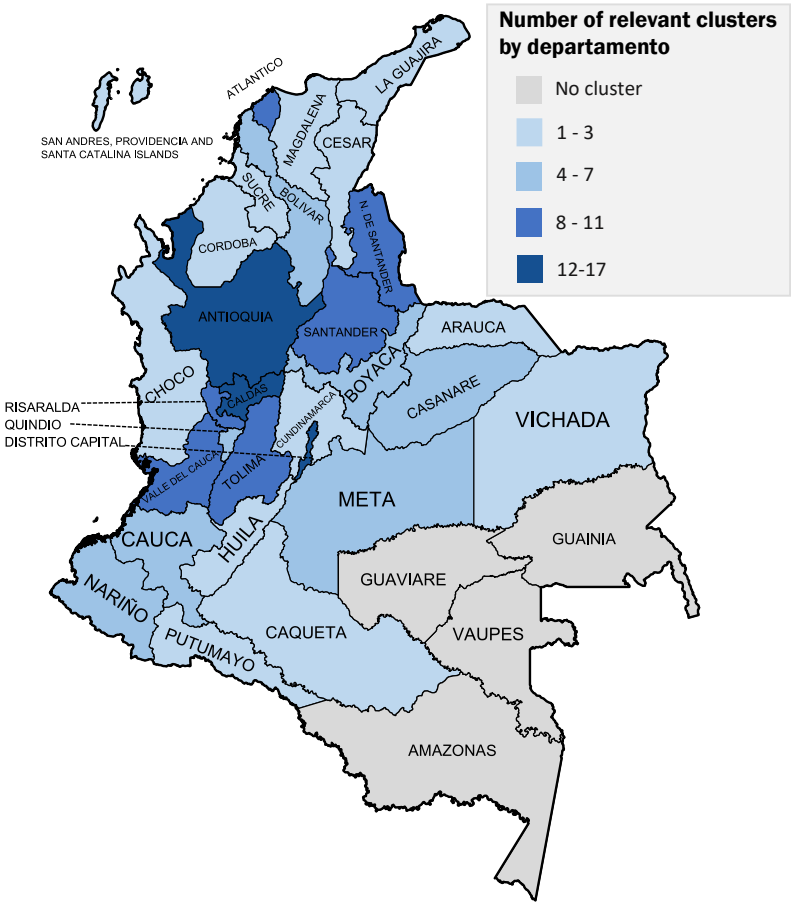
Annex

Figure 28: Overview of the regional distribution of Local Production Systems (APL) organisations



Source: BNDES (2022): Análise do Mapeamento e das Políticas para APLs no Brasil.

Figure 29: Overview of the regional distribution of cluster organisations - Red Cluster Colombia



Source: ECCP (2024). Own elaboration based on data provided by Red Clusters Colombia. Data extracted on 11.10.2024.

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