



# Study on the Analysis of Developments in EU Capital Flows in the Global Context (2021)

*Rise and fall after the COVID-19 outbreak*

**December 2021**

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Prepared by Cinzia Alcidi, Doina Postica and Farzaneh Shamsfakhr, with contributions by Willem Pieter de Groen and Damir Gojsic.

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## List of acronyms

AE	Advanced Economy
APP	Asset Purchase Programme
ARP	American Rescue Plan
BEA	Bureau of Economic Analysis
BGVAR	Bayesian Global Vector Autoregression
BIS	Bank for International Settlements
BIT	Bilateral Investment Treaty
BoP	Balance of Payments
CDIS	Coordinated Direct Investment Survey
CEE	Central Eastern Europe
CFO	Chief Financial Officer
CMU	Capital Markets Union
CPI	Consumer Price Index
DCFTA	Deep and Comprehensive Free Trade Area
ECB	European Central Bank
EEAS	European External Action Service
EIB	European Investment Bank
EME	Emerging Market Economy
EMU	Economic and Monetary Union
ESM	European Stability Mechanism
EU	European Union
FDI	Foreign Direct Investment
FED	Federal Reserve Bank
FEVD	Forecast Error Variance Decomposition
FRED	Federal Reserve Economic Data
GBP	Pound Sterling
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GIRF	Generalised Impulse Response Function
GMM	Generalised Method of Moments
GNI	Gross National Income

GNP	Gross National Product
GVAR	Global Vector Autoregression
HICP	Harmonised Index of Consumer Prices
IFS	International Financial Statistics
IIP	International Investment Position
IMF	International Monetary Fund
MCMC	Markov Chain Monte Carlo
MENA	Middle East and North Africa
MFA	Macro-Financial Assistance
NCB	National Central Bank
NextGenEU	NextGenerationEU
NIIP	Net International Investment Position
NNDI	Net National Disposable Income
NWE	North-Western Europe
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PEPP	Pandemic Emergency Purchase Programme
PIP	Posterior Inclusion Probability
SCM	Synthetic Control Method
SPE	Special Purpose Entity
SSVS	Stochastic Search Variable Selection
TARGET	Trans-European Automated Real-time Gross Settlement Express Transfer System
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
US	United States
USD	US Dollar
VAR	Vector Autoregression
WEO	World Economic Outlook
WIR	World Investment Report

## Executive summary

This report presents an analysis of the main trends and developments in global and EU capital movements up to mid-2021, and the impact of the COVID-19 pandemic.

### Global overview of capital flows and impact of COVID-19

COVID-19 was a major shock across the globe in 2020, and the impact on society and the economy has been pervasive. Most countries managed to recover quite rapidly from the unprecedented fall in gross domestic product (GDP) recorded in the second quarter of 2020, thanks to similarly unprecedented policy responses. Capital movements, which are not independent of such developments, followed suit, and after a first abrupt reaction a moderate recovery started already during the course of 2020. Yet, COVID-19 has not been defeated, and it continues to represent a major source of uncertainty and a threat to the robustness of the recovery.

Unlike the global financial crisis (GFC), which was a watershed in global capital flows trends, the COVID-19 crisis does not seem to have had the same impact. After 2008, both inflows and outflows declined abruptly and never recovered to previous levels. By contrast, the COVID-19 pandemic does not seem to have reversed previous trends. Rather, it has strengthened some of them. In addition, a broad resilience of total gross inflows in advanced economies during the COVID-19 pandemic masks significant divergence in the dynamics of their different components. Over the period 2009-2017, portfolio investment – both debt and equity – and other investment had fallen substantially, whereas foreign direct investment (FDI) appeared the only investment class able to hold up. Around 2018, trends started to reverse, and during the pandemic changes have become more marked. FDI appears one of the most negatively affected components of capital flows, in advanced economies and especially in the European Union. According to data from the United Nations Conference on Trade and Development (UNCTAD)<sup>2</sup>, because of such changes, in 2020 developing economies accounted for about two thirds of global FDI inflows (with China being the main recipient). By contrast, portfolio and other investments seem to be weathering the crisis reasonably well.

In a global forward-looking perspective, many countries, both emerging and advanced economies, will be facing the difficult dilemma of how to avoid further build-up of debt that will be hard to service in the future and/or respond to inflationary pressures, while the global economy is fragile. Such developments are important for capital flows. Investors may become more selective when choosing the destination of their funds than they have been in the past.

Focusing on the EU in the global context, since the outbreak of the pandemic, EU FDI flows (both intra and extra) have been exceptionally low, and large disinvestment operations as well as changes in intra-group positions were in place almost systematically between 2018 Q3 and 2021 Q2. By contrast, intra- and extra-EU-27 portfolio investments have experienced a gradual increase since 2018 and more evidently in 2021. This is the case for outflows (assets) – both to other EU-27 countries and, above all, to the rest of the world – and for inflows (liabilities), which by contrast, are dominated by intra-EU-27 investment. The size of EU-27 portfolio assets reached a historical height in mid-2021. Portfolio investment has become far larger than FDI, which is a rather exceptional situation for the EU.

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<sup>2</sup> [https://unctad.org/system/files/official-document/diaeiainf2021d1\\_en.pdf](https://unctad.org/system/files/official-document/diaeiainf2021d1_en.pdf)

### **A challenging and less 'closely related' EU neighbourhood<sup>3</sup>**

With the United Kingdom's exit from the European Union, both the geography and the features of the EU neighbourhood have changed. The UK has become a 'new' and special neighbour. It is the only advanced economy and country with longstanding, strict economic ties with the EU. Yet, a common point between the UK and the Southern and Eastern Neighbourhood is that EU relations with such countries have become more uncertain, and could become increasingly difficult. In the case of the UK, this is because of the issues that are still pending about the Withdrawal Agreement. For the Southern and Eastern Neighbourhood regions, it is because of developments in relations with a major player in each of them, Turkey and Russia respectively.

From the evidence available in the report, it appears that 2016 – the year of the Brexit referendum – somehow worked as a temporary shock, which generated transitory reactions in capital flows. In general, it is very difficult to draw conclusions on the impact of the Brexit announcement and negotiations on EU-UK capital flows up to 2020. For the time being, evidence does not seem to fully support the findings of the literature that attempted to assess the Brexit impact ex-ante and pointed to a substantial fall in flows. However, as Brexit took full effect on 1 January 2021, post-Brexit developments in capital flows are unlikely to be fully realised up to 2020. As appears to be the case for trade – imports and exports have fallen substantially since January 2021 – new developments may have emerged in 2021 (and after).

When it comes to the countries on the southern shore of the Mediterranean (Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia) plus Turkey, it appears that capital flows linkages are very small with the first six countries. Yet, for some of them, like Tunisia and Morocco, the EU remains the most important source of foreign investment. Broadly speaking, FDI is not the most important source of foreign income for these countries. Remittances are more important than FDI in most of them, and Official Development Assistance (ODA) is also sizeable. While data for 2020 are not available for all variables of interest, up to 2019 FDI appears to be on a declining trend in all countries. This trend is extremely unlikely to have changed during the pandemic. Turkey is very different from the other Southern Mediterranean countries. In the decade after 2006 (year of the opening of negotiations for EU accession) ties with the EU grew strongly, including very large FDI flows into Turkey from EU countries and growing exposure of EU banks. However, the situation changed quite dramatically in 2018, when EU FDI, ODA and banks' exposure started to decline following growing tension between the EU and Turkey and a formal standstill of the accession negotiations. Data from 2020 are still incomplete, but for the time being a continuation, and even an acceleration, of previous downward trends emerges.

When it comes to the three selected Eastern Partnership Countries (Republic of Moldova, Georgia and Ukraine<sup>4</sup>), it is clear that capital flows linkages are very small. By contrast, Russia plays in a different league. FDI, which is the main EU foreign investment instrument in these countries, was already on a declining trend well before the COVID-19 pandemic (data for 2020 are not yet available). Similar consideration holds for the exposure of EU banks. In the case of Russia, three factors are important in understanding EU-Russia capital flows linkages. First, the annexation of the Crimean Peninsula in 2014 and the EU sanction on Russia led to a fall in FDI and EU banks' exposure to Russia. The latter fell by about 50% in 2015-2016 and then stabilised. Second, the evolution of FDI into Russia seems to

<sup>3</sup> The wording 'EU neighbourhood' is used in a loose sense in this report and includes only a selection of the countries belonging to the EU Neighbourhood in the European External Action Service (EEAS) sense, plus two. In particular, we consider the UK, six countries (Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia) out of the ten belonging to the EU Southern Neighbourhood, plus Turkey, and three countries (Republic of Moldova, Georgia and Ukraine) out of the six Eastern Partnership Countries, plus Russia.

<sup>4</sup> These are the three countries that have stipulated an agreement on a Deep and Comprehensive Free Trade Area (DCFTA) with the EU.

mimic Brent crude price developments. The latter declined to a historical low in 2020 and was associated with important foreign disinvestment operations. The huge increase in gas and oil prices in 2021 is likely to lead to the opposite effect. Third, the main counterparts of Russia's inward FDI are EU financial centres, in particular Cyprus and Malta. The latter two aspects shed some doubt on whether EU FDI into Russia really is EU direct and foreign investment (in the macroeconomic sense), or rather that financial centres host the headquarters of companies (mostly Special Purpose Entities (SPEs)) owned by Russian entrepreneurs, whose resources increase when the oil price increases (see findings below related to EU FDI).

### **EU financial integration and risk sharing**

The study contributes to better understanding of EU capital flows and financial integration by looking at two specific aspects: the resilience of financial integration and risk sharing.

First, the state of financial integration in the EU appears quite strong. We maintain that this is the case, although the two indicators used to measure the resilience of EU financial integration point to two different conclusions. The indicator based on debt versus equity instruments suggests an increase in resilience driven by growing cross-border equity holdings. By contrast, and in line with the trends mentioned above, the indicator based on FDI versus portfolio investment points to a fall in resilience during the COVID-19 crisis, driven by the fall in FDI. Based on the analysis provided in this report of the limitations of intra-EU FDI statistics in capturing stable real economy investment, the first indicator should be more reliable than the second.

Second, in times of crisis the concept of international risk sharing becomes particularly important, even more so in the context of the E(M)U. Following the framework of Asdrubali et al. (1996), the study estimates the degree of risk sharing in the EU and euro area until 2020, attempting to disentangle the role of different channels of shock absorption over different sub-periods. The approach allows potential differences with the euro area sovereign debt crisis to be captured. Two main results stand out. First, the unsmoothed part of the shock is usually higher in non-euro than euro area countries. In 2020, however, no substantial difference emerges between the two blocs, and more than 50% of the shock is smoothed in each of them. This is a rather exceptional level of risk sharing compared to previous periods. The second result is that the only risk-sharing channel that seems to be working (statistically different from zero) is the so-called 'credit channel'. The channel appears to have played a major role in absorbing the impact of the GDP collapse on consumption at the beginning of the COVID-19 crisis, when unprecedented policy measures were put in place. This is a very different outcome from during the GFC, when for euro area countries the smoothed share of the shock was very small, and for non-euro area countries the channel appears to have worked as an amplifier of the shock on consumption.

It is worth mentioning that supportive national fiscal policies and the resilience of the banking sector (no financial fragmentation), supported by the Banking Union, are likely to be responsible for the good performance of the credit channel. By contrast, the (persistent) limited risk-sharing capacity provided through the market channel can be linked to a delay in progress towards the Capital Markets Union (CMU). Finally, the NextGenEU funds, which are being distributed to Member States, are expected to enhance the shock absorption capacity in all EU countries. This is likely to be captured by a stronger credit channel and/or the activation of the fiscal transfer channel.

### **EU Member States' real FDI network**

Given the importance of improved FDI statistics for the purpose of understanding and assessing the functioning of the EU single market and capital integration in the EU, this study updates the work of Alcidi et al. (2020), which estimates EU FDI by distinguishing

'real' from 'phantom' FDI, and allocates real investment to ultimate investor economies. The objective of this exercise is: i) to estimate the portion of the total FDI position of each EU country that is directed into resident SPEs; ii) to estimate the true degree and network of EU FDI integration by removing FDI linkages from sheer numbers; and iii) to estimate the proportion of the recent changes in intra-EU FDI that are due to lower 'phantom' investments. The results are presented for the EU-28 and EU-27, in an effort to capture the importance of the UK.

In 2019, the stock of inward FDI in the EU-28 amounted to about EUR 15.3 trillion, with about EUR 8.4 trillion originating in the EU-28. These values are similar to those of 2018. Of the total amount, just less than half (46%) of the inward FDI positions in the EU-28, i.e. about 7 trillion, involve SPEs (this is just below the figure from the previous year)

As in 2018, in Malta, Luxembourg and Cyprus, the stock of inward FDI is almost entirely (more than 90%) directed into SPEs, in the Netherlands more than two thirds and in Hungary close to half. By contrast, in the larger EU economies such as France, Germany, Italy and (to a lesser extent) Spain, inward FDIs are totally or almost totally real.

Based on EU company-level data, the stock of 'real' (non-SPE) inward FDI is broken down into immediate and ultimate investors. Standard statistics rely on the location of immediate investors and could therefore be misleading in identifying the actual source of investment. The study finds that for almost a third of real FDI in the EU-28 (i.e. EUR 2.6 trillion out of EUR 8.3 trillion) the country of the ultimate investors is different from that of the immediate investors. For those FDIs, investment decisions and the associated risks are ultimately borne by companies residing in a different country to the one from which the FDI position is reported under the official statistics. The US continues to be not only the most important direct investor (where immediate and ultimate investor country coincides) but also the most important indirect investor into the EU-28. It accounted for about 30% of the indirect real EU-28 FDIs. Yet, this is lower than in 2018, when was responsible for about 40%. It should be recalled that 2018 was a special year due to the Tax Act.

The distinction between ultimate and immediate investor countries (i.e. between direct and indirect investment) allows us to separate intra- and extra-EU FDI with greater accuracy. The estimates indicate that, in 2019, about one third of the total real FDI positions in the EU-28 (i.e. EUR 2.8 trillion or 34% of total real FDI) came from ultimate investors residing outside the EU-28 countries, while the investment was intermediated by other EU-28 countries. Such an amount is typically included in official statistics as intra-EU FDI, because the immediate investor is based in an EU country, hence increasing what appears to be intra-EU FDI. This is a much bigger amount (by about half a trillion) than if one considers the EU-27, meaning that the UK intermediates large investment from outside the EU into the EU.

Among the EU countries, the largest difference between real immediate and real ultimate FDI investors is registered in Luxembourg and the Netherlands. Real FDIs with ultimate owners resident in Luxembourg and the Netherlands are much lower than the total (EUR 0.4 trillion with ultimate owners in each country against EUR 1.1 and EUR 1 trillion respectively of real immediate FDIs). Contrary to this, real ultimate FDIs from the US are estimated to be some 75% larger (EUR 1.8 trillion) than real immediate FDIs (EUR 1 trillion). In 2019, similar consideration holds for 'other world economies', where real ultimate FDIs are estimated to be substantially larger (about EUR 1.5 trillion) than real immediate FDIs (EUR 1.1 trillion).

With the exception of Switzerland, for all non-EU countries, FDI (into the EU) based on ultimate investor location is substantially larger than real immediate FDI. In contrast, a very small amount is likely to be recorded as non-EU (immediate investor), but in fact the ultimate investor is based in an EU country.

While these results are based on estimations, and exact numbers should be taken with a pinch of salt, their magnitude leaves little doubt about the importance of this phenomenon.

### **Conclusions**

Until the pandemic is under control, the key policy priority for governments will be to make sure that the recovery in place is not threatened, and that uncertainty does not increase further. However, the Omicron variant is proving that risks about the evolution of the pandemic persist. Furthermore, risks about macroeconomic developments are increasing.

In advanced economies, especially in the US, inflation may represent an important source of risk. Commodity price increases are likely to be temporary, but the US monetary policy response to inflation could have global implications. Monetary tightening will lead to a dollar appreciation, hence affecting emerging market economy (EME) capital flows and borrowing capacity. It is still unclear whether the European Central Bank (ECB) will have to follow suit and move away faster than foreseen from the current monetary policy stance, given the similar price dynamics in Europe, though of a smaller magnitude. From an EU perspective, while in several Member States also national fiscal policy stances will have to adjust to ensure debt sustainability, NextGenEU will continue to support the economy and will avoid abrupt changes.

## 1 Introduction

The aim of this report is to monitor and analyse EU capital movements in a global context, focusing on the impact of the COVID-19 pandemic in 2020 and its aftermath, and how the changes translated into new capital flows developments in relation to pre-existing trends.

Between 2020 and 2021, the macroeconomic context evolved dramatically, driven by a fast sequence of events. The outbreak of the pandemic and the lockdowns imposed across the globe, which made the world's gross domestic product (GDP) collapse, were quickly followed by unprecedented policy support, which led to a very fast recovery. Although the pandemic's impact on economic activity continued to weaken in the course of 2021 thanks to the vaccine rollout and the relaxation of containment measures, COVID-19 has not yet been defeated. The spread of the Omicron variant and the subsequent impressive surge of cases have pushed some countries, both in the European Union (EU) and in many other countries, to reinstate their containment measures (mostly quarantines), with some impact – though moderate – on the economy. The pandemic still represents a major risk, especially to those advanced economies (AEs) where hesitancy to vaccinate is high, and in developing and less-developed economies where delays in the distribution of the vaccine are resulting in overall limited coverage of the population. Looking ahead to 2022, this may imply that for well-vaccinated countries COVID-19 will become an endemic disease, and the rapid development of antiviral drugs that minimise the severity of symptoms will likely facilitate a return to (seemingly) pre-pandemic conditions. While this is good news, overall it will result in an increased gap between the two groups of countries, at global level, but potentially also within the EU.

The different waves of COVID-19 have resulted in major macroeconomic swings. Data suggest that after the sharp GDP fall of 2020, which was much larger than during the global financial crisis (GFC) in almost all countries of the world, in particular in the EU economies, in 2021 the world economy recovered strongly, and International Monetary Fund (IMF) forecasts point to a sustained recovery in 2022 (see Table 1-1).

*Table 1-1. Real growth rates comparison (selected regions and countries)*

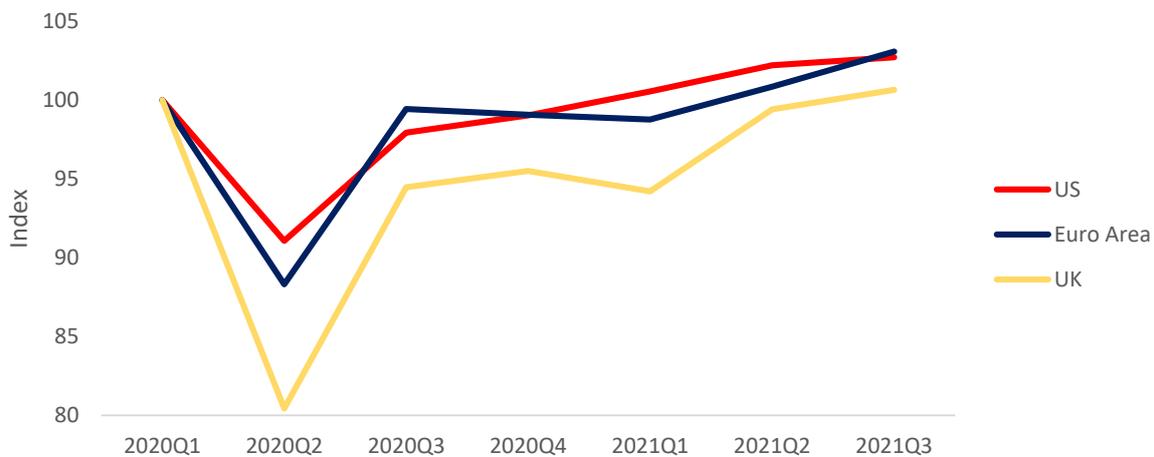
	Projection October 2021 (%)		
	2020	2021	2022
World	-3.3	6.0	4.4
Advanced economies	-4.5	5.2	4.5
US	-3.4	6.4	5.2
EU	-6.0	5.1	4.4
Germany	-4.6	3.1	4.6
France	-8.0	6.3	3.9
Italy	-8.9	5.8	4.2
Spain	-10.8	5.7	6.4
UK	-9.8	6.8	5.0
Japan	-4.6	2.4	3.2
Emerging markets and developing economies	-2.1	6.4	5.1
China	2.3	8.0	5.6

**Source:** IMF, World Economic Outlook (WEO), October 2021.

Projections for 2021 were revised up in October (compared to April) for the EU and down for the United States (US) and China, among others, while for 2022 most countries were revised upwards.

In early 2021, a fast US vaccine rollout and the huge fiscal stimulus announced by the new Biden Administration, in contrast with the EU's initial delays in vaccine production, seemed to point to a quicker US recovery. However, within a few months the situation had changed completely. Improvements in the health situation and the relaxation of pandemic containment measures allowed for the reopening of most sectors in the EU, including business services and tourism. Combined with strong consumption, recovery in Europe exceeded expectations, whereas the third wave and resistance to vaccination in large pockets of the US slowed down the economy. This trend is confirmed by the latest actual data for 2021 Q2 and Q3 (see Figure 1-1), which show recovery in the EU being faster than in the US. In the United Kingdom (UK), the GDP trough was exceptional in 2020 Q2, recovery was initially fast but then slowed down in summer 2021.

Figure 1-1. Real GDP: euro area, US and UK



**Source:** Federal Reserve Economic Data (FRED), Office for National Statistics (ONS) for the UK, chained volume measures.

While a certain optimism seems to prevail for 2022 and onwards, the level of uncertainty is still high and important downside risks exist. The strong surge in COVID-19 cases since October 2021 reminds us that COVID-19 has not been defeated yet. Further progress in the vaccine rollout, also outside the EU, remains crucial for a sustained recovery.

Other major sources of uncertainty, related to new shocks linked to geopolitical dynamics and the exit strategies of the policy responses, could hold back a robust recovery, at least temporarily.

An abrupt surge in commodity prices and disruption in supply chains are creating serious concerns in the US, where faster than expected inflation is putting pressure on the Federal Reserve Bank (FED) to change its stance. For the time being, inflationary concerns appear smaller in Europe, but events in the US may signal a major change in price dynamics after three decades of great moderation, and years during which deflationary pressures were more serious than inflationary ones. Furthermore, recent months have seen rapid increases in wholesale prices of natural gas and oil. While the increases are expected to be relatively short lived, rising energy prices are translating into rising retail energy prices, especially in some Member States. This is likely to increase inflation (the European Commission's autumn forecasts<sup>5</sup> suggest consumer price inflation in the euro area of around 0.9 percentage points, higher than expected in spring, because of the energy price alone) and

<sup>5</sup> European Commission autumn economic forecasts 2021.

also to negatively impact GDP and the trade balance. As a consequence, the timing of the monetary policy exit strategy may have to be adapted.

With regard to the upside risks, EU funds under the NextGenerationEU (NextGenEU) plan are starting to be disbursed now, so a new fiscal impetus in 2022 (and possibly 2023) is expected to continue to stimulate the EU economy. This will especially be the case in those countries that had experienced the largest impact of the pandemic, and which are the largest beneficiaries of the funds.

In such an uncertain macroeconomic context, capital flows appear to have stabilised after the abrupt swings of the first half of 2020, mostly in portfolio investment, and a continuation – in some cases acceleration – of pre-COVID-19 trends can be observed.

The rest of the study is organised as follows. The next section is devoted to monitoring global trends and developments in international capital movements since 2005. This is complemented by an assessment of the main recent trends in the composition of capital flows and COVID-19-related developments in emerging market economies (EMEs) as opposed to AEs. Section 3 offers an overview of the intra-EU capital flows, and looks in more detail at capital flows towards and from three EU neighbourhoods<sup>6</sup>: the UK, the South-Med region, including Turkey, and the eastern neighbourhood, including Russia. The purpose is to better understand the extent to which more uncertain financial (and political) relations with these countries are affecting extra-EU capital flows.

Section 4 focuses on US-euro area linkages as driven by the policy responses to COVID-19. As a first step, a macroeconomic empirical analysis aims to capture spillover effects between the two major AE groups and their usual transmission mechanisms up to the pandemic. As a second step, potential spillover effects arising from diverging policy stances (fiscal and monetary) are assessed.

Section 5 focuses on EU (and euro area) financial integration by monitoring indicators of the state of resilience of financial integration. Section 6 is devoted to the analysis of the EU countries' foreign direct investment (FDI) network in 2019, distinguishing 'real' FDI positions from those directed at special purpose entities (SPEs). Section 7 concludes and highlights the risks ahead.

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<sup>6</sup> The wording 'EU neighbourhood' is used in a loose sense in this report and includes only a selection of the countries belonging to the EU neighbourhood in the European External Action Service (EEAS) sense, plus two. In particular, we consider the UK, six countries (Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia) out of the 10 belonging to the EU southern neighbourhood, plus Turkey, and three countries (Republic of Moldova, Georgia and Ukraine) out of the six Eastern Partnership countries, plus Russia.

## 2 Global trends and developments during the COVID-19 pandemic

This section presents a global overview of the main components of the balance of payments (BoP), namely current and financial account, to show the broad direction of capital flows across groups of countries and over time, as well as to analyse the main effects of the COVID-19 pandemic globally and across different groups and types of economies. The main objective of this section is to provide the global dimension of the analysis of capital flows development in the EU.

For clarity, in the first part of this section countries are clustered into groups based on similar characteristics (see Box 1). The second part of the section highlights differences and similarities across AEs and EMEs, both in recent trends and the changes brought about by the pandemic.

### Box 1. Definition of country groups

Country groups are identified to make the data visualisation readable, and are mainly based on common characteristics and global relevance, as measured by GDP. The groups are:

- EU
- China
- Japan
- UK
- US
- Financial centres: Hong Kong, Singapore and Switzerland
- Oil exporters: Norway, Russia and Saudi Arabia
- Other AEs: Australia, Canada and New Zealand
- Other EMEs: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico and Uruguay, India, Indonesia, South Africa, Turkey, Philippines, South Korea and Thailand

Before moving to the data, it is important to recall the difference between net and gross capital flows. 'Net' capital flows at national level are simply the inverse of current account positions. They are the accounting counterpart of a surplus or deficit in purchases of goods and services<sup>7</sup>, after taking into account the net errors and omission component of the balance of payments. Net flows reflect a change in net holdings of financial assets by residents as financial assets are exchanged for imported goods and services. Tracking net capital flows helps us to understand the evolution of the real economy and emerging imbalances, including growing foreign indebtedness.

It is important to note, however, that when residents and non-residents buy and sell financial assets in exchange for other financial assets, such transactions do not affect net holdings of financial assets, but only gross holdings (gross inflows and outflows), as both sides of the balance sheet – assets and liabilities – move in tandem.

Net inflows are defined as gross inflows minus gross outflows. It should be noted that 'gross inflows' and 'gross outflows' are actually 'net' items. Indeed, gross capital inflows are non-residents' purchases of domestic assets minus their sales of such assets, while gross outflows are residents' purchases of foreign assets minus their sales of such assets. This

<sup>7</sup> To be fully accurate, current account also comprises primary and secondary income accounts in addition to trade in goods and services. In addition, financial flows, i.e. financial account balance, should be equal to net lending/borrowing (neglecting errors and omissions), i.e. the sum of current and capital account balances. Capital account balances for several EU countries are non-negligible, and can be higher (also in absolute value) than current account balances.

implies that gross inflows and outflows can have negative sign. This is, for instance, the case when disinvestment occurs or non-residents sell previously owned domestic assets in larger quantities than the domestic assets they newly buy.

Gross capital flows can affect the overall size of national balance sheets and their composition, the scale of international financial intermediation, and financial asset prices. Tracking gross flows is helpful in understanding financial risks and vulnerabilities, in contrast to net flows, which do not capture changes in the behaviour of domestic and foreign investors.

The global financial crisis (GFC) of 2007-2009 marked a turning point in recognising the importance of looking at gross flows. Before then, academic research was mostly focused on net measures, or the evolution of current accounts as a measure of macro vulnerabilities and imbalance. Limited attention was paid to the large rise in gross flows that reflected the growth of financial markets and the internationalisation of banking, among other trends. But the crisis proved that the financial sector can influence real activity quite dramatically. Gross flows, including banking credit flows, and the associated shifts in asset prices and exchange rates, can transmit and amplify spillovers and contagion across countries. Even economies that start from a relatively healthy macroeconomic position may face severe consequences if there are large shifts in gross flows (e.g. a sudden stop).

As illustrated in greater detail in the next section, the GFC resulted in a major shock on gross capital flows, which abruptly reverted pre-existing trends. Their size fell dramatically, and it became clear that high risks can be associated with sharp increases and decreases in gross capital inflows and outflows.

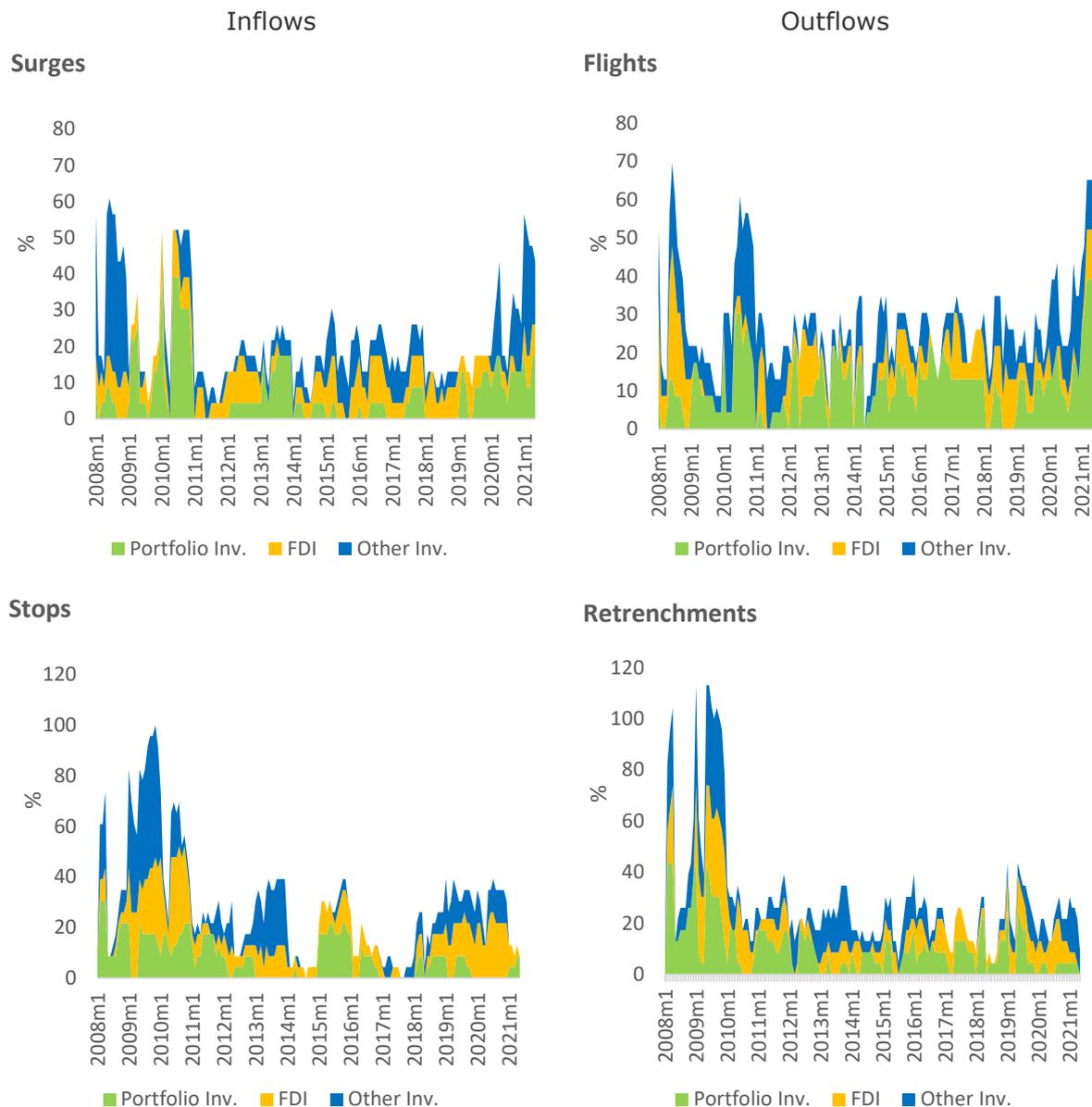
A natural question is whether the COVID-19 crisis will also lead to major changes and large risks materialising.

As pointed out by the Bank for International Settlements (BIS, 2021), the degree of risk associated with gross capital flows depends on a combination of domestic and external factors. The modalities by which the funds are channelled into a foreign economy, as well as the purpose of the funds, can also play a role. For instance, intermediation by banks and the non-bank financial sector entails different risks to direct company investments into affiliated companies or lending to a government.

Against this background, there are several differences between the COVID-19 crisis and the GFC. Both the financial crisis and the COVID-19 pandemic were a shock on a global scale, and triggered a squeeze in global funding and disruptions in international capital flows. However, the size, the number of countries concerned and the dynamics were quite different.

To get a sense of the differences between the two crises, following the approach of De Crescenzo and Lepers (2021) and using the Organisation for Economic Co-operation and Development (OECD) monthly capital flow dataset, we have identified the extreme episodes in different capital flow types for 23 EU countries during the period 2008 M1 to 2021 M5. It appears that the impact of the GFC was much bigger. According to the OECD data, the number of countries that experienced a sudden stop (defined as an abrupt dry-up in non-resident inflows) was extraordinarily higher.

Figure 2-1. Capital flows extreme events in EU countries



**Source:** Authors' calculations, based on OECD monthly database.

**Notes:** Data not available for Austria, Cyprus, Malta or Ireland. The vertical axis represents the share of EU countries in the sample that experienced the corresponding episodes at each point in time. The definition implies that it can exceed 100% when countries experience episodes in more than one capital flow type.

In terms of dynamics, during the GFC, countries experienced a sudden stop in portfolio equity followed by a sudden stop in other flows, mostly banking. Such dynamic has not emerged during the COVID crisis. On the contrary, as illustrated below (see Figure 2-17 and Figure 2-18) cross-border bank claims have increased. In particular, AE banks have seen massive inflows. In general, banking flows, which played a key role in making the GFC such, appear much more resilient during COVID-19, possibly because of changes in the regulatory framework, but other factors can also explain the different dynamics.

In general, the understanding of vulnerabilities associated with abrupt changes in gross capital flows has improved dramatically in the last decade. This has rendered policy interventions better targeted and more effective. For instance, the extraordinary sudden stop of capital, mostly in portfolio flows, experienced by several EMEs in the first quarter

of 2020 quickly died out thanks to policy interventions and international policy coordination. Countries responded by intervening to support depreciating currencies, and several central banks, first and foremost the FED, established or expanded bilateral swap lines. Unlike in the past, EMEs' policy responses in the capital flows area focused on relaxing rules on inflows to ease liquidity and increase access to foreign funding (OECD, 2020) rather than imposing capital control. In addition, in response to the collapse in GDP driven by the lockdowns, unprecedented fiscal and monetary policy responses were implemented to mitigate the impact on the real economy. As shown above, this resulted in a V-shaped recovery, a very different pattern to that seen during the GFC, during which real economy dynamics generated a feedback loop into the financial sector and deteriorated risk perception. This vicious circle contributed to a large negative effect on capital flows, especially on very liquid and short-term instruments.

These results are in line with the findings of De Crescenzo and Lepers (2021), who consider a wider set of AEs. On the one hand, they seem to suggest that high volatility in FDI is not only an EU phenomenon; on the other hand, it should be recognised that EU FDI is a key driver of global trends.

In the comparison between the GFC and COVID-19, one aspect that deserves further investigation is the role of non-bank financial institutions. According to the OECD (2021), these institutions have played an important role in the COVID-19 episode, and may have contributed to downplaying the relevance of global factors in driving extreme episodes.

With this premise, the following section first provides an overview of the main items of the balance of payment, and then looks in detail at global net and gross flows, highlighting differences in trends and new developments, contrasting AEs and EMEs.

## 2.1 Global overview

This sub-section provides an overview of the net flows focusing on BoP components, which are informative about resource availability and potential constraints in lending and borrowing associated with the real economy.

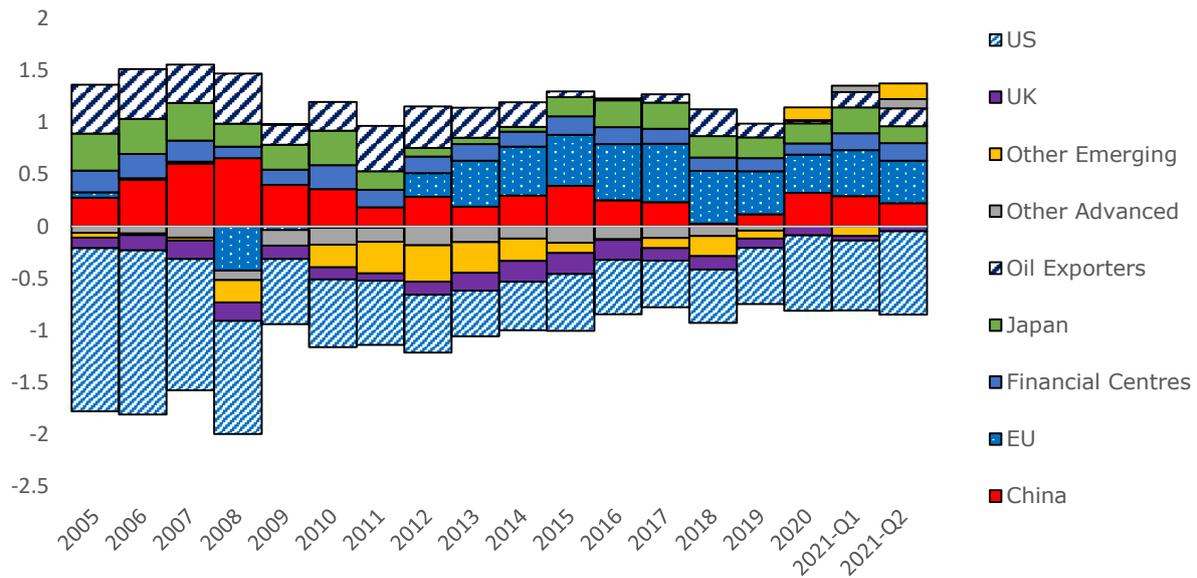
It should first be noted that world GDP fell by 3.3% in 2020, so in the ratios shown in the figures below there is a strong denominator effect.

Until the outbreak of COVID-19, the two countries with the largest world current account deficits (see Figure 2-2) showed limited change in their balances. The US deficit continued oscillating around 0.6% of world GDP and the UK's around 0.12%. Other emerging countries slowly reduced their negative position. On the surplus side, over time, China's large current account surplus had almost disappeared in 2018, and showed a mild rebound in 2019. In 2019, the EU current account surplus exhibited a small decline compared with previous years, but remained the largest on a global scale.

The COVID-19 pandemic outbreak brought some change to current account balances, yet it appears relatively small compared to the violence and magnitude of the shock, once corrected for GDP. The oil exporter countries' surplus, which was already on a declining trend, disappeared. Likewise, the deficit of emerging economies. China's surplus returned to substantial, while the US deficit widened and EU surplus remained unchanged.

Based on the first two quarters of 2021 and given the current policies in place, it seems reasonable to expect a widening of the global current account (im)balances. The very expansionary fiscal policy stance of the US will continue to expand its deficit and the corresponding larger surpluses of its counterparts, mostly the EU. According to the IMF (2021), the balances are expected to narrow after 2021, reflecting anticipated declines in the US deficit and China's surplus.

Figure 2-2. Current account balances, % of world GDP, 2005-2021 Q2

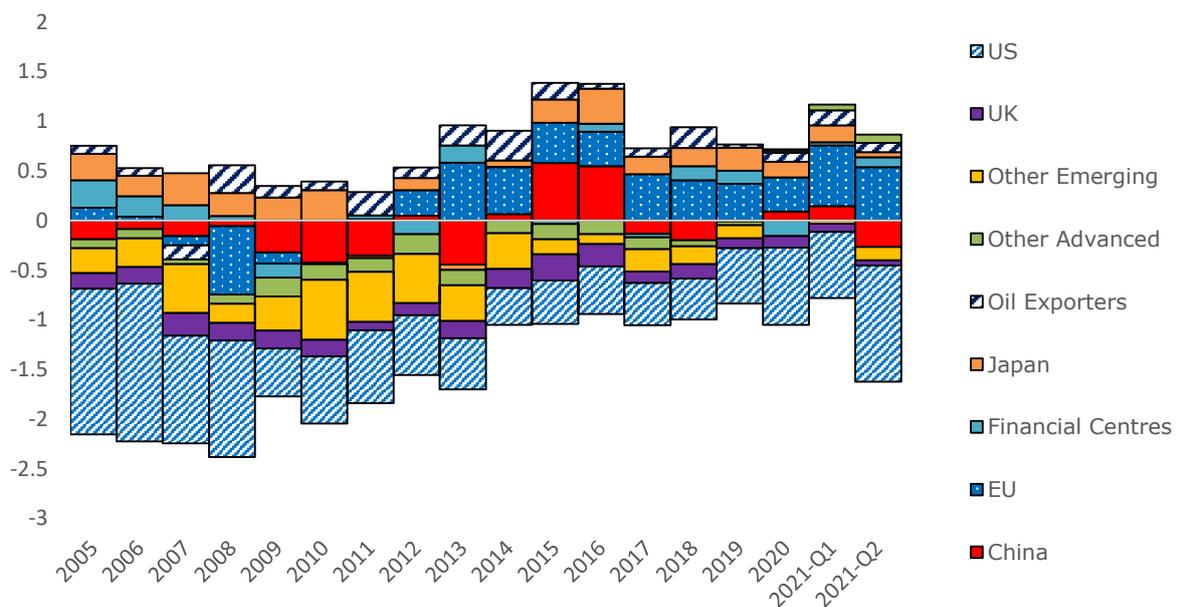


Source: IMF, International Financial Statistics (IFS) and WEO, November 2021.

It is worthwhile recalling that the EU surplus is mostly driven by euro area countries. In absolute value, the euro area surplus narrowed by about 10%, from EUR 280 billion in 2019 to EUR 250 billion in 2020, but because of the large fall in the euro area GDP this resulted in a very small decline as a percentage of its GDP, from 2.3 to 2.2%. This decline was mostly driven by a substantial fall in services, induced by travel restrictions.

The 2020 moderate changes (as % of GDP) in the current account are mirrored by moderate changes in the size and geographical distribution of the financial account balances (see Figure 2-3). The large swings observed in the first two quarters of 2020 were largely compensated by adjustments in the last two quarters. Overall, the main change for 2020 at global level, compared to 2019, is an increase in the US negative balance. For 2021, and reflecting the current account, this seems to continue and the US keeps expanding its negative financial balance, while the EU's positive balance appears to grow.

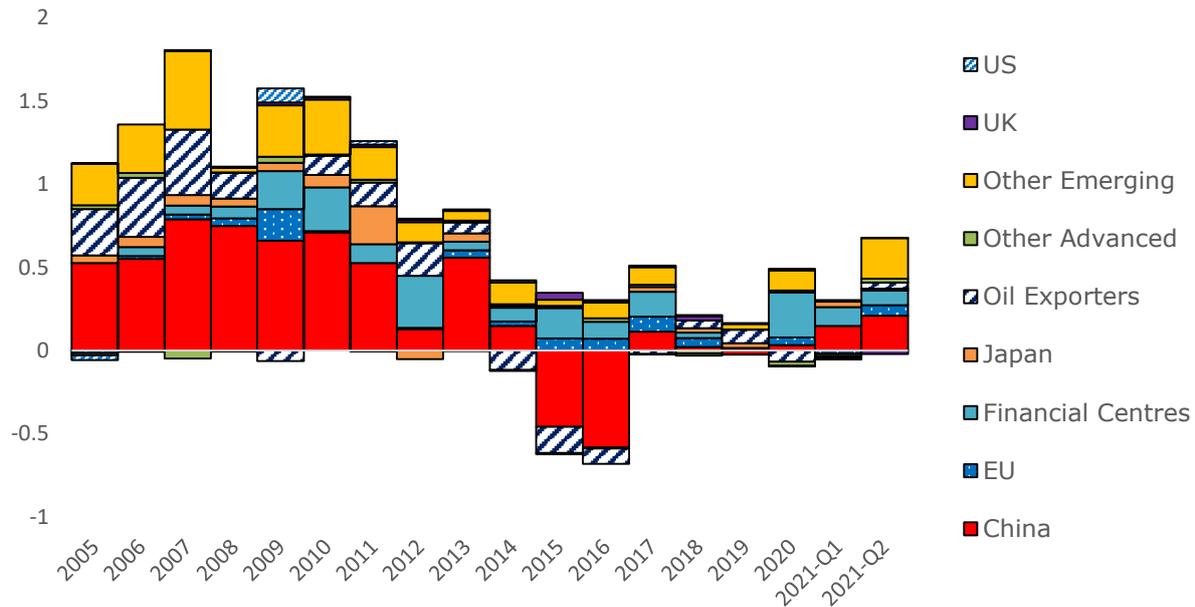
Figure 2-3. Financial account balances, % of world GDP, 2005-2021 Q2



Source: IMF, IFS and WEO, November 2021.

A similar observation holds for reserve accumulation activities (Figure 2-4). Following the marked decline after 2013, owing to changes in China’s behaviour and the fall in the surplus of oil-exporting countries, the years 2017-2019 were characterised by limited activity. This remains true for 2020, with one exception, namely a large increase in reserves recorded by financial centres. It is worth noting that financial centres also exhibited reserve accumulation in the aftermath of the GFC. This seems to continue in 2021. Furthermore, China and other EMEs appear to have been quite active in the accumulation of reserves, especially in the second quarter. It remains to be seen whether this will continue.

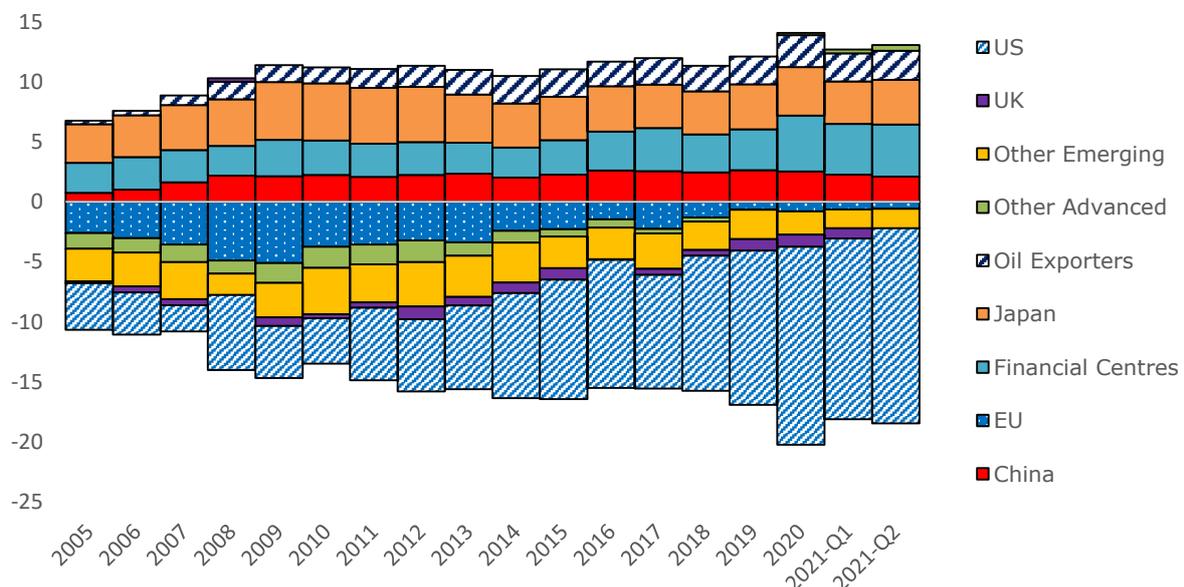
Figure 2-4. Reserve and related items, % of world GDP, 2005-2021 Q2



Source: IMF, IFS and WEO, November 2021.

The year 2020 appears to have marked a historical height in global creditor and debtor positions (Figure 2-5).

Figure 2-5. Global creditor and debtor positions: IIP, % of world GDP, 2005-2021 Q2



**Source:** IMF, IFS and WEO, November 2021.

While ratios are inflated by the drop in the denominator, a clear trend whereby most individual countries and country groups continued to reinforce their respective positions, either as creditor or debtor, appears to have been now in place from at least 2005. This is clearly the case for the US, for which the debtor position widened substantially, and for financial centres, which enlarged their creditor position. The main exception is the EU, which gradually eliminated its negative position.

For 2021, given the strong rebound in GDP, the first two quarters point to a stabilisation of international investment positions (IIPs), even if global balances are growing. IIPs may even decline in the rest of the year. In general terms, the persistent and marked growth trend in creditor and debtor positions may represent a risk to both debtor and creditor economies.

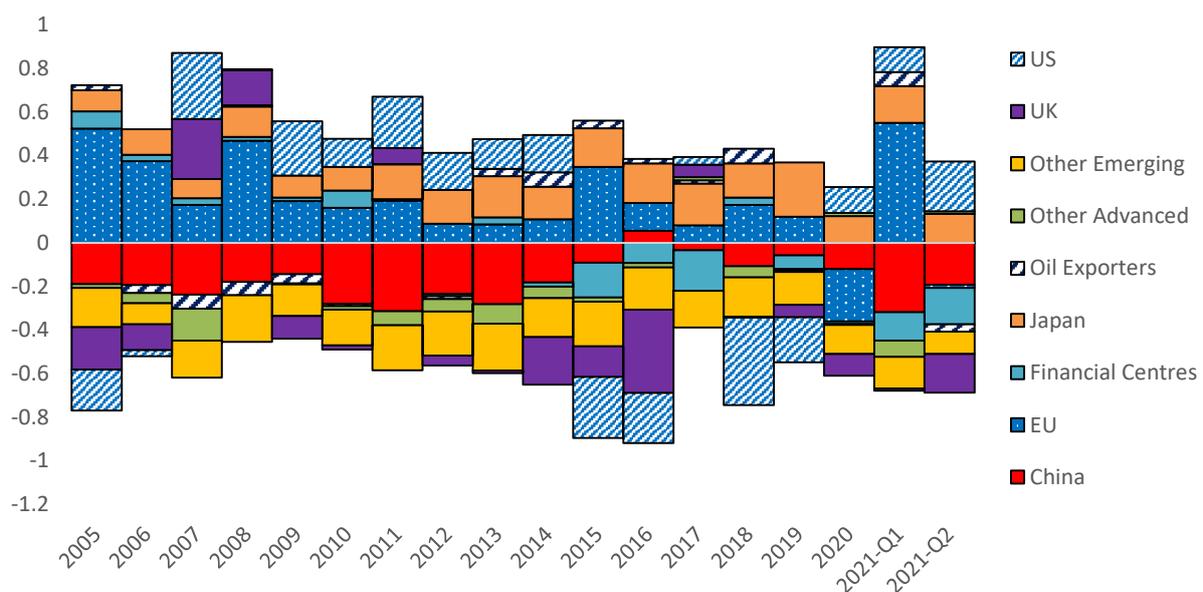
### 2.1.1 Global net and gross flows by investment class

As mentioned above, net and aggregate financial accounts can hide major developments and risks associated with gross flows, as well as with the different investment classes: FDI, portfolio investment and other investment.

#### Foreign direct investment

When looking at the regional composition of net FDI flows (see Figure 2-6), 2020 seems to have marked important changes for the US and the EU. The US turned from net receiver to net investor of FDI for the first time since 2014. The EU, which for the first time in 2019 (after 15 years of net FDI outflows) appeared to have a net inflow of FDI, saw its net inflows increase in 2020 and become the largest in the world. It should be recalled that the EU is the main FDI partner of the US, and the negative spike in US FDI inflows in 2018 was related to the repatriation of previous earnings from US multinationals after the enactment of the Tax Cuts and Jobs Act of 2017<sup>8</sup>. Changes in other regions and countries appear to be minor.

Figure 2-6. Net FDI flows, % of world GDP, 2005-2021 Q2



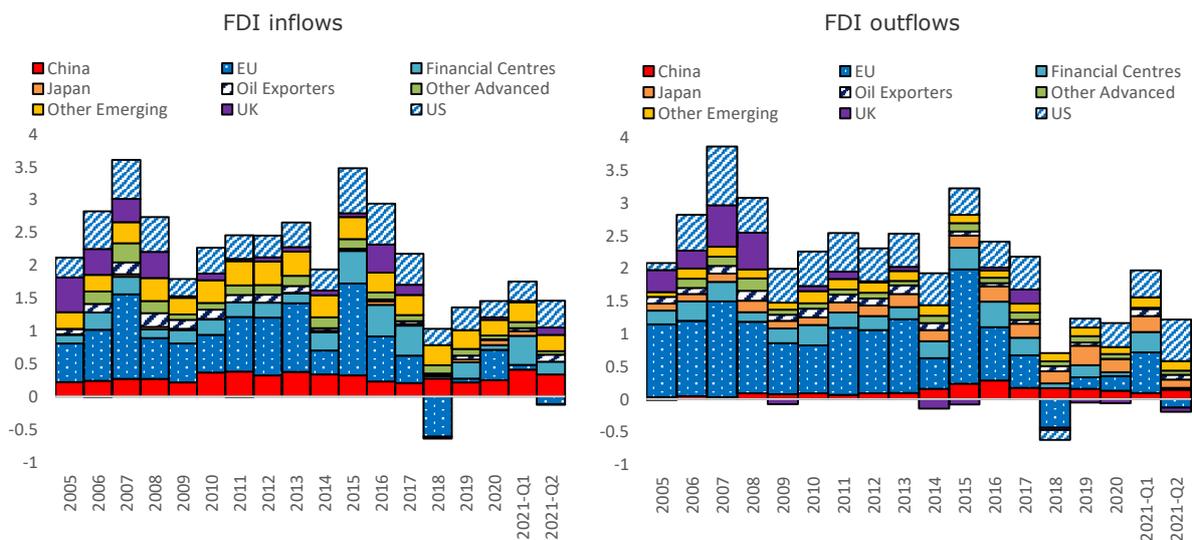
**Source:** IMF, IFS and WEO, November 2021.

<sup>8</sup> See Alcidi et al. (2020).

A more patent impact of the US tax policy changes is visible in the gross flows and in particular in the negative FDI inflows and negative FDI outflows of the EU in 2018, both signalling important disinvestment operations<sup>9</sup>.

As for 2020, gross FDI flows, both inflows and outflows, in level are much smaller than those of the previous year. As a percentage of GDP, however, the ratios appear similar (see *Figure 2-7*), due to the GDP fall. This is a very different case to the large declines recorded in 2009. Looking at the chart, 2018 appears a much more special year than 2020 for FDI, in particular for EU FDI.

*Figure 2-7. Global gross FDI flows, % of world GDP, 2005-2021 Q2*



**Source:** IMF, IFS and WEO, November 2021.

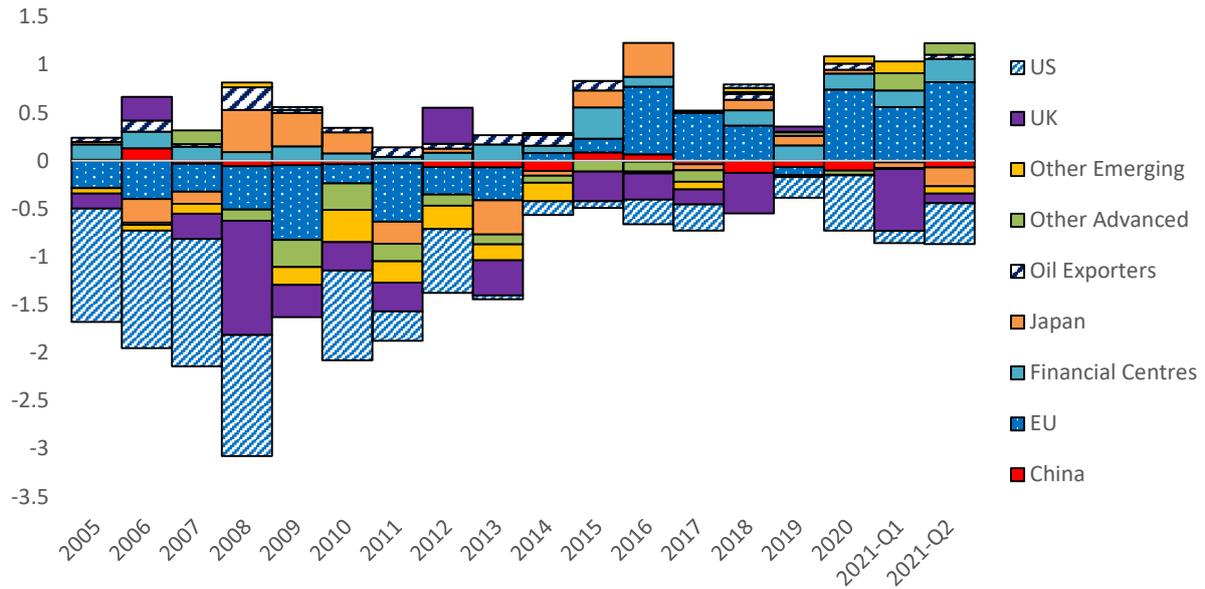
According to the OECD (2021), OECD economies experienced a very large decline in gross FDI inflows in 2020, mostly driven by major divestments from Switzerland and the Netherlands, e.g. sales of existing stakes in companies residing in these two countries by foreign parents, and to large decreases in FDI flows in the US. In 2021, FDI inflow levels into the OECD surged dramatically, and China became the major FDI recipient worldwide, followed by the US. Similarly, FDI outflows decreased in 2020, driven by large negative outflows from the Netherlands, to strongly rebound in the first half of 2021.

### **Portfolio investment**

The overview of global portfolio flows appears dominated by AEs, while the relative shares in global positions and flows of EMEs are negligible. This is definitely not a new phenomenon, and is explained by the fact that financial markets are less developed in EMEs, and in relative terms EME flows appear almost irrelevant. Yet, disregarding them would be misleading (see Section 2.2). Focusing on the macro, global overview, the global distribution of portfolio net flows is dominated by the US, EU and UK (see *Figure 2-8*).

<sup>9</sup> This aspect will be illustrated and discussed in greater detail in Section 5.

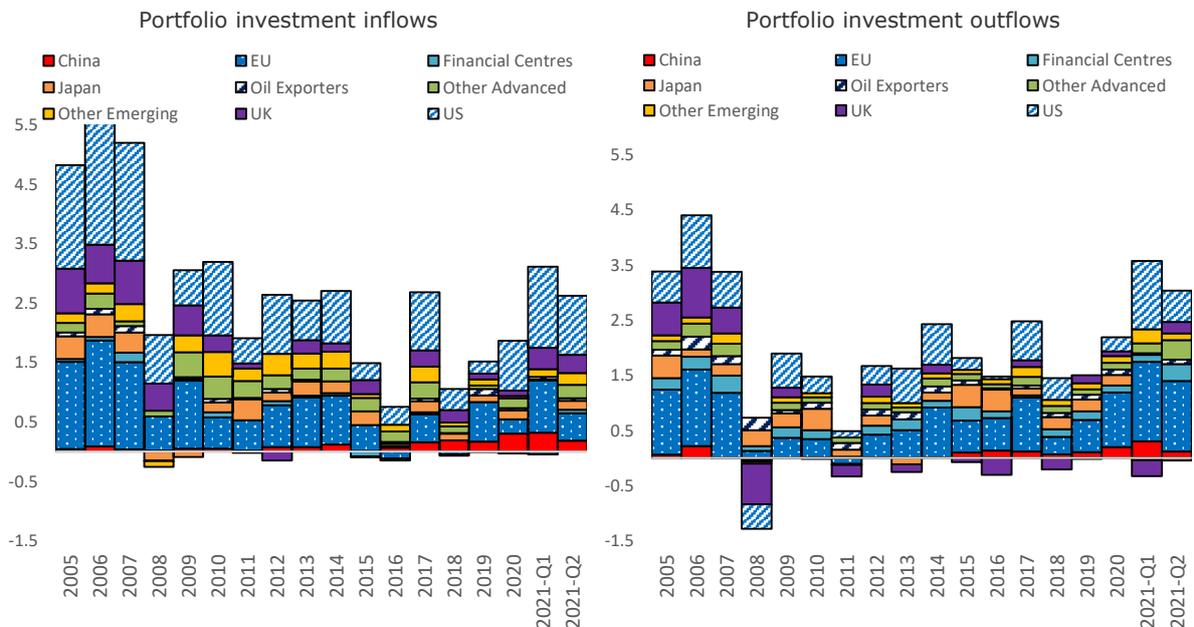
Figure 2-8. Net portfolio investment flows, % of world GDP, 2005-2021 Q2



Source: IMF, IFS and WEO, November 2021.

The EU’s dominance is broadly confirmed by the gross inflows and outflows of portfolio investments. In 2020, the EU recorded gross outflows of exceptional size, even if this is not very visible as a percentage of GDP. Such large EU portfolio outflows seem to have replaced the large FDI outflows that the EU was used to exhibiting before 2018. Such a trend seems to continue in 2021. While FDI outflows are small and even negative, EU portfolio outflows are the largest at global level.

Figure 2-9. Gross portfolio investment flows, % of world GDP, 2005-2021 Q2

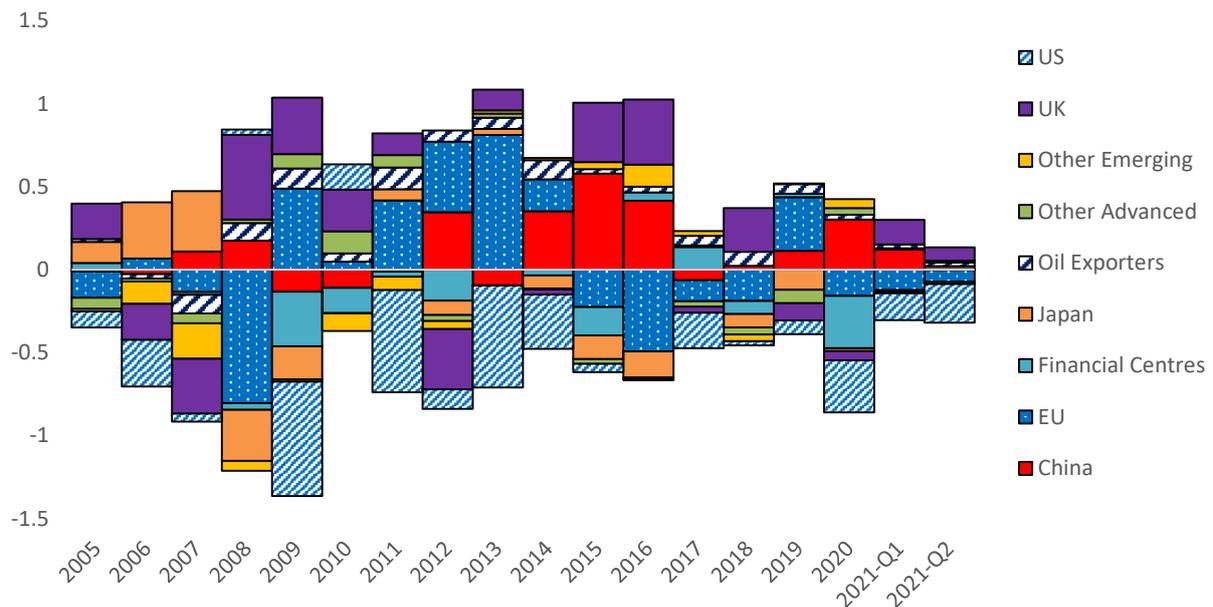


Source: IMF, IFS and WEO, November 2021.

## Other investment

The global distribution of the 'other investment' category tends to be much more volatile than the other two types of investment from one year to the next. This is also the case for the EU (see Figure 2-10). In 2019, after two years of much smaller net positions for virtually all countries, EU residents' net acquisitions of foreign assets increased substantially to become the largest in the world. In 2020, EU net flows turned substantially negative, driven by the EU, US, financial centres and UK. The main counterpart appears to be China's residents' net acquisitions of foreign assets. In 2021, both China's and the financial centres' (positive and negative, respectively) net flows strongly declined.

Figure 2-10. Net other investment flows, % of world GDP, 2005-2021 Q2

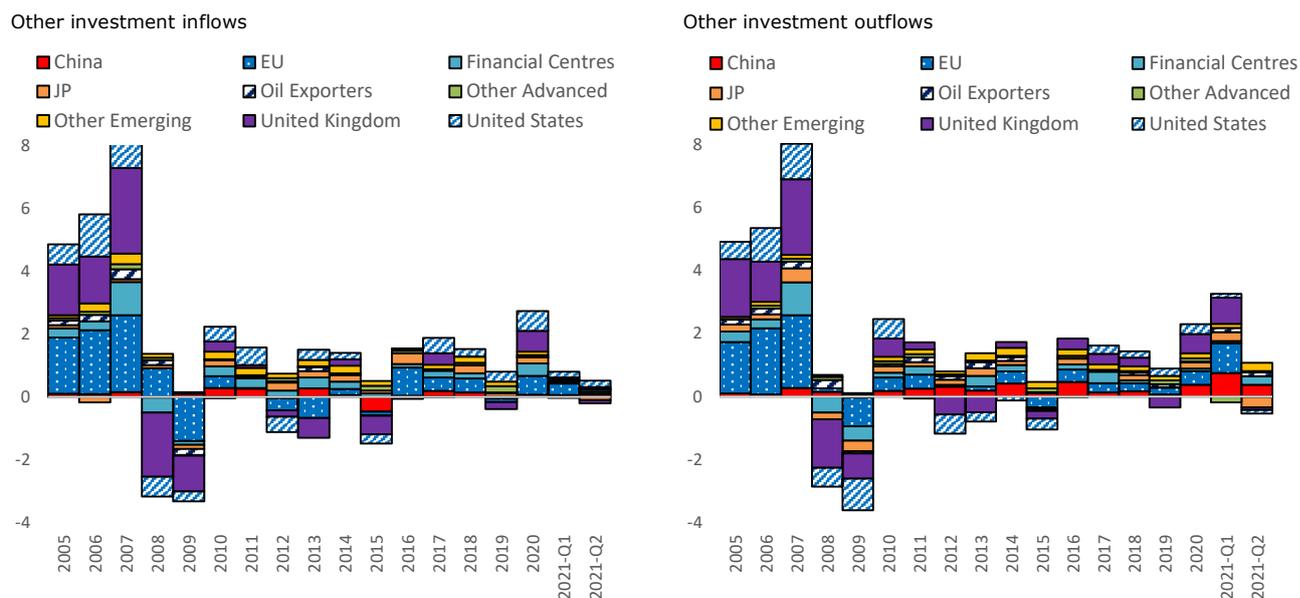


**Source:** IMF, IFS and WEO, November 2021.

Gross other investment flows can be very large compared to FDI and portfolio investment (see the larger scale in Figure 2-11 compared to Figure 2-10), and very volatile especially when looking at high frequency data.

Quarterly data for the first half of 2020 show both exceptional magnitude and volatility driven by uncertainty around the pandemic, yet the dynamics in the following period offset initial changes. On that line, data for Q1 and Q2 of 2021 suggest a much more stable environment. It is interesting to note that while other investment inflows and outflows literally collapsed (both turning negative) during the GFC, this has not been the case during the COVID-19 pandemic. On the contrary, in 2020, both gross inflows and outflows were larger than in the past.

Figure 2-11. Gross other investment flows, % of world GDP, 2005-2021 Q2

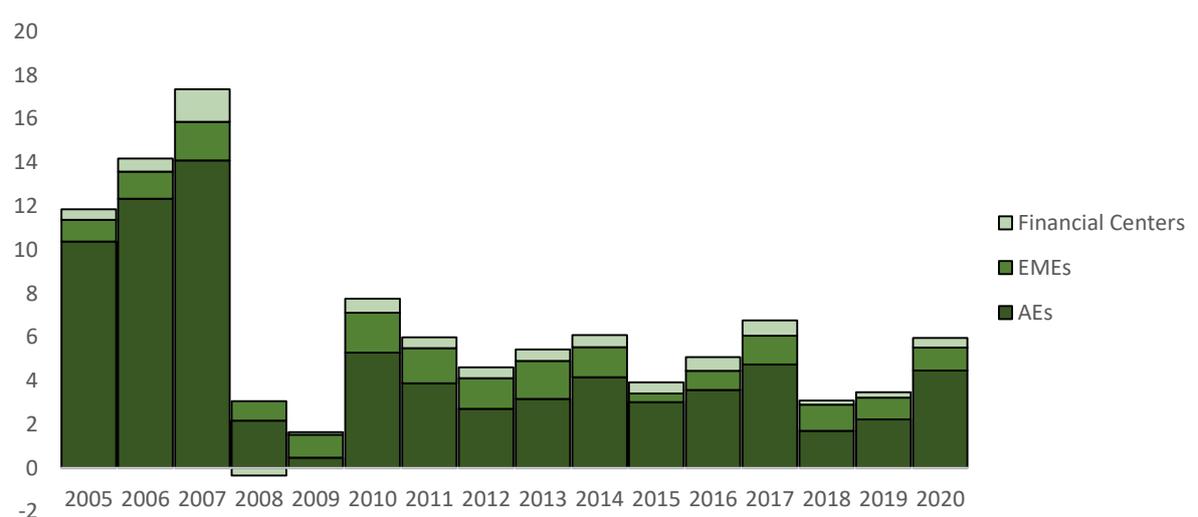


Source: IMF, IFS and WEO, November 2021.

## 2.2 Global trends in capital flows and new developments related to the pandemic: AE vs developing and EME countries

As mentioned in the introduction and argued in greater detail in BIS (2021), the GFC was a watershed in global capital flows. This holds true in particular for AEs. As illustrated below (Figure 2-12), after a strong increase until 2007, inflows (and outflows) declined abruptly and never recovered to previous levels. The COVID-19 pandemic seems to have neither reversed nor further strengthened this trend, and in 2020 gross inflows to AEs even increased moderately. This resilience of total gross inflows in AEs during the COVID-19 pandemic masks significant divergence in the dynamics of their different components.

Figure 2-12. Gross capital inflows by region, % of world GDP, 2005-2020



Source: Authors' calculations based on IMF.

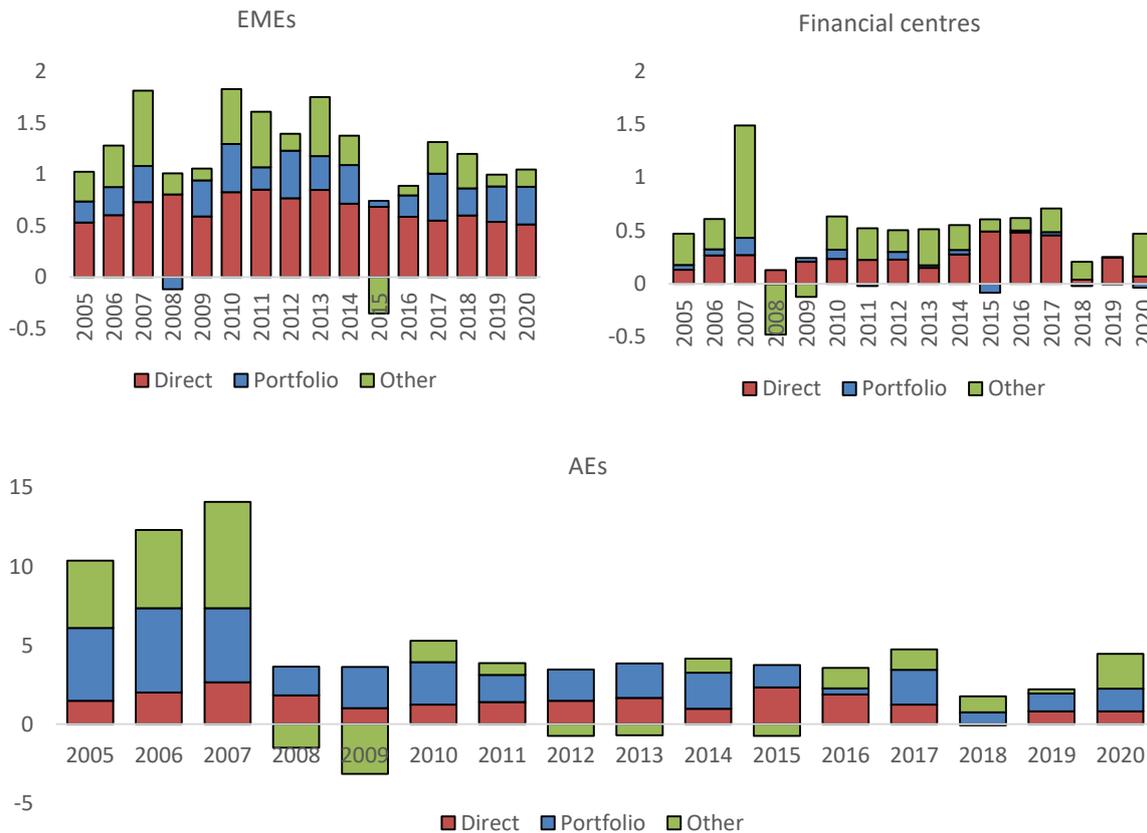
Notes: AEs = EU-27, AU, CA, JP, NO, NZ, UK and US; EMEs = AR, BO, BR, CH, CL, CN, CO, EC, ID, IN, KR, MX, PH, RU, SA, TH, TR, UY and ZA; financial centres = CH, HK and SG.

Over the 2009-2019 period, portfolio investment – both debt and equity – and other investment fell substantially and FDI appeared the only investment class able to hold up.

Quite the opposite is happening during the COVID-19 pandemic. FDI appears one of the most strongly affected components of capital flows, both at global and EU level, while portfolio and others seem to be weathering the crisis quite well. It should be recognised that FDI had already moved into a different pattern in 2018, especially in AEs.

Interestingly, the changes described above are mostly driven by AE flows (see Figure 2-13). Inflows to EMEs held up reasonably well after the GFC, despite the shock driven by commodity prices in 2015. At that time, China played an important role in increasing inflows into EME Asia.

Figure 2-13. Regional inflows by type, % of world GDP, 2005-2020



**Source:** Authors' calculations based on IMF.

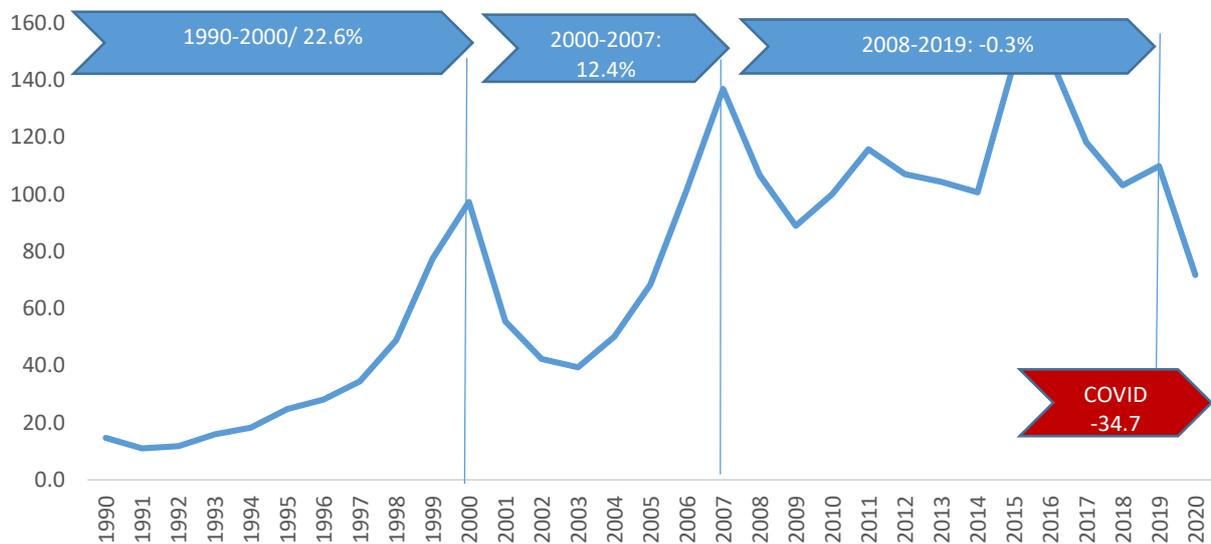
**Notes:** AEs = EU-27, AU, CA, JP, NO, NZ, UK and US. EMEs = AR, BO, BR, CH, CL, CN, CO, EC, ID, IN, KR, MX, PH, RU, SA, TH, TR, UY, ZA. Series for SA is incomplete for 2005-2007. Financial centres = CH, HK and SG.

As mentioned above, given the very large fall in GDP, flows as a share of GDP can hide important changes in the levels. According to the United Nations Conference on Trade and Development (UNCTAD, 2021) global FDI data (Figure 2-14), after almost two decades (1990-2007) characterised by double digit growth rates, and a post financial crisis period of high volatility and average stagnation, the COVID-19 pandemic has resulted in a major drop. Global FDI fell by 35% in 2020, similar in magnitude to the drop during the GFC (2008-2009), reaching USD 1 trillion, from USD 1.5 trillion in 2019<sup>10</sup>. This is the lowest level since 2005 and almost 20% lower than the 2009 trough after the GFC. The fall in FDI was significantly sharper than the fall in GDP and trade. Yet, if past experience is of any

<sup>10</sup>According to OECD data, global FDI flows decreased by 38% in 2020, down to USD 846 billion, their lowest level since 2005, <https://www.oecd.org/investment/FDI-in-Figures-April-2021.pdf>.

guidance, given the strong surge of the mid-2010s, one could expect FDI to rebound strongly in the next few years.

Figure 2-14. Global FDI inflows, 1990-2019 (indexed, 2010 = 100), average growth rates over the sub-period

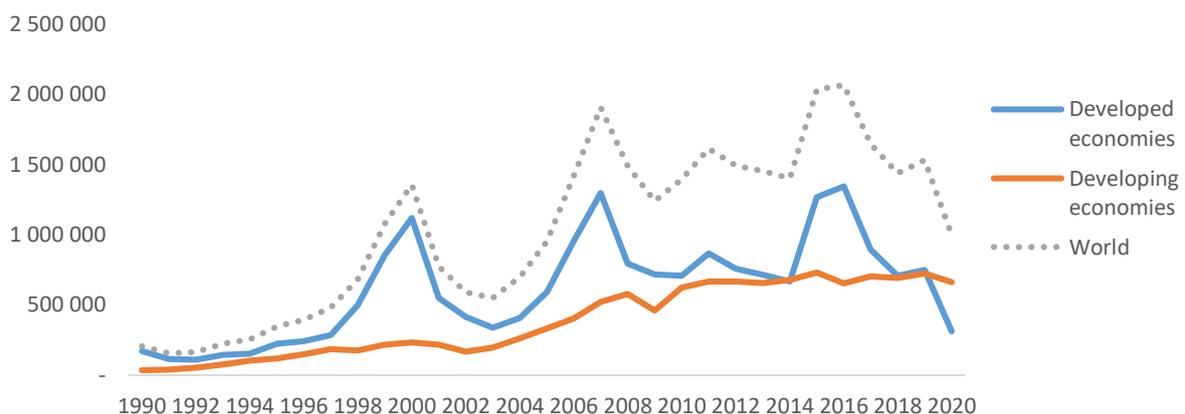


Source: UNCTAD, World Investment Report (WIR) (2021).

Interestingly, in early 2020, at the time of the COVID-19 outbreak, the sudden stop in flows towards EMEs seemed to suggest that EMEs would be most affected by the pandemic. However, these trends quickly reverted, and in the end the fall in FDI was largest in AEs.

As illustrated in Figure 2-15, AEs experienced a large fall in 2020 associated with the pandemic, but in practice this seems to be more a continuation of an already existing trend that started in 2016, rather than an abrupt shock. According to the data<sup>11</sup>, because of such changes, in 2020 developing economies accounted for about two thirds of global FDI inflows (with China being the main recipient).

Figure 2-15. Global FDI inflows, 1990-2020 (USD million)



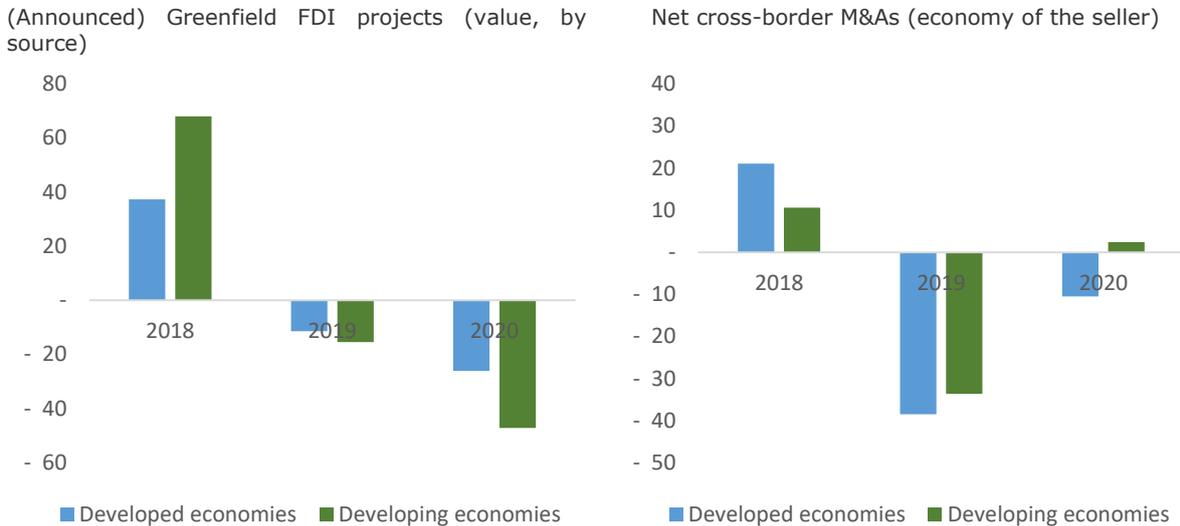
Source: UNCTAD, WIR (2021).

In the context of FDIs and the consequences of their changes for economic growth and development, it is important to look at changes in greenfield investment and M&A.

<sup>11</sup> [https://unctad.org/system/files/official-document/diaeiainf2021d1\\_en.pdf](https://unctad.org/system/files/official-document/diaeiainf2021d1_en.pdf).

Greenfield investment recorded a substantial negative change in 2020, but again it is difficult to attribute this to the COVID-19 shock, given that a fall in the value, though smaller, was already recorded in the previous year. A similar broad conclusion holds for M&A: while the value declined in 2020 for AEs, for developing countries it was slightly positive, and the year 2019 featured a much worse record for both country groups.

Figure 2-16. Greenfield FDI and M&A, change from previous year (USD million)

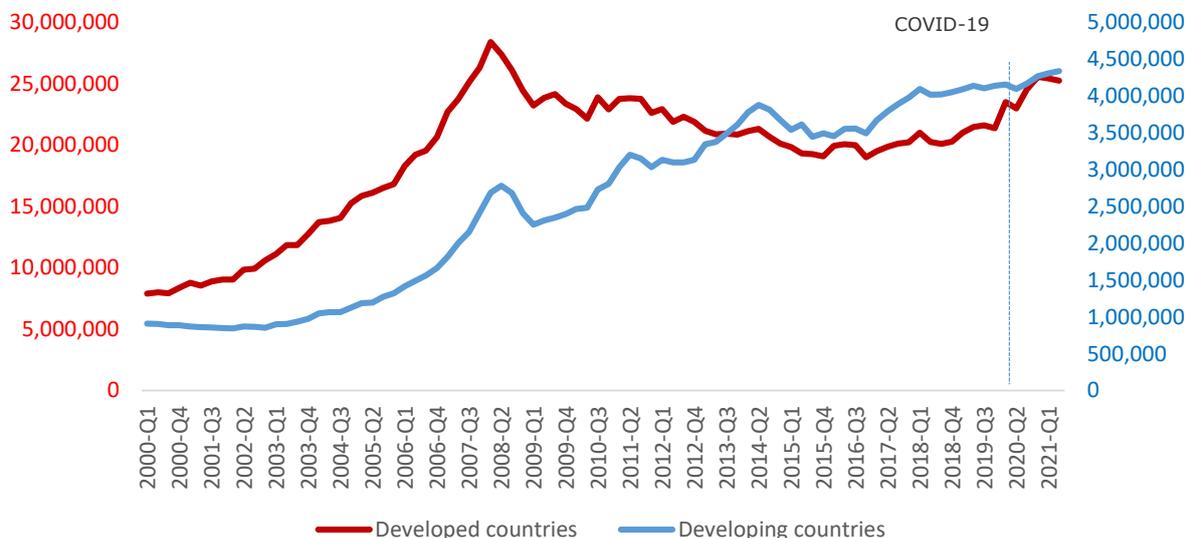


Source: UNCTAD, WIR (2021).

Finally, as already highlighted above, in the aftermath of the GFC, the fall in capital flows was especially large for ‘other’ investments. This was mainly driven by the retrenchment of cross-border bank lending in AEs. As illustrated in Figure 2-17, and Figure 2-18, a downward trend is visible between 2008 and 2016, in both cross-border bank claims vis-à-vis AEs and AE claims vis-à-vis the rest of the world. After 2016, a reversal in the trend becomes clear with an acceleration of claims in 2019, which continues during the COVID-19 pandemic and only slows down in the second quarter of 2021.

Interestingly, cross-border bank claims vis-à-vis developing economies have been on a positive trend since 2005, and have quadrupled compared to that level.

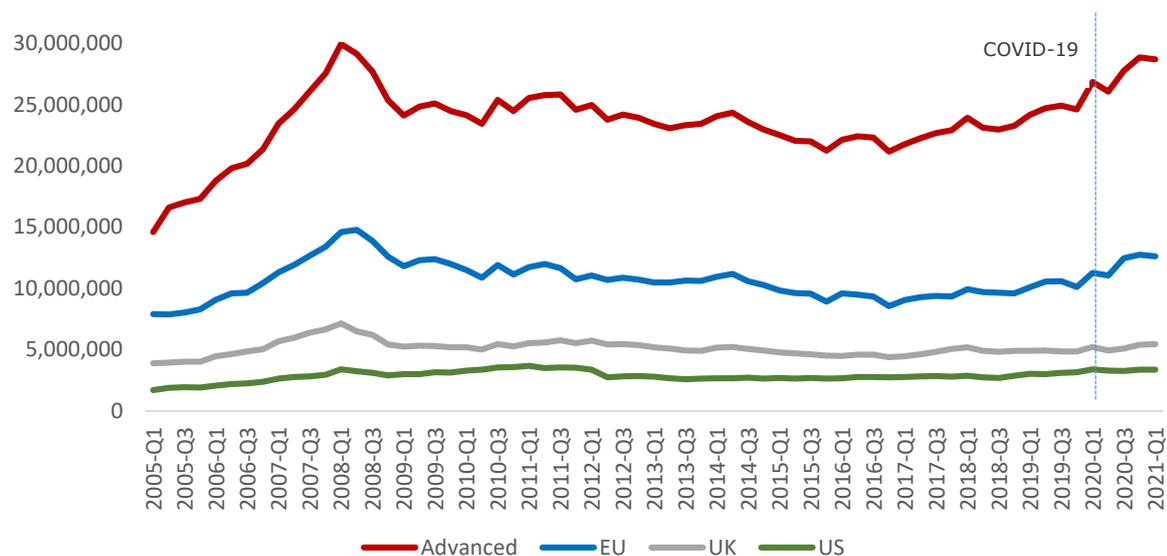
Figure 2-17. Cross-border banking claims, all reporting banks vis-à-vis advanced and developing economies, 2000 Q1 – 2021 Q2



**Source:** Authors' calculations based on BIS, locational statistics.

**Note:** Total outstanding claims, all currencies, all instruments.

Figure 2-18. AE cross-border claims vis-à-vis all countries



**Source:** Authors' calculations based on BIS, locational statistics.

**Notes:** Total outstanding claims, all currencies, all instruments. AEs include: AT, AU, BE, CA, CH, DE, DK, ES, FI, FR, UK, EL, IE, IT, JP, LU, NL, NO, PT, SW and US.

## 2.2.1 Downside risks and capital flows

Financial market volatility is likely to be the main certainty against numerous persisting uncertainties. Investor sentiment could shift rapidly because of new developments in the pandemic, which is not yet fully under control in either advanced or developing economies. In the former, this is due to highly contagious variants and a high level of vaccination hesitancy, and in the latter it is because of delays in the distribution of the vaccine. Overall, the limited coverage of the global population heightens the risk of renewed lockdowns and disruption in supply chains. Furthermore, while at aggregate level EMEs did not experience a major disruption in accessing financial markets in 2020, most of them are vulnerable and exposed to high risks. This is especially the case for those with large foreign currency debt (the risk of a dollar appreciation due to US monetary policy tightening may not be negligible), and difficulties with rolling over their external obligations could result in adverse growth outcomes.

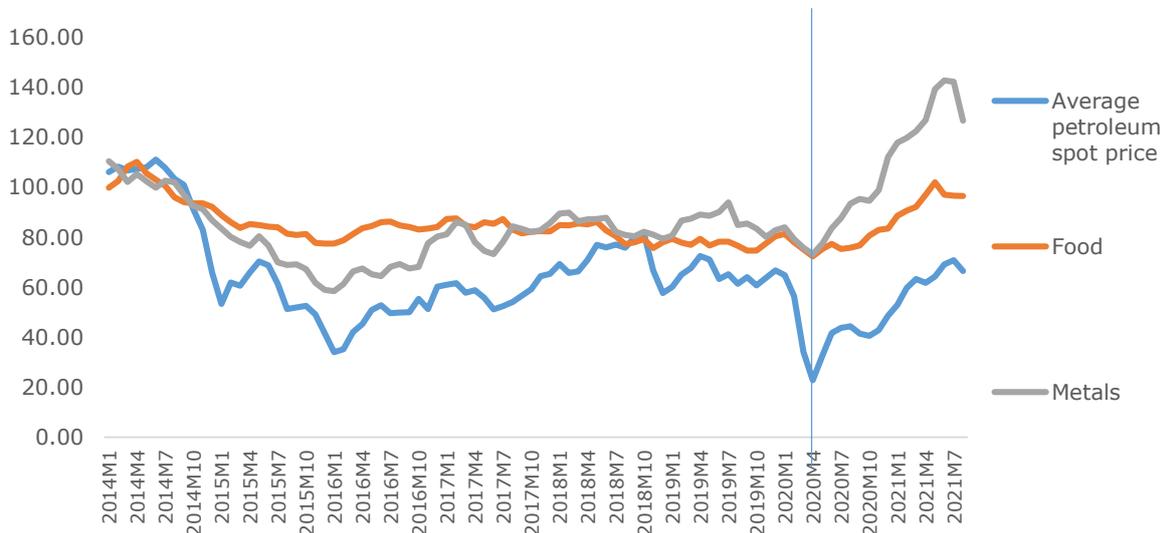
### *The return of inflation?*

Even if employment rates are still below pre-pandemic levels, since summer 2021 headline inflation rates have increased in the US as well as in some emerging markets and developing economies. For the latter, mostly in Sub-Saharan Africa and the Middle East and Central Asia, the main problem has been the increase in global food prices driven by supply shortages. In the US, the increase in inflation reflects a combination of pandemic-induced supply-demand mismatches, rising commodity prices and policy-related developments, rather than a drop-off in spare capacity (see IMF, 2021). Some of these problems also represent risks for other countries.

First, in the face of the increase in demand and the strong recovery in 2021, some producers were unable to restart supply in a timely manner (e.g. the problem of limited supply of microchips, which impacted many sectors). In addition, the distribution of shipping containers was disrupted during the pandemic due to lockdowns and a shortage of personnel, as well as restrictions or congestions in major world ports.

Second, energy prices have started to rise sharply after an all-time low. According to IMF data (2021), the average petroleum spot price is back to the pre-pandemic level and oil prices are expected to continue to increase. A steeper trend is expected for non-oil commodities, reflecting particularly strong increases in the price of metals and food over recent months. In general, commodity prices are all in an upward tear (see Figure 2-19), driven by the strengthening of economic activity at global level.

Figure 2-19. Commodity prices, 2014 M1 – 2021 M7



Source: IMF, WEO report, October 2021.

In the EU, increasing energy prices driven by gas are becoming a major source of concern, for both recovery and inflation dynamics. Governments across the world are trying to put in place measures to offset some of these trends. The US and other oil producers are increasing the supply of oil, and in the EU several governments are taking on the increase of the energy price for households.

Such price increases are likely to be temporary, because of the ongoing energy transformation away from fossil fuels (high prices are a strong incentive to exit oil and gas) and geopolitics, but the most likely effect will be an increased volatility on markets, well beyond commodity markets. Increased volatility is typically not good news for capital flows, especially in a context of uncertainty, like the current one.

Third, US policy developments in response to inflation can have global implications. A sudden change in inflation dynamics after three decades of 'great moderation' is likely to lead to an earlier change in the FED loose monetary policy stance, and in a more aggressive fashion than foreseen last year. Such changes typically have an impact on the dollar (appreciation) and hence on EMEs' capital flows and debt (often denominated in USD). It is still very unclear whether the European Central Bank (ECB) will have to follow suit, given that price dynamics are on the same trends but the magnitude is smaller. In practice, both an alignment of the policy stance and a divergence could impact financial flows, though in a different manner.

### **Geopolitical tensions and adverse climate shocks**

Against the backdrop of the ongoing pandemic and the current trends, additional climate shocks and geopolitical risks may pose major, further challenges to the global recovery.

Intense weather-related disasters, which during 2020 and 2021 also had visible immediate impacts on AEs, could lead to cross-border migration pressures, financial stresses (also among creditors and insurers in countries not directly impacted by a given event), and to rising health care burdens, with implications that persist long after the events themselves.

Geopolitical risks have grown during 2021 and are very elevated. An escalation of trade and technology tensions between the US and China could weigh on investment and productivity growth, potentially weakening the recovery. Much more than that, if Russia's mounting threats to Ukraine materialise in an invasion, political, economic and social consequences will be dramatic.

### 3 The EU neighbourhood: between political and economic uncertainty

This chapter focuses on EU flows towards and from its close neighbours. For different reasons, and independently of the pandemic, financial (and political) relations with such countries have become more uncertain, and could become increasingly difficult. The section will focus on three regions, separately: the UK, the South-Med countries, including Turkey, and the eastern neighbourhood, including Russia. For each section, we take stock of the current situation and the main financial linkages with the EU, and consider possible future developments.

#### 3.1 EU-UK

This sub-section focuses on the capital flows with the UK, a 'new' and special neighbour. The UK is the only AE in the EU neighbourhood and a country with longstanding, strict economic ties with the EU. These ties have, however, been affected by political developments and the impact of Brexit announced in 2016 and formally finalised on 31 January 2020.

##### 3.1.1 Potential impact of Brexit

Since 2016, a growing body of literature has tried to assess the impact of the UK's exit from the EU, with most emphasis being put on trade and financial linkages. The UK used to be the EU's most important trade partner (even more than the US), with London hosting the biggest financial centre of the EU. After 2016, there was widespread agreement that, in the absence of a special agreement, the UK's exit from the EU single market would affect EU-UK trade and capital flows. Five years later, with the transition period having ended only recently and the advent of the pandemic, it is still very difficult to disentangle the impact of Brexit.

Existing empirical literature on the impact of Brexit on investment flows mostly focuses on the UK economy rather than the global effect (see for example Dhingra et al., 2016; Campos and Coricelli, 2015; Serwicka and Tamperi, 2018). These studies try to quantify the effect of Brexit using gravity regressions and the synthetic control method (SCM). According to their findings, exiting the EU would possibly reduce the UK's inward FDI by about 19-30%. Counterfactual analysis across sectors by Serwicka and Tamperi (2018) indicates a relatively strong impact on the UK services sector, and suggests a cut in inward investment of 25%.

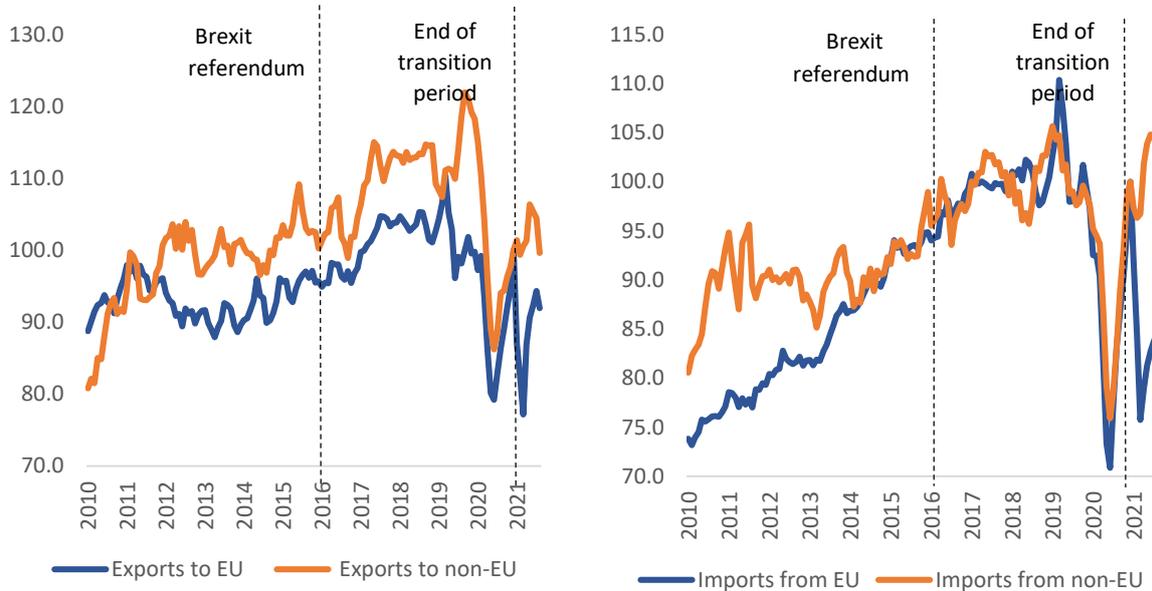
The ex-ante analysis of Brexit conducted by McGrattan and Waddle (2017), based on a general equilibrium model, focuses on the impact of Brexit on global capital flows under different scenarios. On the assumption that the UK unilaterally increases restrictions on inward FDI from EU countries, they estimate a decline of 19% in EU technology capital investments in the UK compared to pre-Brexit levels over the first decade, and of 45% in the long run, namely by 2050. Supposing that the EU also simultaneously tightens regulations on inward UK FDI in the EU, the bilateral outward EU FDI (as a percentage of UK gross national product (GNP)) is expected to be, on balance, 1.5 percentage points higher by the end of 2025, despite a fall of 0.5 percentage points during the initial phase. In this scenario, UK FDI in the EU (as a percentage of EU GNP) is shown to be negative during most of the forecast horizon, and approaches zero only at the end of the studied period<sup>12</sup>.

In comparison, the actual changes driven by Brexit indicate that trade in final goods between the UK and EU have continued to remain tariff and quota free since the formal

<sup>12</sup> McGrattan and Waddle (2017) implement the above-mentioned experiments by adjusting the parameter related to the degree of openness in their model, representing an increase in restrictions following Brexit.

withdrawal of the UK from the EU on 31 January 2020. Nevertheless, new customs procedures have been introduced on UK exports to the EU, and EU imports into the UK are now subject to border controls that fully apply from January 2022. Moreover, specific rules and restrictions are now imposed on exports of certain products to the EU<sup>13</sup>. As shown in Figure 3-1, neither imports nor exports between the EU and the UK experienced any visible impact during the transition time until the COVID-19 pandemic (a large fall is visible in 2020). However, as of January 2021, another abrupt change is visible in the data.

Figure 3-1. UK exports (LHS) and imports (RHS), three-month moving average, 2020 Q4 = 100

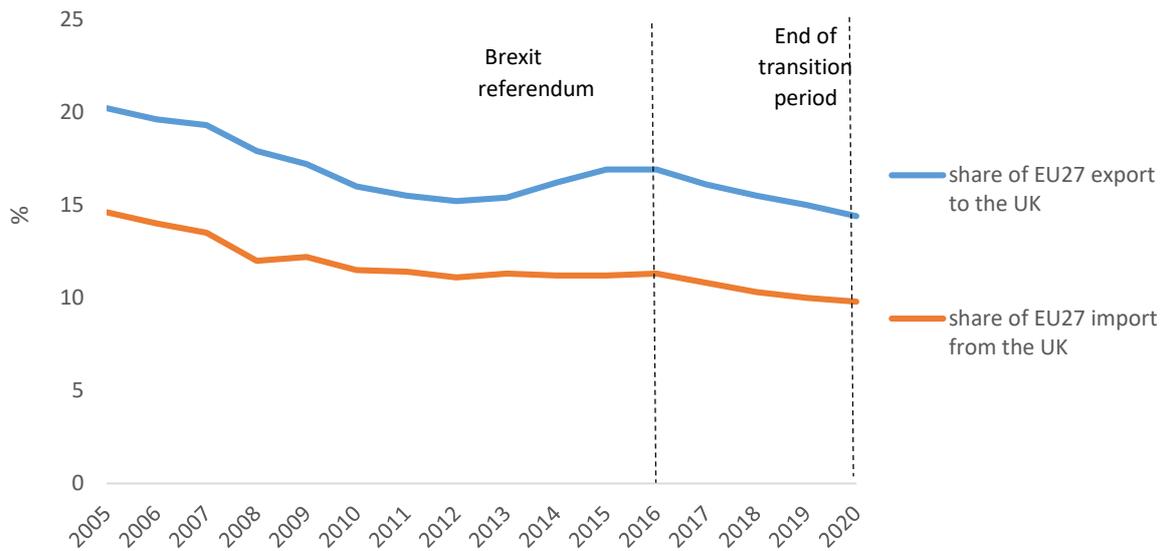


Source: ONS, Office for Budget Responsibility.

UK imports and exports to the EU declined sharply and then partially recovered, but they are still far below 2019 levels. From an EU perspective, it is interesting to note that the EU's share of exports to the UK was on a declining trend for about a decade until 2013, recovered and then started to decline again after the referendum (see Figure 3-2). The share of imports has steadily been on a smooth downward trend.

<sup>13</sup> For more details, see 'Summary: The UK's new relationship with the EU', Policy paper, July 2021, <https://www.gov.uk/government/publications/summary-the-uks-new-relationship-with-the-eu/summary-the-uks-new-relationship-with-the-eu>.

Figure 3-2. EU-27 share of trade with the UK



Source: Eurostat.

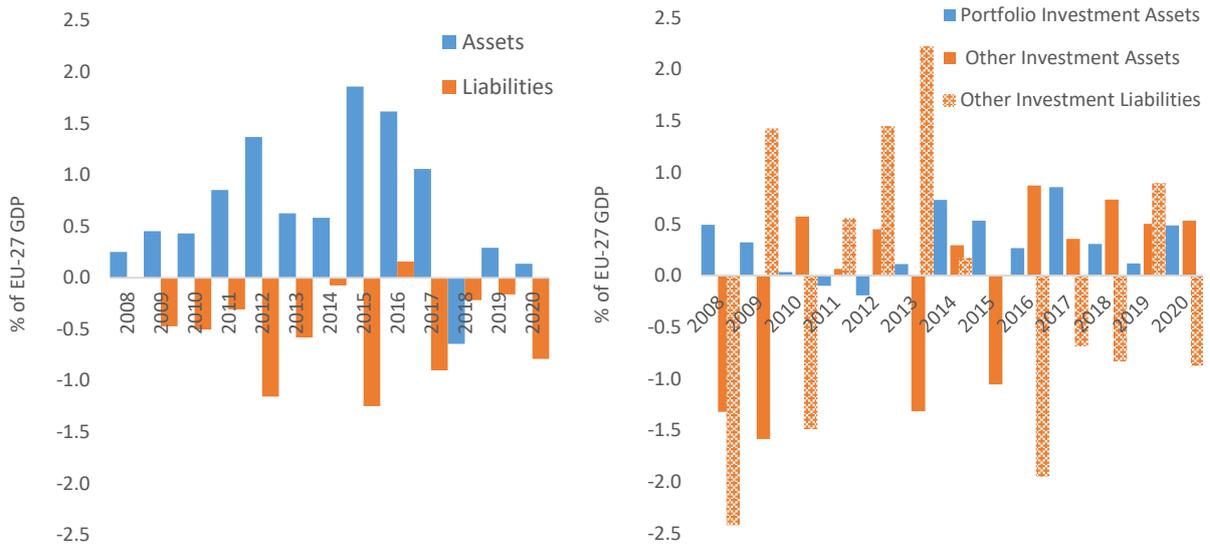
Looking at EU-UK bilateral capital flows, the first point to make is that the data are incomplete and not up to date, and that data after the end of the transition period are not available. Based on the data that are available, it is rather difficult to draw a clear picture about the adverse effects of Brexit, but some series exhibit changes in pre-existing trends around 2016.

EU FDI outflows to the UK show a very large increase in 2015 and 2016, followed by a strong decline. The Office for National Statistics (ONS) attributes the amount in 2016 to a few high-value mergers and acquisitions of UK companies by foreign companies, each with a value above GBP 10 billion<sup>14</sup>. It is also seen that investment flows from the EU (as a percentage of EU-27 GDP) dropped from 1.1% in 2017 to a disinvestment of -0.6% in 2018. In the following years, EU FDI assets are positive but lower than during the GFC. The 2020 data are clearly affected by COVID-19, in terms of fall in level of FDI and in GDP.

For portfolio and other investment, which are typically characterised by high volatility and changes in sign, it is very difficult to identify any trends or changes that can be attributed to Brexit or the pandemic (see Figure 3-3, right panel). EU portfolio investment in the UK (as a percentage of EU GDP) in 2017 expanded to three times its value in 2016, but this moderated over the next years. EU other investments in the UK slightly decreased after the EU referendum in 2016. The year 2016 stands out for EU liabilities vis-à-vis the UK (i.e. substantial increase in other investment by the UK in the EU), which reached about 1.9% of EU GDP from almost zero in the preceding year. This trend weakened over the following year, however, and turned to a disinvestment by the UK in the EU of around 0.9% of EU GDP in 2019 (Figure 3-3).

<sup>14</sup> UK Parliament (2020), 'Foreign investment in UK companies in 2018 and the effect of Brexit', <https://commonslibrary.parliament.uk/foreign-investment-in-uk-companies-in-2018-and-the-effect-of-brexit/>.

Figure 3-3. EU-27 FDI (LHS) and portfolio and other investment (RHS) vis-à-vis the UK: assets and liabilities (reverse), % of EU-27 GDP

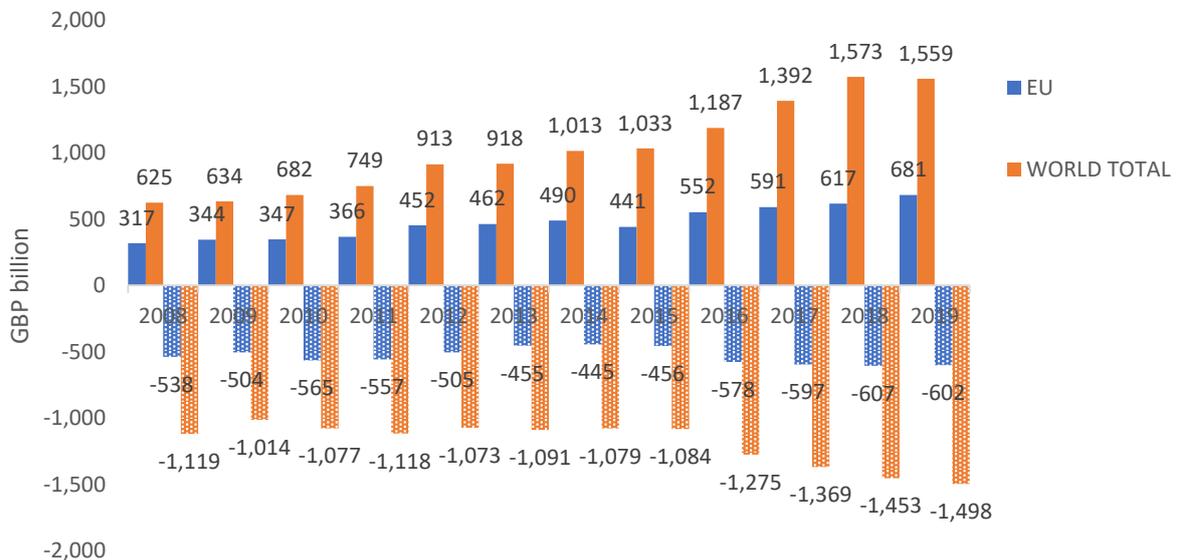


Source: Eurostat.

Note: Data for portfolio investment liabilities not available.

Looking at EU-UK bilateral FDI positions data, the UK has continued to increase the size of its positions quite steadily. Only liability vis-à-vis the rest of the world shows a slight acceleration from 2016.

Figure 3-4. UK inward and outward (reverse) FDI positions by area, 2008-2019

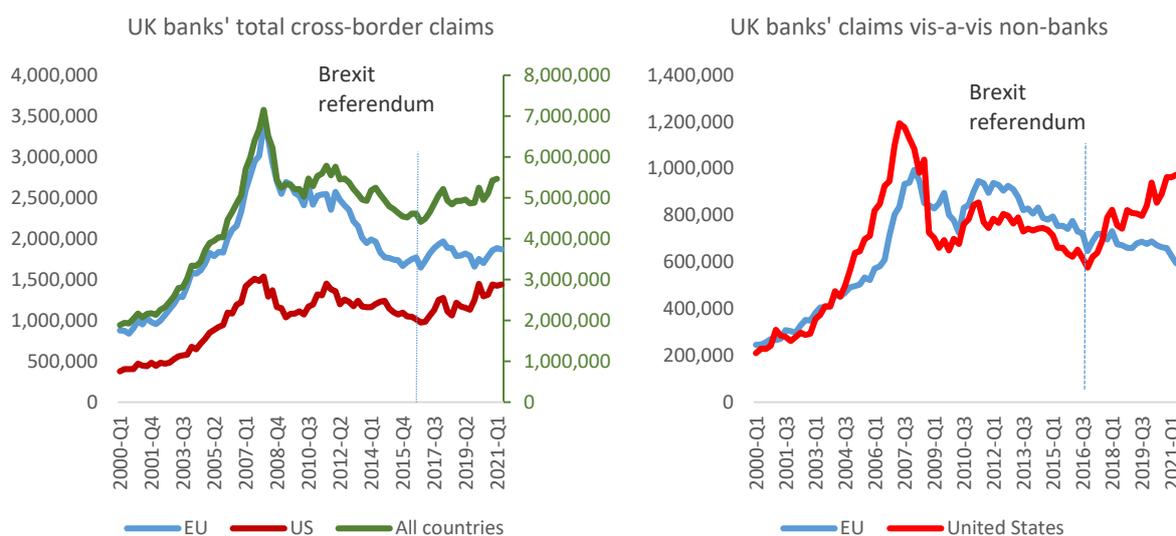


Source: ONS.

Up-to-date cross-border banking data can complement the overview offered by capital flows. They are also particularly relevant in the context of Brexit because the UK banking sector was traditionally highly integrated in the EU single market. As explained above, cross-border banking claims strongly declined at global level at the onset of the GFC, with the trend starting to revert around 2016. This is also what Figure 3-5 suggests. Total UK-based banks' claims have increased by more than one trillion USD over the last five years (from about USD 4.4 to 5.4 billion), after a long period of decline. The recovery appears to be driven by liabilities in the US towards the non-banking sector. The EU traditionally

represented the largest counterpart of UK-based banks up to the GFC; over years it represented half of all claims. This changed drastically after 2010, which saw the start of a sharp decline that stopped exactly in 2016. Proving that this is a Brexit-related trend would require a deeper analysis. Overall, over the last five years, despite some swings, UK claims vis-vis the EU have fluctuated around half of their value in 2008 (hence losing in share relative to the total).

Figure 3-5. UK bank claims vis-a-vis all sectors (LHS) and non-banks (RHS) in the EU and US, 2005-2021 Q2 (USD million)

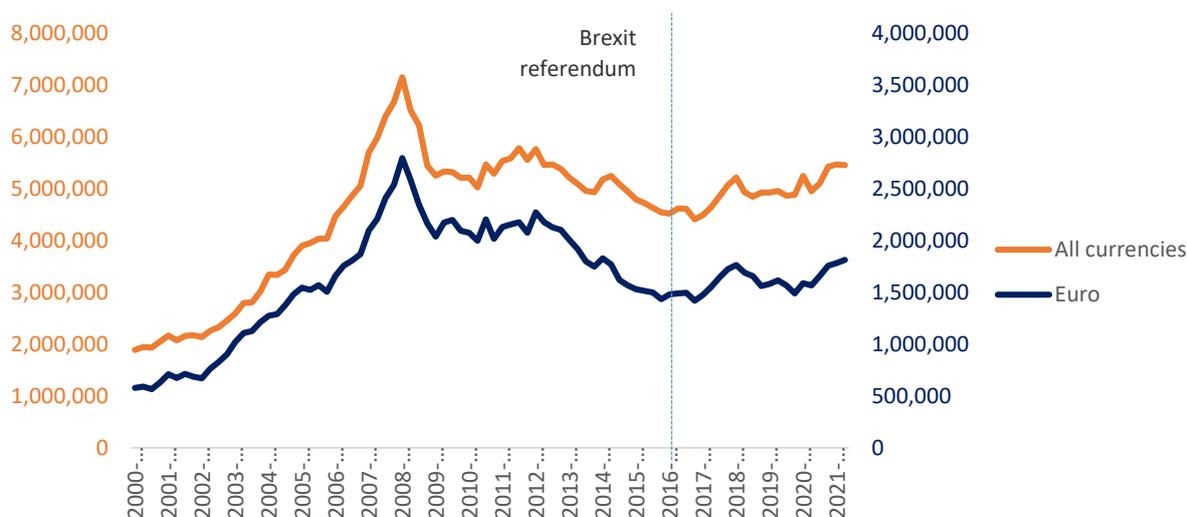


Source: BIS locational statistics.

Note: Claims vis-à-vis all countries on the right scale, in the LHS figure. EU includes data for 23 Member States: AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LT, LV, MT, NL, PL, PT and SW.

Interestingly, sectoral data show that UK bank claims vis-à-vis non-banks in the US surged abruptly in 2016 and are now back to their 2008 level. By contrast, claims vis-à-vis non-banks in the EU have persisted on a declining trend since 2010.

Figure 3-6. UK bank claims, by currency



Source: BIS locational statistics.

Note: Euro-denominated claims on the right scale.

Finally, the share of euro-denominated UK-based bank claims started to decline after the GFC (it was about 40% at its peak in 2008) to reach about 30% in 2016. It then stabilised and has slightly increased since the COVID-19 pandemic.

From the evidence offered above, it appears that the year 2016 somehow worked as a shock, which generated different reactions in capital flows. Until 2020, however, those effects appear to have been transitory and, in some cases, reverted. It is very difficult to draw conclusions from this, especially from a simple data inspection. In general, for the time being, evidence does not appear to fully support the findings of the literature. As Brexit took full effect on 1 January 2021, the post-Brexit developments in capital flows are unlikely to be fully realised up to 2020 and, as trade data show, new developments may already have emerged in 2021.

Lastly, business survey data can also complement an assessment of the possible effects of Brexit on investment activities. Although investors' expectations have, to a large extent, been directed by the pandemic and its economic consequences, Brexit still appears to weigh on investments' perspectives. In a very recent survey of chief financial officers (CFOs) of the UK's largest companies with a focus on investment, the possible risks posed by Brexit are evaluated to have increased in the second and third quarters of 2021 (corresponding rating increased from 35 to 45 out of 100). However, Brexit risks are rated below other risks such as higher inflation and interest rates, climate change and supply chain bottlenecks<sup>15</sup>.

## 3.2 South-Med and Turkey

The policy impetus of the late 1990s and first decade of the 2000s for strengthening economic and political relations with South-Med countries, and for Turkey even to negotiate its accession to the EU, slowed down in the 2010s when the euro area crisis erupted and when political instability in the region culminated in the Arab spring. Since then, little progress, if any, has been seen. Persistent political instability has made progress more difficult, but above all, political support for closer economic integration has faded away.

In the mid-2000s, the EU established a network of Euro-Mediterranean Association Agreements to promote free trade areas for goods between the EU and most of its southern neighbours (with the exception of Syria and Libya<sup>16</sup>). Bilateral negotiations to create Deep and Comprehensive Free Trade Areas (DCFTAs) were launched soon after between the EU and Morocco, and between the EU and Tunisia, but the negotiations have been stalling for years. In the case of Tunisia, which is undergoing political and economic instability, any progress is unlikely at this stage. Similar consideration applies to Morocco.

Turkey is the largest economy in the EU southern neighbourhood and the most important EU regional partner in terms of trade and capital flows. However, political relations between the EU and Turkey have become gradually more difficult, poisoned by migration-related issues and an increasingly authoritarian government.

### 3.2.1 The macroeconomic context

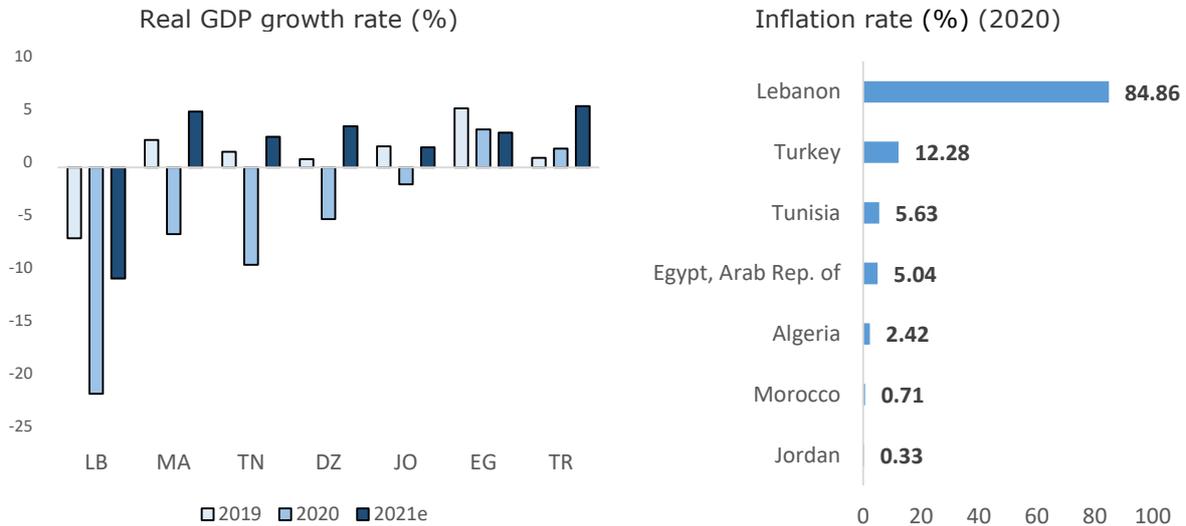
The COVID-19 crisis has hence added further challenges and uncertainty to an already complex context. When COVID-19 hit, Turkey had already been suffering from high inflation and currency depreciation for some time. A growth model based on externally funded demand increased the dependence of the Turkish economy on foreign capital inflows and raised private sector indebtedness. In 2020, in an attempt to mitigate the impact of the pandemic, an aggressive monetary policy and moderated fiscal expansion

<sup>15</sup> Deloitte CFO Survey, Q3 2021, <https://www2.deloitte.com/uk/en/pages/finance/articles/deloitte-cfo-survey.html>.

<sup>16</sup> The analysis conducted in this report does not cover Syria and Libya.

were put in place. These measures improved Turkey's real GDP growth rates over 2020 (+0.9 percentage points from 2019, see Figure 3-7), but at the same time resulted in an accumulation of pre-existing vulnerabilities. At the beginning of 2020, the Turkish Central Bank set the policy rate at 11.25%, just below the inflation rate, and with the loose monetary policy that came after, the real policy rate moved deeper into negative territory, triggering dollarisation.

Figure 3-7. Real GDP growth and inflation rate in 2020 in southern neighbouring countries



Source: Authors' calculations based on IMF and OECD data.

In order to reduce the adverse effects of dollarisation and to weaken the pressure on the lira, the Turkish Central Bank sold its already low levels of reserves. With annual gross external financing needs projected at about 24% of GDP on average in 2021-2026, Turkey remains vulnerable to adverse shifts in global investor sentiment<sup>17</sup>.

For Turkish lira, which have been falling since 2008, the COVID-19 crisis and the recent developments appear to be a continuation of the previous trend. Other factors than COVID are driving the depreciation. For the other countries, nominal exchange rates started to depreciate strongly in March 2020, but some of them rebounded very quickly thanks to policies such as access to the US Federal Reserve swap lines. Overall, COVID-19 has had a very limited impact on the foreign exchange rates of these countries. National central banks also undertook very supportive policies to reduce systemic financial sector vulnerabilities, including policy rate cuts and quite exceptional injections of liquidity to contain the effects of the pandemic.

The negative impact of the COVID-19 crisis has been, however, very severe on real GDP growth rates (see Figure 3-7) in most countries. Egypt and Turkey (which maintained positive growth rates in 2020) are the only exception. For the time being, the inflation rate remains moderate (about 5% in Egypt and Tunisia, while in Morocco and Jordan, it increased by 0.7% and 0.3% respectively).

Lebanon is a very special case. With a very difficult political context already in 2019, the COVID-19 pandemic and the explosion in the port of Beirut in summer 2020 acted as a *coup de grace*. In 2020, real GDP dropped by 21.4% and the inflation rate reached 144.1%

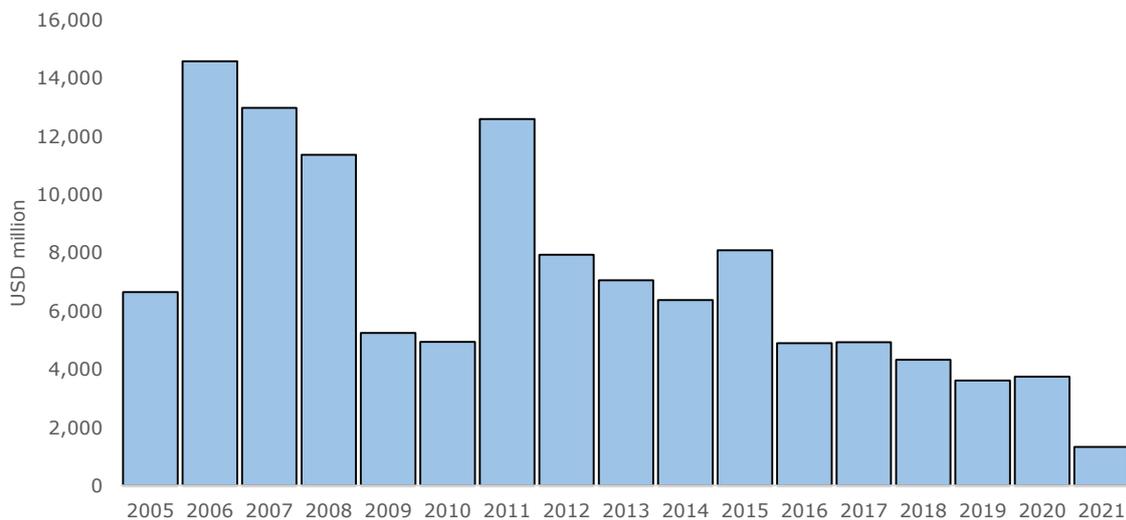
<sup>17</sup> See for instance Cakmaklı (2021).

in September 2021, amid a sharp depreciation of the Lebanese pound and the political crisis.

### 3.2.2 FDI, remittances and official assistance

EU FDI in Turkey (see Figure 3-8) increased sharply in 2006, after the EU opened the accession negotiations.

Figure 3-8. Net FDI inflows into Turkey from Europe



**Source:** Authors' calculations based on TCMB data<sup>18</sup>.

**Note:** Data include net FDI originating in the UK.

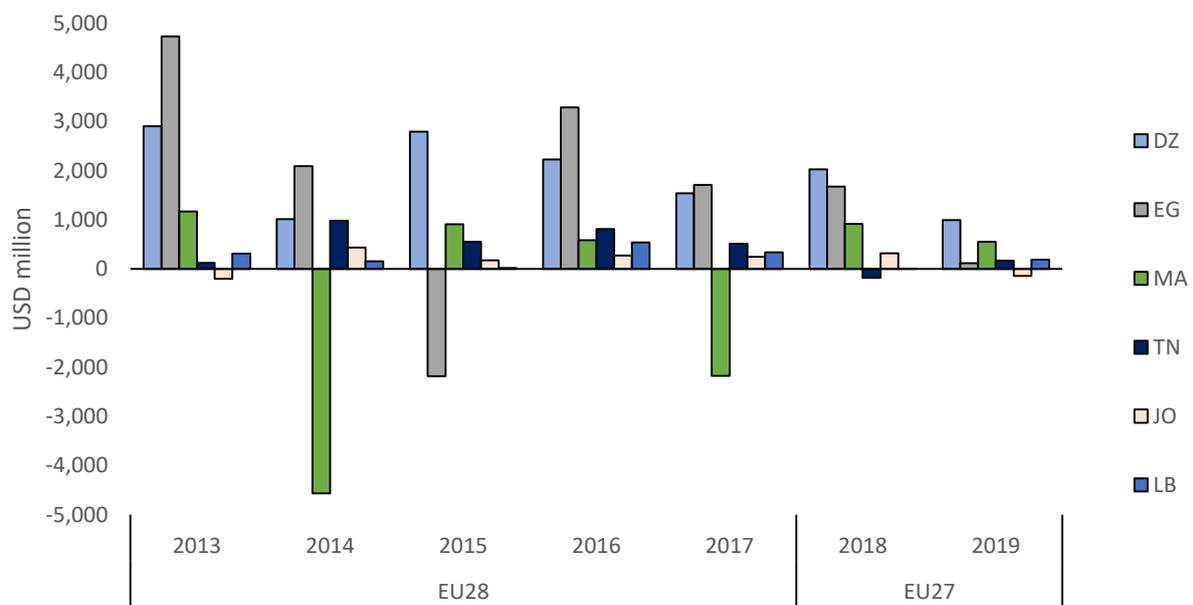
In the subsequent years, net FDI inflows remained quite high, with Germany, the Netherlands, Luxembourg, Spain and the UK being the main investors. With the onset of the GFC, FDI decreased sharply, bounced back to the pre-crisis level in 2011 and then stabilised at a lower level. In 2020, the level of net FDI inflows originating in the EU was stable, but decreased significantly in 2021 (-64.3%).

According to UNCTAD estimates, global inflows of FDI into Turkey decreased by 155% in 2020, accounting for a total amount of USD 7.9 billion. Overall, the main sources of FDI inflows continued to be the European economies (55%), with the other main investors being the US (14%), the Middle Eastern countries (14%) and Asian countries (6%).

Among the southern neighbouring countries, Egypt and Algeria were the main recipients of EU FDI (Figure 3-9) over the last decade. Net FDI inflows from the EU, however, decreased over time, and their magnitude was limited even before the outbreak of the COVID-19 pandemic. Egypt and Morocco also experienced large disinvestment operations from the EU-28, particularly in 2015 and in 2014- 2017 respectively. Global net FDI inflows into these countries also declined in 2018 and 2019.

<sup>18</sup> <https://www.tcmb.gov.tr/>.

Figure 3-9. Net EU FDI flows into southern neighbouring countries (EU-28/EU-27, 2013-2019)



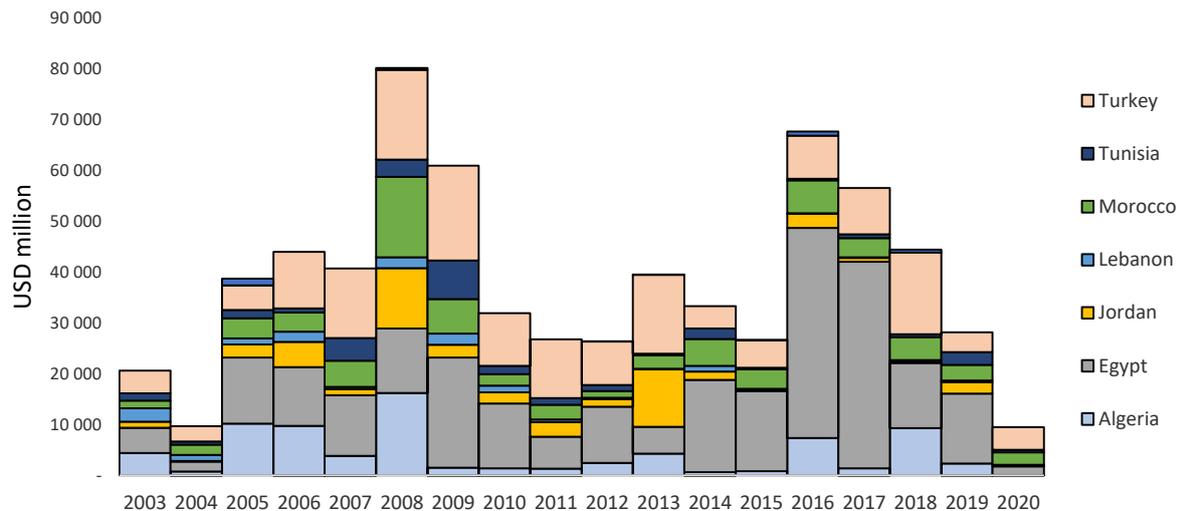
**Source:** Authors' calculations based on Eurostat data.

According to the World Bank, Egypt has been the largest FDI recipient in Africa for years, but in 2020 it suffered a significant reduction (-35%, at global level), possibly due to developments in the oil market and the fact that FDI continues to be largely related to oil extraction. In Morocco, FDI inflows remained almost unchanged at USD 1.8 billion in 2020, thanks to a quite diversified FDI profile. By contrast, FDI to Algeria dropped by 19% to USD 1.1 billion, with inflows mainly directed towards the natural resources sector. Inflows into Tunisia, which stood at from USD 845 million in 2019, declined by 23% in 2020. The case of Lebanon is very special. In October 2019, Lebanon imposed ad hoc capital controls to limit the transfer of money abroad, and in March 2020, the government announced its intention to default and restructure nearly USD 31 billion of dollar-denominated debt and signed an official request for IMF assistance.

In the context of FDI, greenfield projects assume major importance, especially in developing countries. Both the value and number of greenfield project announcements<sup>19</sup> in Turkey and Egypt have been quite stable over time (though Egypt experienced a surge in 2016 and 2017), but greenfield announcements dropped significantly during the pandemic. In Turkey, the value of greenfield project announcements declined in 2019, coinciding with the hard depreciation of the Turkish lira and the increase in political uncertainty, but slightly increased in 2020 (+13%). With the exception of Morocco, in all the other countries, the value of greenfield investment announcements dropped quite dramatically in 2020: in Algeria -96.7%, Egypt -88%, Jordan -88.8%, Tunisia -80.3% and Lebanon -67%.

<sup>19</sup> It should be noted that not all announcements will materialise, so amounts could be overestimates of actual investment, however this is the only publicly available information about greenfield investment.

Figure 3-10. Value of greenfield project announcements in southern neighbouring countries

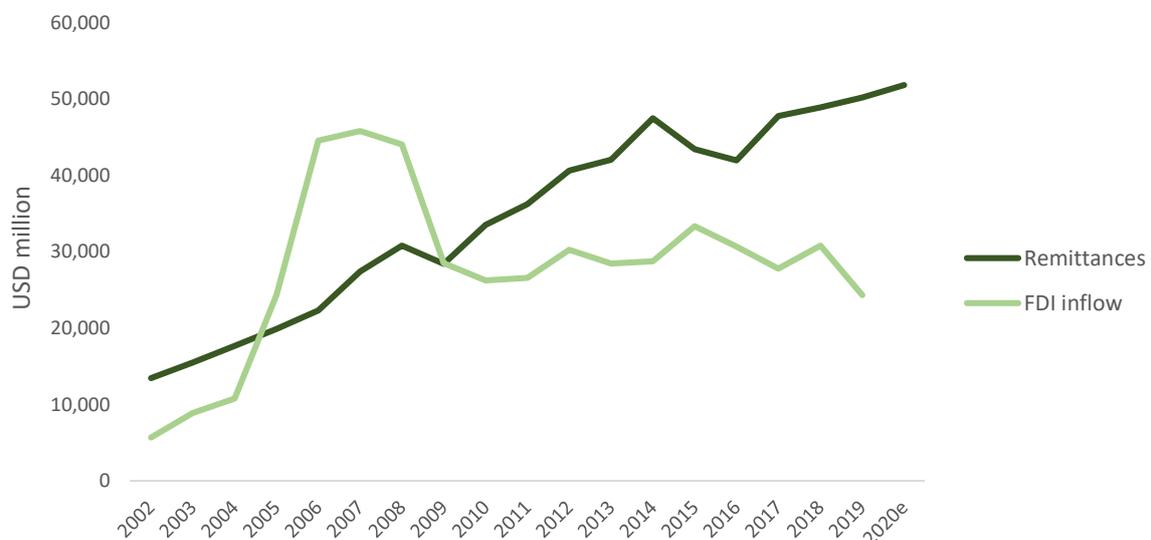


**Source:** Authors' calculations based on UNCTAD data.

FDI, in particular greenfield investment, is particularly relevant to long-term economic development, but tend to be more volatile than remittances and Official Development Assistance (ODA) funds, which can play a significant countercyclical role in times of crisis, hence having a shock-absorption function. In emerging and even more in developing countries, the magnitude of remittance inflows can be even larger than that of FDI.

Even during the pandemic, remittances showed a certain resilience (see Figure 3-11), although sectors like oil and domestic work, which are the main sources of remittances, were hit hard by the crisis. According to the World Bank, Egypt is among the world's five largest remittance-receiving countries, and the main recipient of remittances among the Middle East and North Africa (MENA) countries<sup>20</sup>. In 2020, global remittances to Egypt increased by 10.5%. Morocco and Tunisia also managed to increase their inflows, though by less. Lebanon, on the other hand, experienced the largest fall in remittance inflows in 2020 (-15%). Algeria and Turkey experienced a moderate decline, while in Jordan it was more substantial.

Figure 3-11. Remittances and FDI inflows in southern neighbouring countries



<sup>20</sup> [https://www.knomad.org/sites/default/files/2021-11/Migration\\_Brief%2035\\_1.pdf](https://www.knomad.org/sites/default/files/2021-11/Migration_Brief%2035_1.pdf).

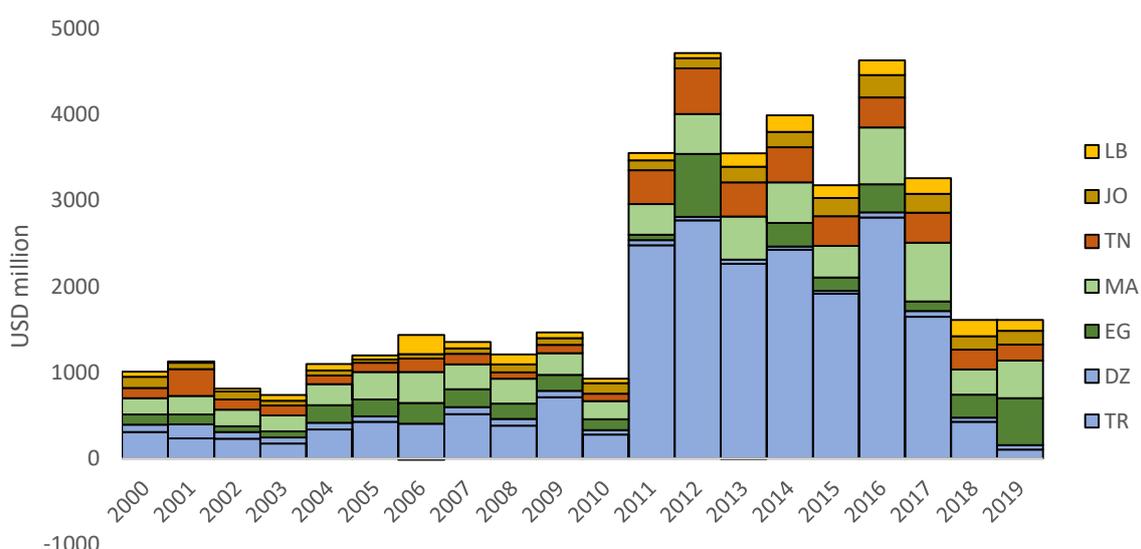
**Source:** World Bank Group for remittances, UNCTAD for FDI inflows.

**Note:** The region includes Algeria, Egypt, Jordan, Lebanon Morocco, Tunisia and Turkey.

In addition to FDI and remittances, ODA is a key source of foreign income for developing countries. The EU southern neighbouring countries are no exception, and ODA from the EU Institutions is substantial, amounting to several billion USD (see Figure 3-12). During the last decade, with the exception of 2019, Turkey has been the main recipient. As relations between the EU and Turkey came to a standstill in 2018, when assistance declined to a quarter of its value in 2017, and even further the following year. The share of ODA disbursements to the other southern neighbouring countries has been quite stable over time. In 2019, Egypt became the major recipient (USD 544.83 million), followed by Morocco (USD 439.9 million), Tunisia (USD 161 million), Jordan (USD 161 million), Lebanon (USD 126.6 million), Turkey (USD 102.8 million) and Algeria (USD 52 million).

In addition to ODA, European Investment Bank (EIB) loans to the region are also significant and larger than ODA. Egypt is again the largest recipient, with USD 1 547 million in 2019 and USD 2 219 million in 2020. While EIB loans to Algeria, Tunisia and Lebanon have been more volatile and decreased over the last years, loans to Jordan and Morocco increased between 2019 and 2020, by USD 404.8 million and USD 356 million, respectively.

Figure 3-12. ODA disbursements from the EU Institutions to southern neighbouring countries



**Source:** Authors' calculations based on OECD data.

In addition to ODA, Tunisia and Jordan have already benefited from EU macro-financial assistance (MFA) loans over the last years, and a special COVID-19 programme started in 2020 (see Table 3-1).

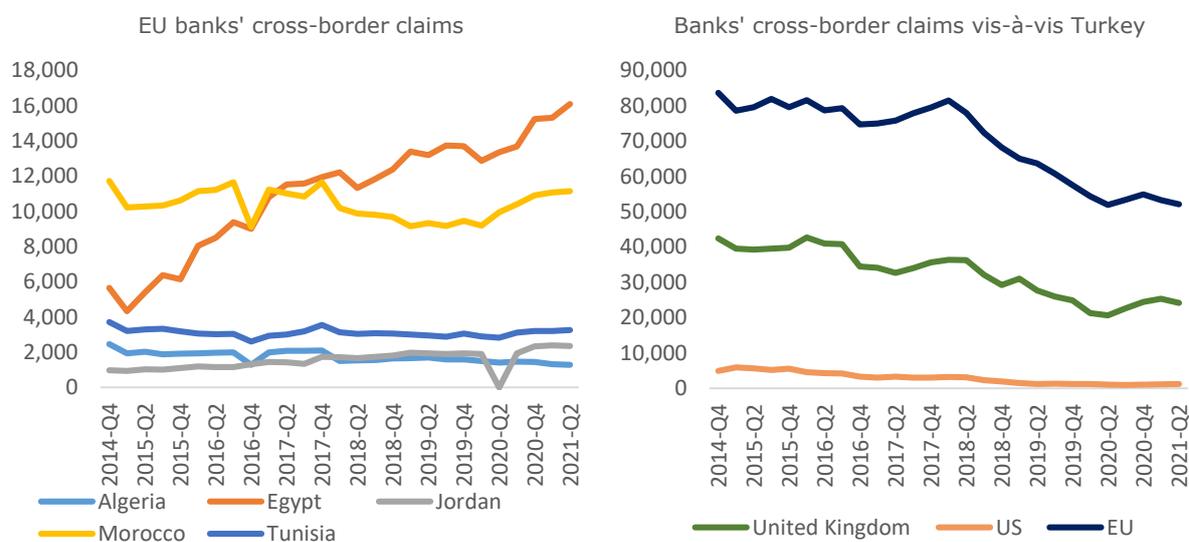
Table 3-1. MFA to Jordan and Tunisia, 2019-2021

Disbursement of MFA loans in EUR	2019	2020	2020 COVID-19 MFA	2021 (provisional)
Jordan	100 000 000	100 000 000	150 000 000	50 000 000
Tunisia	300 000 000	-	-	600 000 000

**Source:** Report from the Commission to the European Parliament and the Council on the implementation of MFA to third countries in 2020.

To complete the overview of financial linkages between the EU and the southern neighbourhood, it is interesting to look at banks' cross-border claims. With the exception of Turkey, the banking sector in the southern neighbouring countries is still underdeveloped, with access to bank accounts still limited. However, some clear trends emerge from an inspection of the sheer numbers. If one focuses on the Maghreb region, no major change is visible in EU banks claims<sup>21</sup>. By contrast, exposure to Egypt approximately tripled since 2014. The opposite trend is visible in EU banks' exposure to Turkey, which has declined by about 40% over the same period. UK bank claims have followed similar patterns, while US banks claims have declined almost to zero. It is worthwhile mentioning that EU bank claims vis-à-vis Turkey are still much higher than those of the other countries combined.

Figure 3-13. Banks' cross-border claims



**Source:** Authors' calculations based on BIS locational data.

**Note:** EU aggregate refers to 12 countries for which data are available.

Overall financial linkages (from FDI to remittances) between the EU and the South-Med region (excluding Turkey) have remained quite stable over time despite the pandemic. Investments are quite small from an EU perspective, and never managed to take off despite the regional agreements. Political instability around 2010, occasional tensions linked to migration issues and overall low quality of institutions in the region are the main factors holding back progress. For these countries, however, the EU remains a key source of foreign income, not only in the form of FDI but also in remittances, ODA and financial assistance. Turkey is a very different case, as political tensions are weighing negatively on the strong economic and financial linkages built since the mid-2000s.

### 3.3 The eastern neighbourhood and Russia

This section focuses on three countries that have signed DCFTAs with the EU (Georgia, Republic of Moldova and Ukraine), and Russia.<sup>22</sup>

<sup>21</sup> To get a sense of size, EU claims vis-à-vis Tunisia are of a similar magnitude to those vis-à-vis Ukraine, the largest EU exposure in the eastern neighbourhood (excluding Russia) considered in this report.

<sup>22</sup> Mounting tensions between Russia and Ukraine may result in a conflict, which would dramatically change the situation in the region, and beyond.

In 2009, the EU launched the Eastern Partnership agenda to strengthen political and economic relations with six Eastern European partner countries, among which Georgia, Republic of Moldova and Ukraine. The agenda was further outlined in 2021, and the European Commission put forward a EUR 2.3 billion economic and investment plan for the Eastern Partnership countries, with the potential to mobilise up to EUR 17 billion in public and private investments. Moreover, the presidents of Georgia, Republic of Moldova and Ukraine jointly announced their commitment to a European future.

### 3.3.1 The macroeconomic context

The outbreak of the COVID-19 pandemic had a severe impact on the Republic of Moldova and Georgia, where GDP decreased by almost 7%, while in Ukraine GDP contracted by 4%. In Russia, GDP fell by almost 3% in 2020 but, according to the World Bank, it has already recovered to its pre-pandemic level and is expected to be supported by favourable commodity market developments in 2022.

To address the negative effect of mobility restrictions and weak domestic demand on their economies, governments responded with both fiscal and monetary policy measures. In addition, in April 2020, the European Commission adopted a EUR 3 billion MFA package to be disbursed among the 10 neighbouring and enlargement partners, among which Georgia, the Republic of Moldova and Ukraine.

In Georgia, whose economy relies largely on tourism, the government provided fiscal support amounting to 3.8% of GDP in 2020, while the National Bank undertook cumulative rate cuts of 100 basis points. Despite the currency (Lari) depreciating substantially against the dollar, the effective exchange rates remained stable due to appreciation against important trading partners such as Turkey and Russia. Georgia was among the beneficiaries of the EU MFA plan. Of the EUR 150 million initially planned, only half was disbursed (the second was cancelled on the request of Georgia).

In addition to the complicated situation related to the pandemic, in 2021 the Republic of Moldova experienced a major energy crisis induced by the sharp increase in gas prices<sup>23</sup>. To support the country's economy, in June 2021, the European Commission announced an Economic Recovery Plan for the Republic of Moldova, with the aim to mobilise up to EUR 600 million in MFA, grants and investments.

In Ukraine, the fiscal policy response was quite limited compared to the fall in GDP, while monetary policy measures were more substantial. In addition, Ukraine received substantial support from the EU in 2020, when a first EUR 600 million in MFA were disbursed. In October 2021, the European Commission disbursed an additional EUR 600 million, the second and final tranche under Ukraine's MFA programme. With this disbursement, outstanding loans to Ukraine under its multiple MFA programmes amount to EUR 4.4 billion.

In Russia, in response to the fall in the oil price in 2020, the Central Bank intervened on the foreign exchange markets, but as gas prices and domestic demand started to increase in 2021 the situation quickly improved.

### 3.3.2 FDI, remittances and official assistance

Over the last decades, the EU has become the main trading and investment partner for both the Eastern partners and Russia.

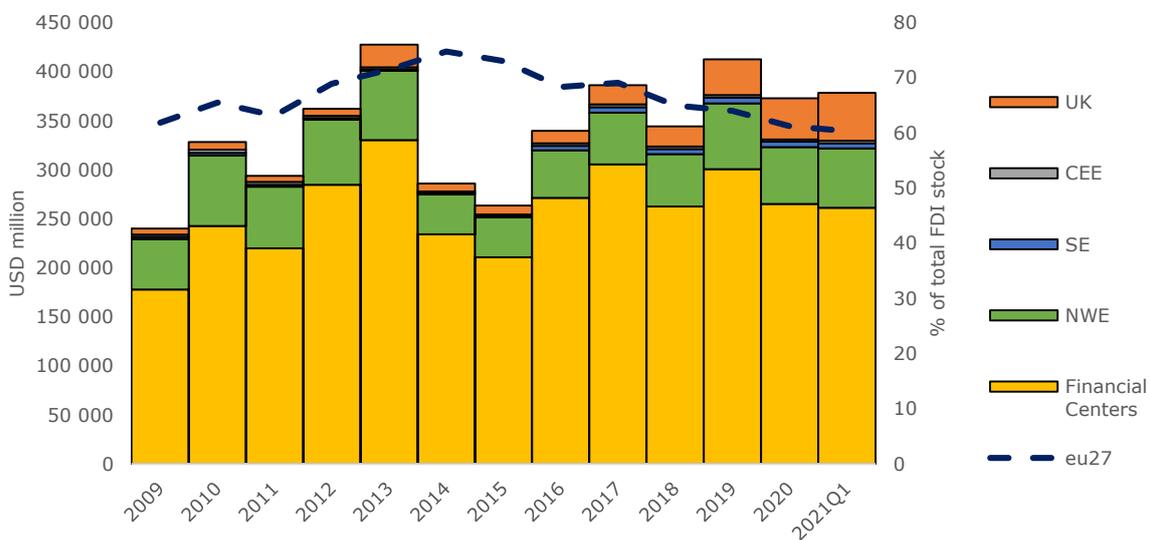
Russia accounts for 26% and 40% of European imports of oil and gas respectively, and about 37% of Russia's trade in goods in 2020 had the EU as the main partner<sup>24</sup>. Linkages between Russia's economy and the EU also emerge from the FDI statistics. Looking at the

<sup>23</sup> See [https://reliefweb.int/sites/reliefweb.int/files/resources/UN%20Moldova%20Covid-19%20Response%20and%20Recovery%20Monthly%20Update-%20November\\_2021-2.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/UN%20Moldova%20Covid-19%20Response%20and%20Recovery%20Monthly%20Update-%20November_2021-2.pdf).

<sup>24</sup> <https://ec.europa.eu/trade/policy/countries-and-regions/countries/russia/>.

Russian International Investment Position (Figure 3-14), most of its FDI stocks are held by European countries, particularly small financial centres like Cyprus (34% in 2019 and 28% in 2020). A substantial part of this investment, however, is believed to be 'phantom' FDI, i.e. investment of which the ultimate owner is a Russian resident, even if the immediate source of the investment is located in an EU country. Besides the financial centres, some North-Western European (NWE) countries, particularly Germany, have held a stable share of FDI stocks over the past years, while the shares of Southern and Central Eastern European (CEE) countries are negligible. Considering the FDI stocks held by the EU-27 countries as a percentage of total FDI stocks in Russia (dotted line in Figure 3-14), the total amount ranges between the highest value 74.7% in 2014 and the lowest 60% in the first quarter of 2021. Moreover, over the past few years, the importance of the UK as a source of capital for Russia has grown, with the highest growth rate registered in 2019 (+79% from the previous year).

Figure 3-14. FDI position in Russia of EU countries and UK



**Source:** Authors' calculations based on Bank of Russia data.

**Notes:** EU countries are grouped as follows: CEE: BG, CZ, EE, HR, HU, LT, LV, PL, RO, SI and SK; SE: EL, IT, ES and PT; NWE: AT, BE, DE, DK, FI, FR and SE; financial centres: CY, IE, LU, MT and NL.

Net FDI inflows from the EU-27 countries grew solidly after 2010, and the role of the financial centres continued to be disproportionately large compared to that of the other countries until 2013, when the net inflows from the UK also grew substantially. Since 2014, when the EU imposed several sanctioning measures against Russia following the annexation of the Crimean Peninsula, net FDI from the EU-27 has decreased significantly and never rebounded back to the pre-2014 level.

According to Kuznetsov (2012), oil and natural resources stand out as the main drivers of net FDI inflows into Russia. In fact, not only is the energy sector the destination for most of the FDI, but also geographically investments are concentrated in regions rich in natural resources. The country's dependence on natural resources, however, makes the investment environment instable and highly vulnerable to changes in the oil price. With the price of oil and natural resources exerting pressure on the rouble, monetary policy interventions have been employed consistently to defend the currency's value. When the oil prices collapsed in March-April 2020, the Bank of Russia used several facilities to sell FX under the fiscal rule, with FX sales based on the fiscal rule reaching a total of USD 9.7 billion

from 10 March to 28 May 2020<sup>25</sup>. The relevance of the natural resource sector as the main destination for FDI can be also captured by comparing the annual price of Brent crude oil (blue line in Figure 3-15) and net FDI inflows. The fall in oil price, particularly in 2009, 2014 and 2020, corresponds to periods when net FDI inflows also dropped significantly. According to UNCTAD estimates, also global FDI flows into Russia, declined dramatically in 2020, by about 70%, as a combined result of the effects of the pandemic and the low price for raw materials.

Figure 3-15. Net FDI inflows into Russia from EU-27 and Brent crude oil price



**Source:** Authors' calculations based on Bank of Russia data.

**Notes:** EU countries are grouped as follows: CEE: BG, CZ, EE, HR, HU, LT, LV, PL, RO, SI and SK; SE: EL, IT, ES and PT; NWE: AT, BE, DE, DK, FI, FR and SE; financial centres: CY, IE, LU, MT and NL.

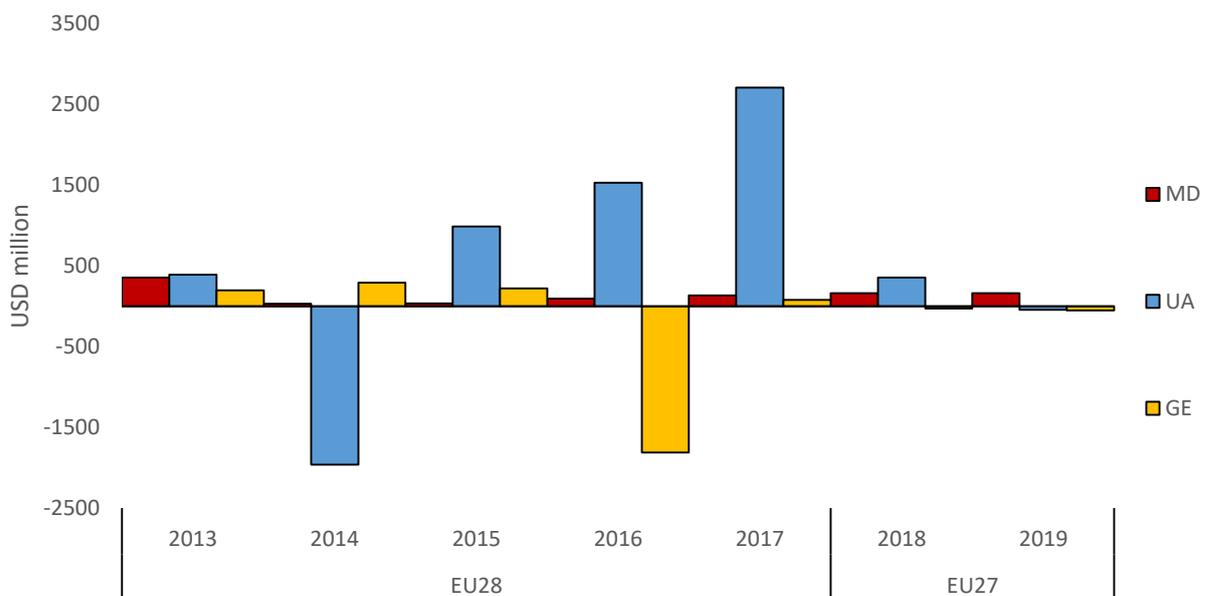
Concerning the other Eastern European partners, Ukraine is the main recipient of FDI inflows from the EU-28, and the EU-27 after Brexit (see Figure 3-16). Net FDI inflows into the country turned largely negative in 2014 (-USD 1 963.3 million), namely connected to the political developments in the country leading to the Russian annexation of Crimea and the military conflict in its eastern regions. After a rebound, net FDI inflows dropped significantly again in 2018 and become negative in 2019 (-USD 46.5 million). Among the EU-27 investors, Cyprus is of particular significance, being the main source of FDI inflows into Ukraine, followed by the Netherlands and France. While the dependence of Ukraine on EU-27 FDI investment has increased over the past years, the role of Russia has diminished, accounting for less than 5% in 2019<sup>26</sup>. According to the IMF (2021)<sup>27</sup>, FDI flows into Ukraine declined by about USD 7 billion in 2020 and recorded a net outflow of about USD 0.1 billion, mostly driven by the distribution of corporate losses, which is expected to reverse in 2021 driven by high prices for key exports, which is boosting corporate profits.

<sup>25</sup> According to the fiscal rule, the Bank of Russia converts oil and gas windfall revenues into FX when natural resource prices are high, whereas when natural resource prices fall below predefined levels, the bank sells FX. This rule aims to isolate the Russian economy from extreme oil price fluctuations.

<sup>26</sup> According to data from the Bank of Georgia.

<sup>27</sup> <https://www.elibrary.imf.org/view/journals/002/2021/250/article-A001-en.xml>

Figure 3-16. Net FDI flows in eastern neighbouring countries from EU-28/EU-27



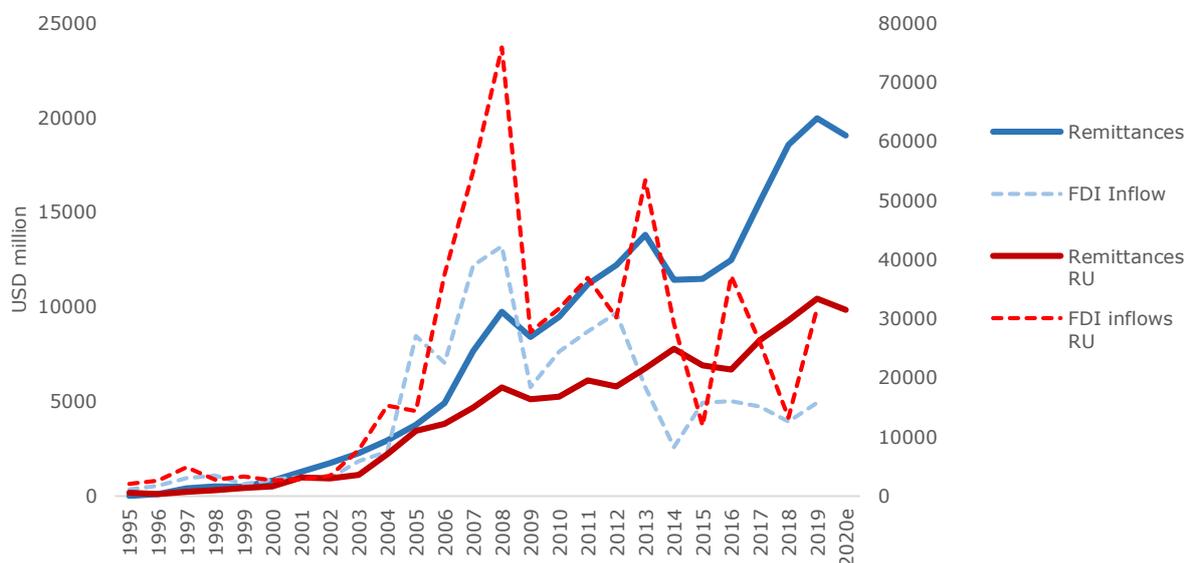
Source: Authors' calculations based on Eurostat data.

Net FDI inflows into Georgia from the EU were quite volatile between 2013 and 2019, and in the last two years declined to close to zero. According to the IMF, in 2020 FDI inflows into Georgia declined by 53%, and net portfolio inflows were also much lower than in 2019, however net loan inflows were much higher (by 2.2% of GDP year on year), reflecting the large inflows of donor financing.

The Republic of Moldova, which exhibits much smaller amounts (but is also a smaller economy) and less volatility than the other two countries, recorded the largest inflows in 2019.

According to UNCTAD, remittances from abroad play an important role in supporting domestic demand and investment in the three countries, by accounting for about 10% of GDP. As the outbreak of the COVID-19 pandemic resulted in a major economic contraction in the EU, Russia and the US, the main origin of remittances, remittances to the region were expected to fall in 2020 (Figure 3-17).

Figure 3-17 FDI inflows and remittances in eastern neighbouring countries and Russia



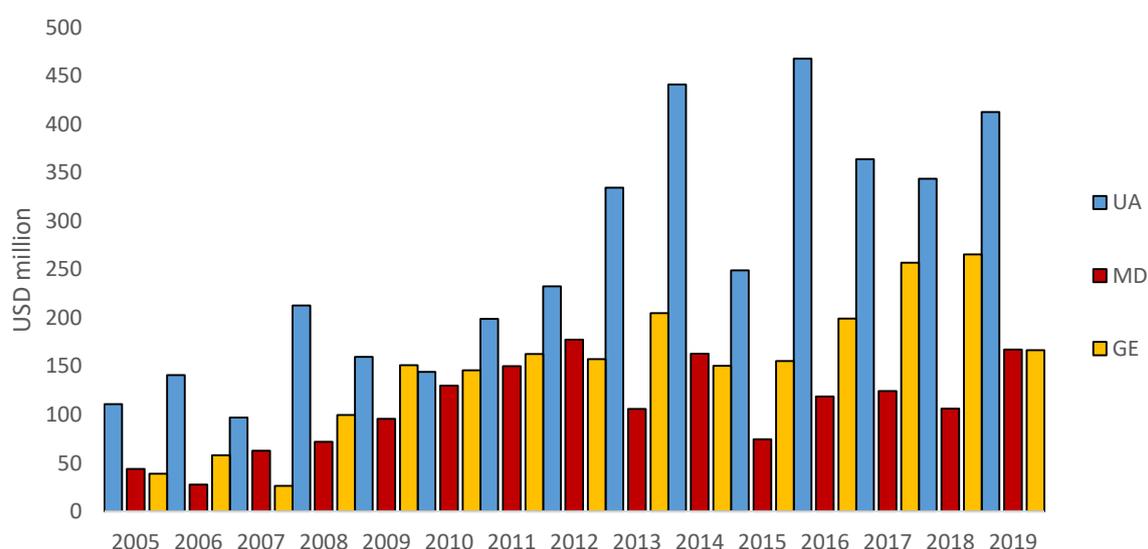
**Source:** Authors' calculations based on UNCTAD data.

**Notes:** On the left axis: Remittances and FDI inflow includes GE, MD and UA. On the right axis: Remittances RU and FDI inflow RU includes only RU.

However, up to date national statistics point to a different outcome. In the Republic of Moldova and Georgia, remittances increased in 2020 and are expected to have continued to increase in 2021. In Georgia, net remittances have experienced robust growth (by 28% year on year) as travel restrictions may have shifted some informal remittances to formal, thus continuing to play an important role in supporting income.

ODA funds from the EU Institutions to the region grew over the 2005-2019 period (see Figure 3-18), with the main recipient being Ukraine, where funds reached their highest value in 2016 (USD 343.85 million). In Georgia and the Republic of Moldova, ODA financing has been stable overall during the period under consideration, but to a lesser extent than in Ukraine. ODA to the three countries is substantial, especially for Georgia and the Republic of Moldova, given the smaller GDP size. In 2019, it amounted to around 1% of GDP.

Figure 3-18. ODA disbursements from the EU Institutions to eastern neighbouring countries



**Source:** Authors' calculations based on OECD data.

Ukraine is also the main recipient of EIB loans and MFA in the region. In 2020, EIB loans to Ukraine amounted to more than EUR 1 billion, while in the Republic of Moldova they reached almost EUR 54 million in 2021 and in Georgia they totalled EUR 42.5 million.

As mentioned above, EU MFA to the region has increased significantly since COVID, as part of a special EU support package for economic and inclusive recovery in the region (see Table 3-2).

Table 3-2. Overview of recent MFA disbursement

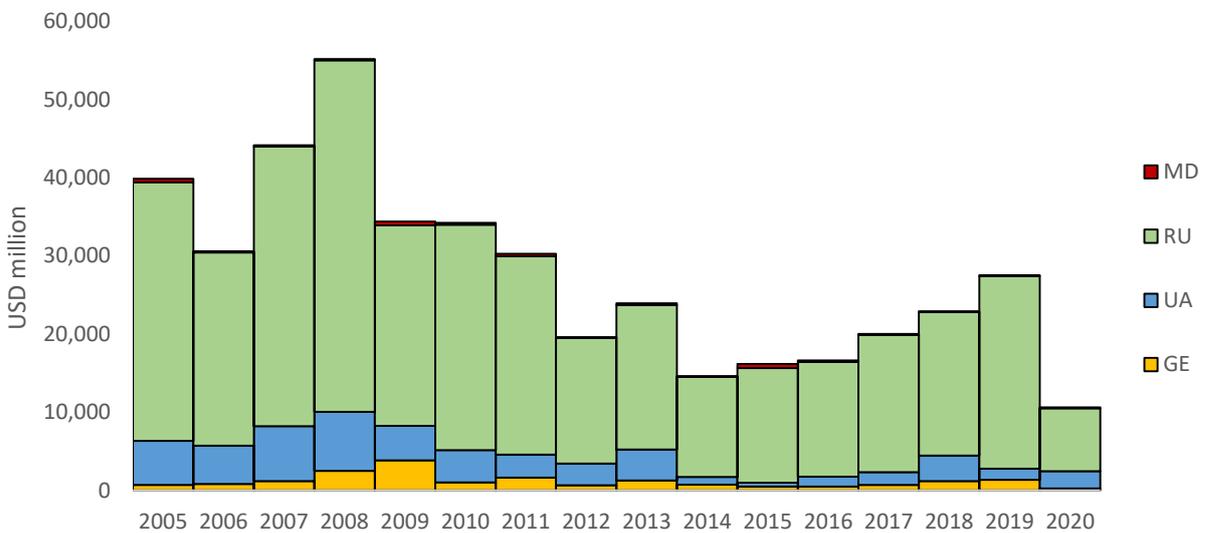
In EUR	2019	2020	2020 COVID-19 MFA	2021 (provisional)
<b>Payment appropriations for grants</b>				
<b>Georgia</b>	-	5 000 000		
<b>Moldova</b>	10 000 000	10 000 000		
<b>Disbursement of MFA loans</b>				

<b>Georgia</b>	-	20 000 000	75 000 000	75 000 000
<b>Moldova</b>	20 000 000	20 000 000	50 000 000	50 000 000
<b>Ukraine</b>	-	500 000 000	600 000 000	600 000 000

**Source:** Report from the Commission to the European Parliament and the Council on the implementation of MFA to third countries in 2020.

Russia is by far the main destination for (global) greenfield project announcements in the region, followed by Ukraine, which is the main recipient among the Eastern European partners. Between 2019 and 2020, the value of greenfield project announcements decreased significantly in Georgia (-81%) and in Russia (-67%), while it increased in Ukraine (+54.8%) and to a lesser extent in the Republic of Moldova (+2.2%), which is the country with the lower value of greenfield project announcements in the region.

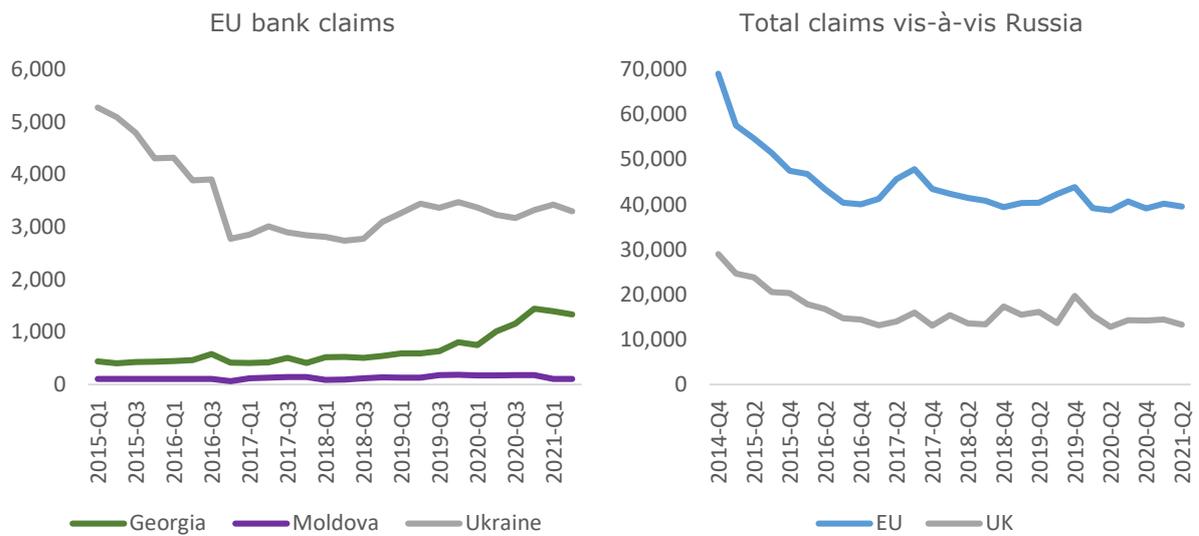
Figure 3-19. Value of greenfield project announcements in eastern neighbouring countries and Russia



**Source:** Authors’ calculations based on UNCTAD data.

As in the previous section, to complete the overview of the financial linkages between the EU and its Eastern neighbourhood, it is interesting to look at banks’ cross-border claims. Except for Russia, EU banks’ exposure to the region is very small. The Republic of Moldova and Georgia account for very limited amounts of EU banks claims, which is somewhat explained by the very tiny size of the two countries. Georgia exhibits a relatively large increase since 2020 and the outbreak of the pandemic. Exposure to Ukraine is much bigger in size, but declined by almost a half in 2015-2016 from a relatively high level and then stabilised. A similar trend is visible in EU banks’ exposure to Russia. EU claims declined by about 40% over the same two years. UK bank claims followed a similar pattern, following the Crimea events.

Figure 3-20. Banks' claims in USD million



**Source:** Authors' calculations based on BIS locational data.

**Note:** EU aggregate refers to 12 countries for which data are available.

Overall financial linkages (from FDI to remittances and MFA) between the EU and the Republic of Moldova, Georgia and Ukraine have remained quite stable over time, despite the pandemic and some changes in the composition of the linkages. FDIs have experienced some volatility and were on a somewhat declining trend already before the pandemic, but the EU remains a key source of income support for the regions through different instruments. This has been confirmed during the pandemic and the new MFA programmes. Russia is a very different case, for which FDI and trade are the main linkages. Three factors are important in understanding EU-Russia capital flows linkages. First, the annexation of the Crimean Peninsula in 2014 and the EU sanction on Russia led to a fall in FDI and EU banks' exposure to Russia. Second, the evolution of EU FDI into Russia seems to mimic Brent crude price developments. Third, the main counterparts of Russia's inward FDI are EU financial centres, in particular Cyprus and Malta. The latter two aspects cast some doubt on whether EU FDI into Russia really is EU direct and foreign investment, or rather, EU financial centres host the headquarters of companies (mostly SPEs) owned or controlled by Russian residents, whose funds increase when the oil and gas price increases.

## 4 Policy response and spillovers: US and euro area

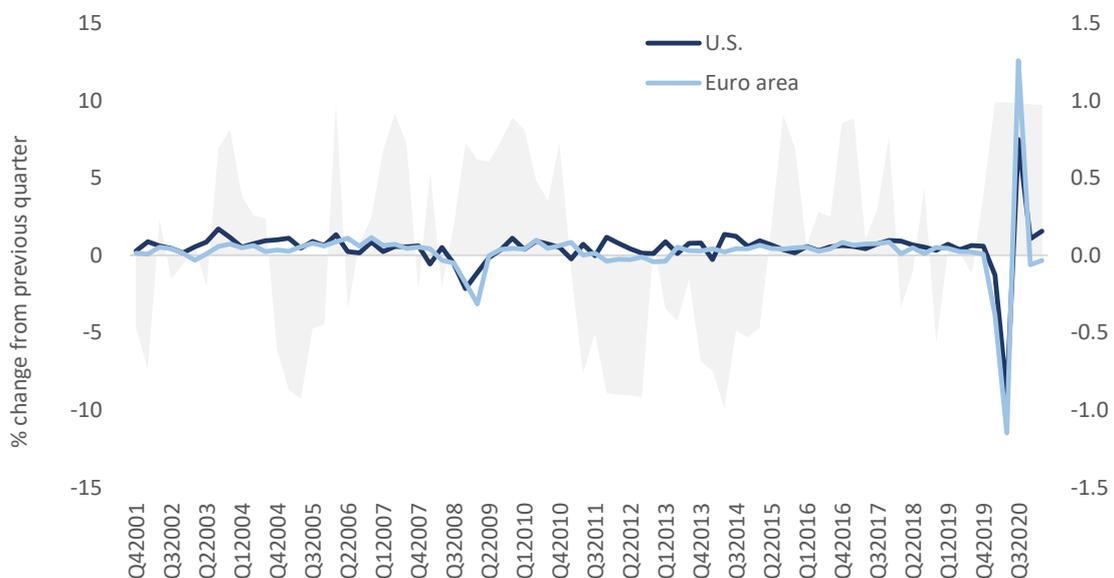
This section focuses on an analysis of the policy stance in the US and in the euro area since the outbreak of the pandemic, and attempts to assess the implications for the main transmission mechanisms between the two sides of the Atlantic, highlighting the role played by financial accounts, the exchange rate and the degree of financial integration.

In order to do this, we proceed in three steps. First, we offer an overview of the policy stance and the state of the economic cycle in the US and the euro area. The purpose of this is to understand the extent to which monetary and fiscal policies are separate from each other or in sync, as well as the changes that can be expected to occur soon. In the second step, we estimate a global vector autoregressive (GVAR) model (up to 2019) to capture how policy changes propagate from one bloc to the other, in normal times. As explained in greater detail below, 2020 is initially left out of the GVAR, in order to avoid the very large but temporary GDP fall affecting the estimate of structural parameters. The third step consists of predicting the spillovers arising from current and potentially upcoming policy differences, based on the model estimates.

### 4.1 US and euro area policy response

The year 2020 was marked by the COVID-19 pandemic and the subsequent unprecedented fiscal and monetary policy responses to the crisis in major economies. The COVID-19-induced transatlantic recession and recovery are depicted in Figure 4-1, and show the highest synchronisation across the economies over the past two decades.

Figure 4-1. Real GDP growth, 2001-2021

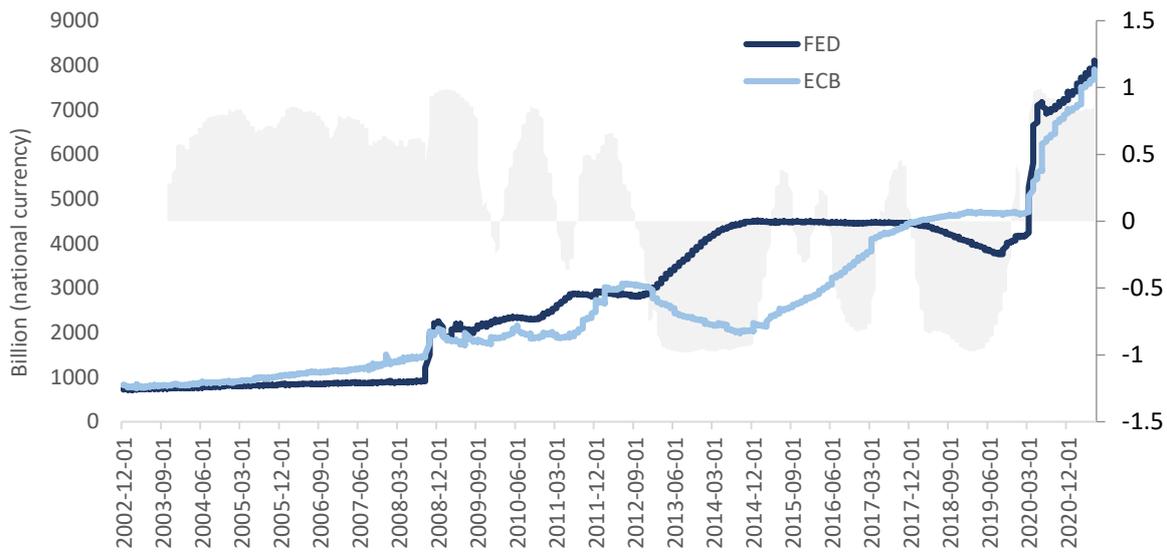


**Source:** OECD data.

**Note:** The shaded area (RHS) indicates the rolling correlation over a one-year window.

From April 2020, monetary policy measures to mitigate the impact of the pandemic led to a sharp expansion of the FED and ECB balance sheets (Figure 4-2), driven by purchases of government bonds and securities. Since then, correlation between monetary policy in the US and the euro area appears very high. A similar pattern, albeit to a lesser extent, is observed over the 2009 financial crisis, but this was of a short duration.

Figure 4-2. Central bank total assets for euro area and US (weekly), 2001-2021

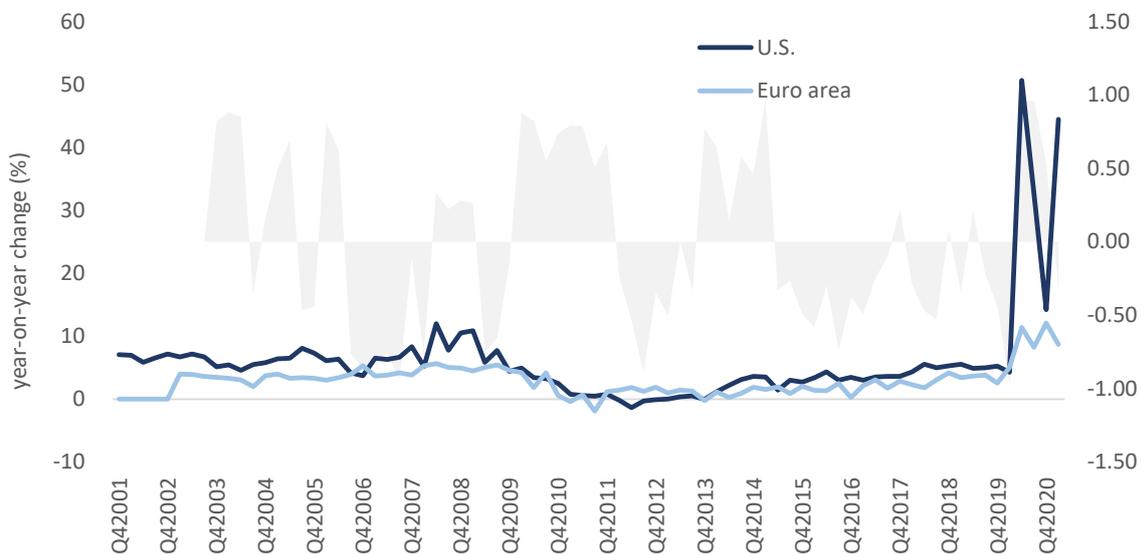


**Source:** OECD data.

**Note:** The shaded area (RHS) indicates the rolling correlation over a one-year window.

Likewise, monetary policy and fiscal expenditure growth correlation appears very high in 2020, even though the rates are very different (Figure 4-3). In 2020, the US response to the global pandemic involved a much larger discretionary fiscal package than those of euro area governments<sup>28</sup>. While complete data are not yet available for 2021, this is likely to remain the case due to the considerable measures put in place by the Biden Administration, and also because the EU common fiscal response under NextGenEU will intensify in 2022.

Figure 4-3. Government expenditure growth, 2001-2021



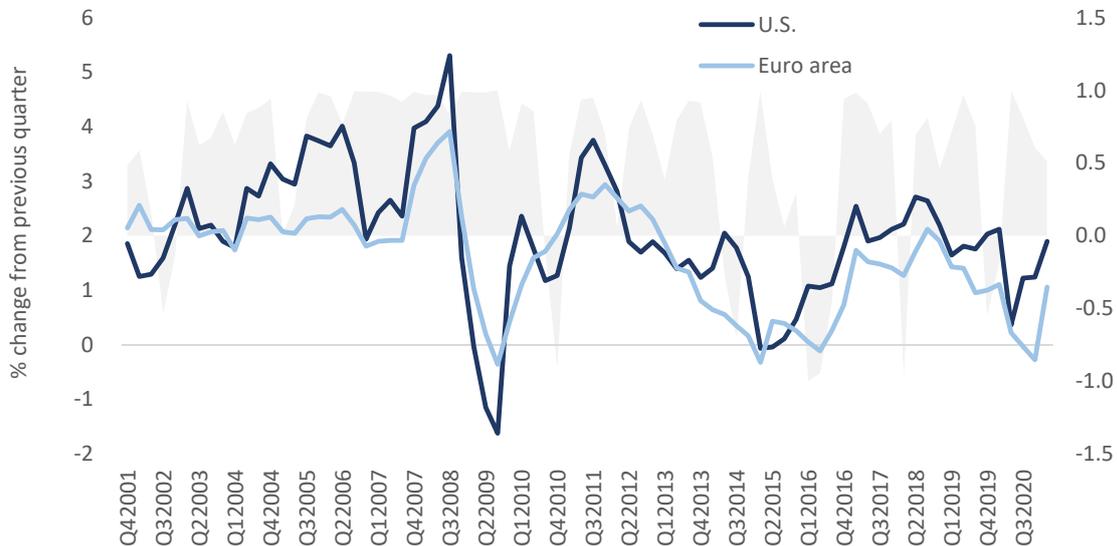
**Source:** Eurostat, FRED.

**Note:** The shaded area (RHS) indicates the rolling correlation over a one-year window.

<sup>28</sup> The composition of the US fiscal expenditure is also quite different to that of the euro area, with a greater role in the US of direct payments to citizens compared to the EU, where loans and guarantees offered to firms were privileged. The difference is largely explained by the weakness of the US social welfare system and the need to address major pre-existing inequality issues. According to the ECB (2021b), while the discretionary fiscal policy response to the COVID-19 crisis was larger in the US than in the euro area, if the impact of automatic stabilisers is included, the total fiscal impulse in the euro area in 2020 comes closer to the equivalent impulse in the US.

The degree of transatlantic co-movements in inflation rates, which appears to be quite high over almost the entire period, gradually declined around the last quarter of 2019 and the first quarter of 2020 (Figure 4-4).

Figure 4-4. Consumer price index, 2001-2021 Q1



Source: OECD data.

Note: The shaded area (RHS) indicates the rolling correlation over a one-year window.

As mentioned already in Section 2, in the course of 2021, US inflation escalated quite dramatically, driven by a combination of several factors ranging from energy prices to value chain disruption, in addition to the ultra-loose fiscal and monetary policy stance. This is not yet the case in Europe, and different dynamics could lead to a substantial gap in inflation rates (even though correlation may remain positive). As a side effect, the monetary policy stance may also start to diverge. If inflation in the US turns out not to be of a transitory nature, as assumed by the FED at the time of writing, tapering may start sooner than expected and interest rate hikes may follow in the course of 2022. The increase in US interest rates could potentially trigger a rise in long-term interest rates around the world. This could have an impact on the real economy in the euro area (by raising borrowing costs for firms, household and governments) as well as for capital flows.

Against this background, we attempt to quantify potential spillover effects on the euro area emerging from differences in the scale of responses to the COVID-19 pandemic, and potential upcoming changes to monetary policies across the two blocs.

## 4.2 Estimating spillover effects

Model-based projections suggest that the US fiscal plan will have a large impact on the EU / euro area. According to recent ECB (2021) staff macroeconomic projections, the spillover from the USD 1.9 trillion American Rescue Plan (ARP) to the euro area GDP is estimated to be about 0.3% over the period 2021-2023, and the impact on Harmonised Index of Consumer Prices (HICP) inflation is projected to be 0.15% over the same period. The OECD (2021) estimated that in 2021 the ARP would boost US GDP by 3.8%, world GDP by 1.2% and euro area GDP by 0.5%. The European Commission (2021) projected a smaller increase in US GDP of 3% and thus a smaller impact on euro area GDP of 0.3%. In these estimates, euro area GDP changes are mostly driven by direct exchange rate and trade

effects, namely appreciation of the US dollar and a boost in extra-EU exports, which account for about 30% of EU GDP.

In the following, we attempt to estimate, based on data, the policy spillovers and the transmission channels from the US to the euro area economy in a global setting. Besides understanding the impact on GDP, we are motivated by the question of what this implies in terms of exchange rate developments and capital flows. As it is difficult to disentangle the massive shock of COVID-19 from the impacts of subsequent policy measures, we start our analysis by excluding 2020 data and focusing mainly on the period before the pandemic. This should allow us to capture long-term (or 'normal' time) relations. Later, we consider the possible changes in the measured spillovers by including data from 2020.

#### 4.2.1 Methodology and data

Our analysis relies on global vector autoregression (GVAR), a global macroeconomic model initially proposed by Pesaran et al. (2004). The model was first developed as a method for credit risk analysis, but was quickly extended to numerous empirical applications. Several studies use the GVAR approach to examine the global spillovers from fiscal policy shocks (Favero et al., 2011; Hebous and Zimmermann, 2013) and monetary policy shocks (Georgiadis, 2014; Feldkircher and Huber, 2014). Similarly, Bussière et al. (2012) apply a GVAR model of global trade flows to evaluate the impact of domestic and foreign demand shocks, as well as shocks to relative trade prices on global imbalances. In a similar vein, the GVAR approach is used by Bettendorf (2017) and Marçal et al. (2014) to examine the development of external imbalances and exchange rate misalignments.

The GVAR approach consists basically of two-steps. In the first step, country-specific vector autoregressive (VAR) models are estimated conditional on the rest of the world. These models feature domestic variables, as well as the cross-country interlinkages through (weighted) averages of equivalent foreign variables, which are usually constructed using trade weights and considered as (weakly) exogenous. In the second step, individual country models are stacked and solved simultaneously as one large GVAR model. Given that our focus is on transatlantic spillovers, we estimate a Bayesian GVAR (BGVAR) model using a quarterly dataset covering the period 2002-2019. The estimation is implemented using the BGVAR toolbox in R developed by Böck et al. (2021)<sup>29</sup>.

The analysis of the spillovers between the euro area and the US is conducted by means of two different specifications. In the first specification, the model includes the euro area and US only in order to focus on the transmission channels between the two blocs and isolate them from the effects of other economies. In the second specification, 24 additional countries besides the euro area and the US are included in the estimation of a global model. The inclusion of many economies depicts a more realistic picture, but it brings about more complexity in terms of the transmission channels. In comparison, the first specification is advantageous in terms of interpretability.

Nine macroeconomic variables for each economy, including real GDP, inflation, nominal equity price index, exchange rate, nominal short- and long-term interest rate, government expenditure, financial integration (gross foreign assets plus liabilities relative to GDP) and trade integration (exports plus imports relative to GDP), are used in the estimation<sup>30</sup>. The trade weights are computed based on the average bilateral trade flows. The seasonally adjusted data are obtained from the IMF IFS database. Fiscal policy variables are taken from Eurostat for the euro area, and the Bureau of Economic Analysis (BEA) for the US.

<sup>29</sup> Following Böck et al. (2021), we apply the stochastic search variable selection (SSVS) prior, a Bayesian variable selection technique first introduced by George and McCulloch (1993). Using a Markov chain Monte Carlo (MCMC) algorithm, SSVS indirectly samples from the set of potential subsets of explanatory variables with a higher posterior probability, based on a hierarchical normal mixture model and the prior variances.

<sup>30</sup> Oil prices as a global control variable also enter the US model due to the dominance of the US economy in the financial markets.

The estimation results feature the effects of variable-specific shocks across economies through generalised impulse response functions (GIRFs). The GIRF approach considers shocks to individual errors and integrates the effects of the other shocks.

#### 4.2.2 Estimation results

First, we consider the main transmission channels and the spillover effects between the two blocs resulting from the estimation of a two-country GVAR model. Initially, the importance of US macroeconomic variables in determining the euro area ones is investigated via the estimation of the posterior inclusion probabilities (PIPs). PIPs provide a measure of the variables' importance in explaining variation in the respective dependent variable. They also give an insight about the transmission channels of external shocks and policy spillovers to the domestic economy.

We complement this analysis by presenting the forecast error variance decomposition (FEVD) of euro area real output. This reveals the importance of US variables vs domestic variables in explaining the real GDP in the region. This assessment also allows the identification of the main transmission channels of a shock to the euro area economy.

Next, we employ the GVAR model, accounting for multiple economies to present the response of the euro area economy to a global shock, which can give an idea of how spillovers propagate in response to the pandemic. We then consider a US positive fiscal shock, which could help to understand the impact of the ARP, and finally we consider a negative monetary shock, which could materialise in response to rising inflation in the US. We examine the effects of the three shocks to the key macroeconomic variables including real output, short- and long-term interest rates, exchange rate, inflation, equity prices, trade integration and financial integration.

Finally, we use the GVAR model to calculate an unconditional or out-of-sample forecasting of the euro area's real output, controlling for global factors.

#### Posterior inclusion probabilities

The PIPs for the euro area variables are summarised in Table 4-1. These probabilities are computed based on the SSVS prior. For the sake of brevity, we only report the probabilities associated with the level of variables, and exclude those attached to the lags.

Table 4-1. PIPs across euro area and US

	EA gov. exp.	EA equity prices	EA exch. rate	EA short int. rate	EA long int. rate	EA GDP	EA inf.	EA fi. int.	EA tr. int.
US gov. exp.	0.03	0.33	0.20	0.49	1	0.16	0.15	0.18	0.56
US equity prices	0.01	1	1	0.1	1	1	0.04	0.19	1
US exch. rate	0.39	0.57	0.25	0.68	0.45	0.36	0.19	0.13	0.41
US short int. rate	0.46	0.67	0.49	0.23	0.01	0.87	0.14	0.47	0.83
US long int. rate	0.16	0.23	0.62	0.62	0.59	0.38	0.42	0.67	0.66
US GDP	0.65	0.33	0.63	0.49	0.69	0.81	0.46	0.08	0.24
US inf.	0.54	0.53	0.42	0.15	0.38	0.38	0.63	0.53	0.61
US fi. int.	0.11	0.83	0.28	0.74	0.21	0.13	0.3	1	0.92
US tr. int.	0.55	0.87	0.81	0.67	0.53	0.46	1	0.65	1
Oil price	0.38	0.76	1	0.08	0.85	0.99	1	1	0.75
Cons	0.17	0.61	0.63	0.55	0.64	0.45	0.85	0.33	0.54
Trend	0.62	0.95	0.14	1	1	0.19	0.12	0.54	0.76

**Source:** Authors' calculations.

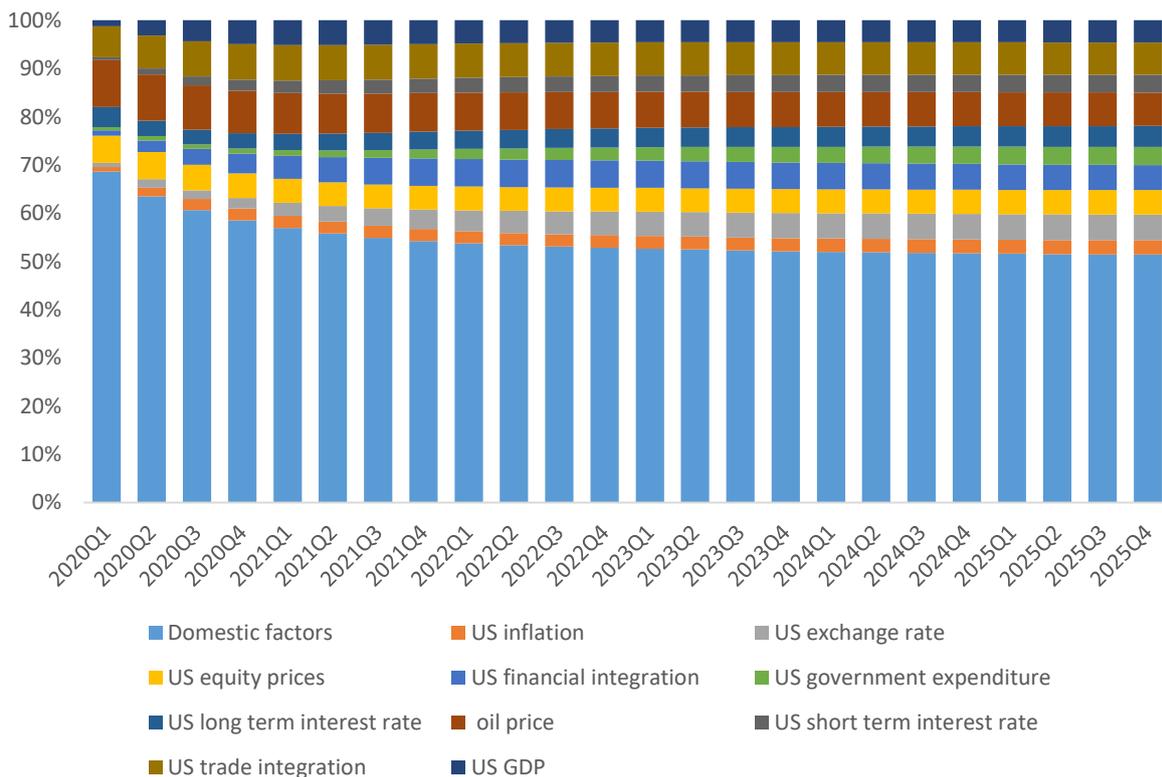
**Note:** The equations should be read column-wise, with the rows representing the associated foreign explanatory variables.

Beside the first own lag of the domestic variables, we observe a strong linkage between US equity as well as oil prices and euro area trade, financial markets and output. A strong relationship is also captured among the US short-term interest rate and euro area trade and equity prices, hinting at these variables as important potential transmission channels of US monetary policy. In contrast, US government expenditure does not appear to be strongly linked to the euro area domestic variables. Although the estimated probability for trade shows some degree of importance of the variable to pass on an external fiscal shock, as expected, the rest of the euro area economy does not appear to be strongly influenced.

**Forecast error variance decomposition**

Based on the results of the two countries (US and euro area in our case)’ GVAR model, we present the FEVD of euro area real GDP with respect to the domestic shock, as well as shocks from the US. This allows us to assess the importance of US shocks in the model in explaining the variations of euro area output over time. As illustrated by Figure 4-5, in the context of a two-country model, domestic factors account for most of the forecast error variance of euro area real output, especially in the short run. Over time, however, the contribution of the US variables appears to increase. By the end of the forecast horizon, US factors explain about half of the forecast error variance, as their domestic counterparts.

Figure 4-5. FEVD of euro area real output



Source: Authors’ calculations.

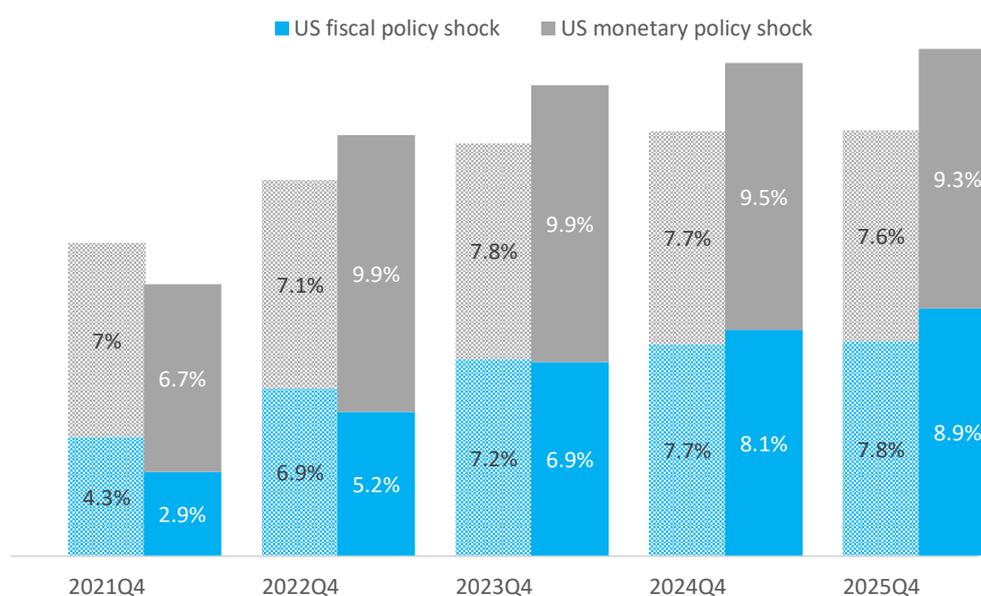
Among the US variables, oil prices and US trade integration explain most of the variance of euro area real GDP, whereas US government expenditure and the short-term interest rate play a relatively small part, indicating the marginal importance of US fiscal and monetary policies in driving the euro area economy, compared to other factors.

Next, we focus particularly on the shocks from US fiscal and monetary policies, and study their contribution to the variation of the euro area economy with and without the pandemic. To this end, we compare the estimated FEVD based on our initial sample with the one estimated including data for 2020. This exercise helps us to infer potential spillovers from US policy response to the pandemic affecting the euro area economic outlook.

Comparably, as presented in Figure 4-6 (shaded area), US monetary policy shock contribution to euro area GDP variations is shown to be almost constant over the next five years, increasing slightly from 7% in 2021 Q4 to 7.8% in 2023 Q4. The contribution of US fiscal policy is relatively lower in the first year, but increases steadily over time and by the end of the horizon amounts to 7.8%.

Including the data from 2020 in the model shows, on average, larger policy spillovers, particularly from the US monetary stance appearing in 2022. While in 2021 only about 9.6% of changes in the euro area output are explained by US policy effects, these are estimated to expand to around 18.2% at the end of 2025. Nonetheless, this result should be taken with caution, due to the structural break and possible non-linearities associated with the COVID-19 crisis contained in the 2020 data.

Figure 4-6. Contribution of policy variables to the FEVD of euro area real output



Source: Authors' calculations.

Notes: Solid colours represent estimated FEVD including 2020 data. Shaded colours represent FEVD based on data excluding 2020.

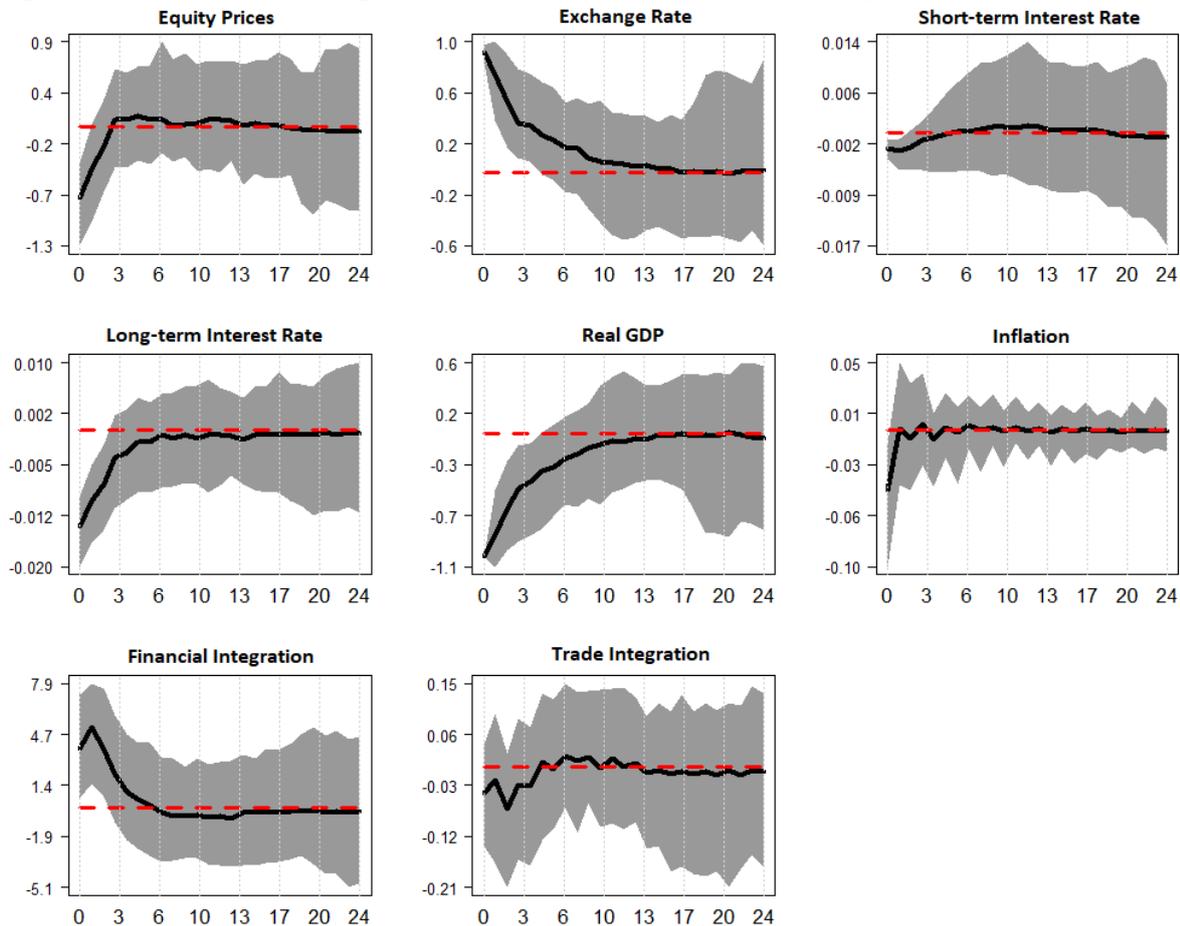
### Generalised impulse response functions

While the findings from the previous section are based on a GVAR model that includes the euro area and US economies only, in this section the purpose of the empirical exercise is to investigate and assess the spillovers in a global context, allowing for complex interactions among economies. Identifying the transmission channels is, however, more difficult in this setting.

The GIRFs are illustrated below. The posterior median response of each variable is represented by the solid black line along with the 80% confidence intervals (grey area).

We start with an analysis of the transmission and the impact of a one-off negative global shock, defined as a synchronised decrease in output across major economies, here equivalent to a 3% drop in real GDP growth on average. While the size is not comparable to the pandemic, GIRFs predict a large, adverse effect on the euro area economy and financial market. The shock is associated with a decline in euro area real output by 1.1% on average in the first quarter and by about 0.4% over the first five periods. The effect stops being statistically significant afterwards.

Figure 4-7. Spillovers from a global recession to the euro area economy



Source: Authors' calculations.

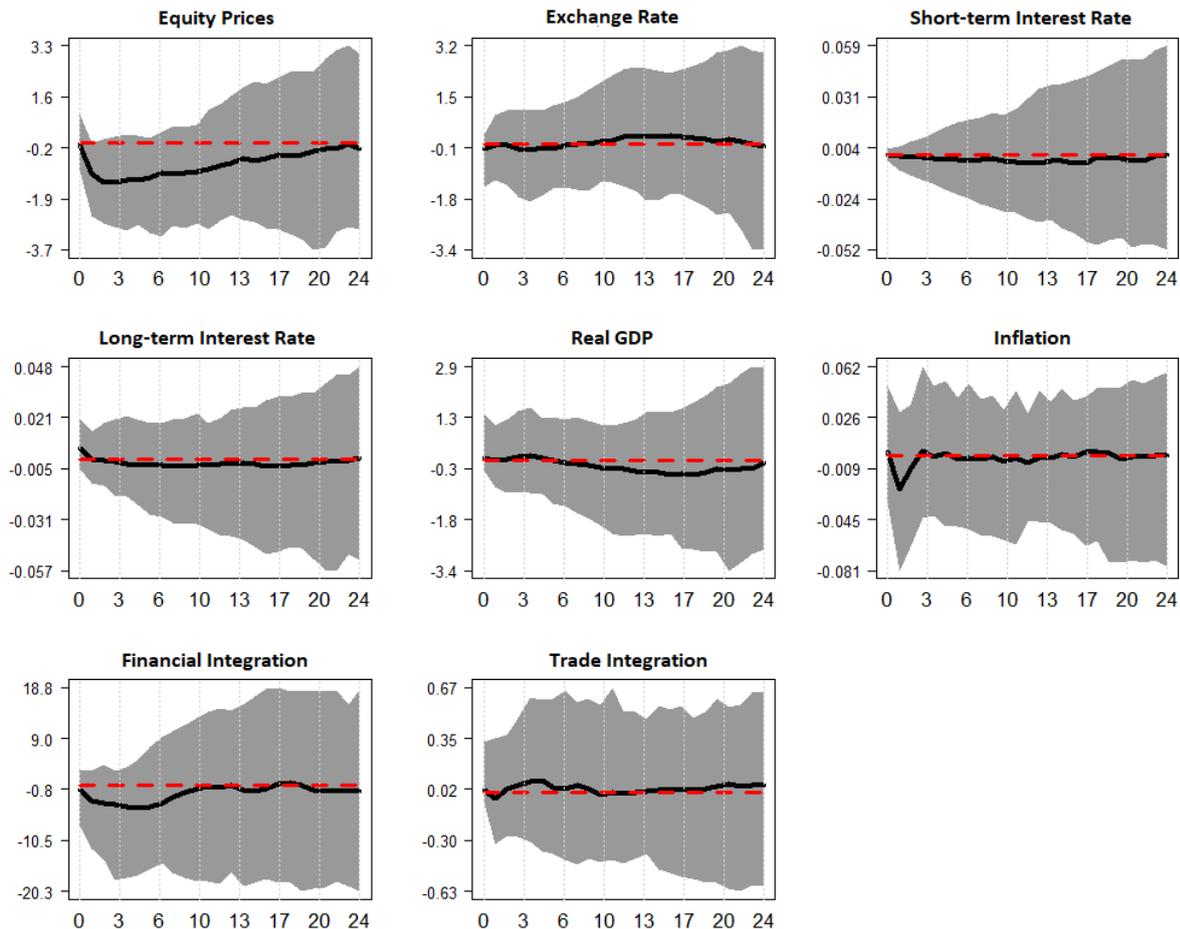
In response to a negative global shock, the euro depreciates against the US dollar. The impact, nevertheless, is statistically significant over the first five quarters only. The financial integration variable initially shows a positive reaction and increases over the first two periods, which can be attributed to the decline in GDP. The trend reverts rather quickly and decreases over the next 10 quarters before it dies out completely. The spillovers of the global shock to euro area inflation are uncertain. Likewise, its impact on the short-term interest rate and trade integration is very limited and statistically insignificant.

Similarly, global shock spillover to the euro area bond and equity markets occurs rather quickly, and both markets react negatively to the shock, albeit the bond market to a lesser extent. Equity prices fall by about 0.7% in the first quarter, and the long-term interest rate declines by around 1.2 basis points over the same period. The effect of the shock on both markets is relatively short-lived and fades out after six quarters.

We then assess the spillover effect of a fiscal stimulus in the US. As shown, the euro area economy responds more to global shocks than to shocks originating just in the US. Figure 4-8 shows the response of euro area variables to one-standard-deviation positive shock to

US general government spending. This shock is equivalent to an increase of around 3% year on year in government expenditure. This is clearly far smaller than the change induced by the ARP. Based on official statistics, US government expenditure in the second quarter of 2020 showed 51% growth over the same period in the previous year. This amount was about 44% in the second quarter of 2021.

Figure 4-8. Spillovers from US fiscal policy expansion to the euro area economy



**Source:** Authors' calculations.

The expansionary US fiscal policy shock has a negative effect on equity prices in the euro area, which is significant almost over the first six quarters. The shock also exhibits a negative impact on financial integration in the euro area, but it is not statistically significant at the 80% credible level. The transmission of the US fiscal shock to the rest of the euro area economy is minor, and not statistically significant in all the periods. Siklos et al. (2021) find some evidence of spillovers from US fiscal shocks to the euro area economy, but the effects are quite uncertain and statistically insignificant for the largest part of the five-year horizon studied.

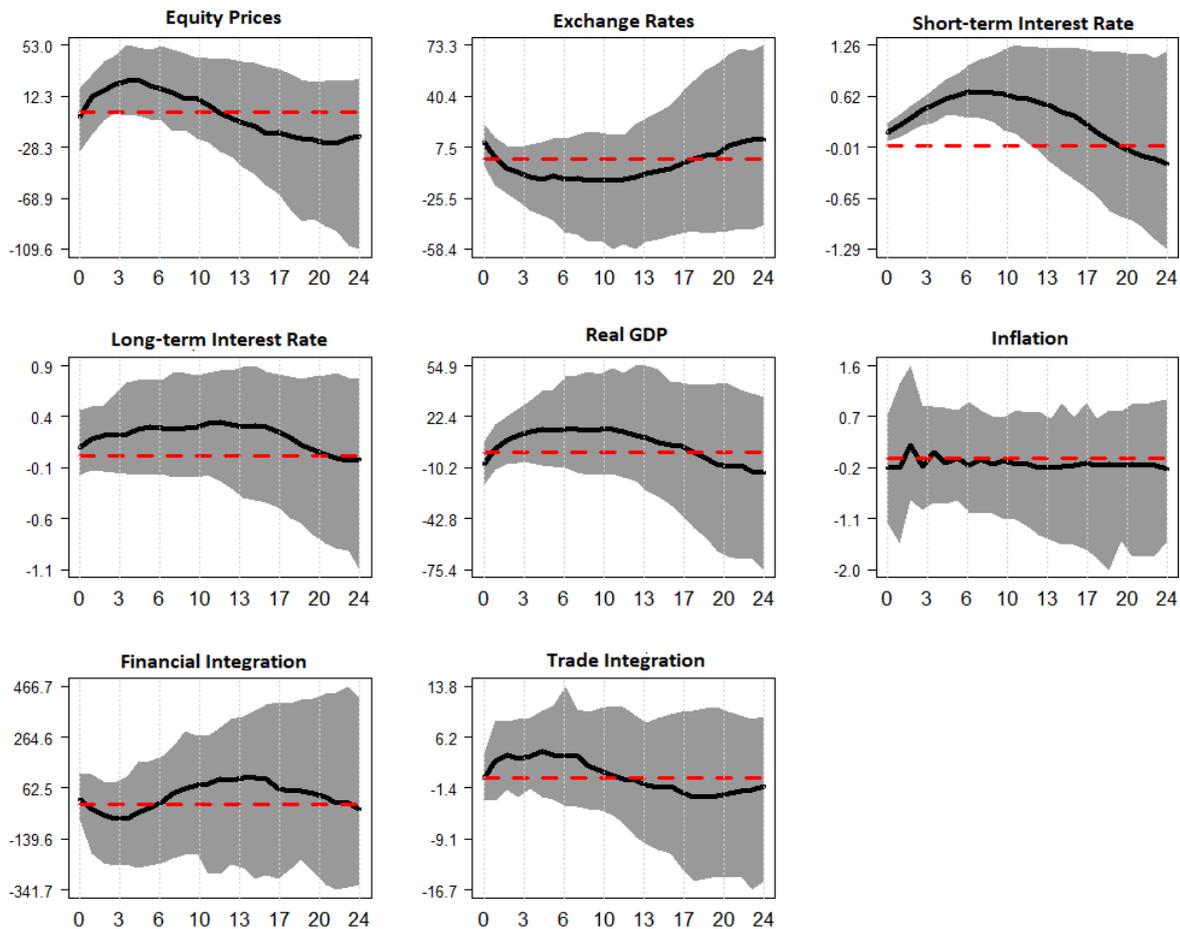
It should be noted that given the much bigger size of the actual fiscal stimulus in the US, impacts that are shown in GIRFs not to be significantly different from zero may be such because of a size effect. All things equal in the euro area, this would imply an increase in trade and in GDP.

Finally, we try to capture potential spillover associated with a possible shift in US monetary policy towards a restrictive stance, forced by inflationary pressures. A positive one standard

error shock to the US short-term interest rate, which is equivalent to a 1.2 percentage point increase in the short-term rate, simultaneously impacts the interest rate in the euro area. The effect sustains for around 12 quarters, which reflects the strong interdependence of the short-term rates and contemporaneous dependence of monetary policy shocks across the two regions.

The shock has a positive impact on equity prices, and the effect is statistically significant during the first three to five quarters. The effects of US monetary policy shock on real output in the euro area is generally uncertain. This is in line with the findings of Dees et al. (2007). Similarly, the impact of the shock on the rest of the variables is statistically insignificant on all horizons.

Figure 4-9. Spillovers from US monetary policy contraction to the euro area economy



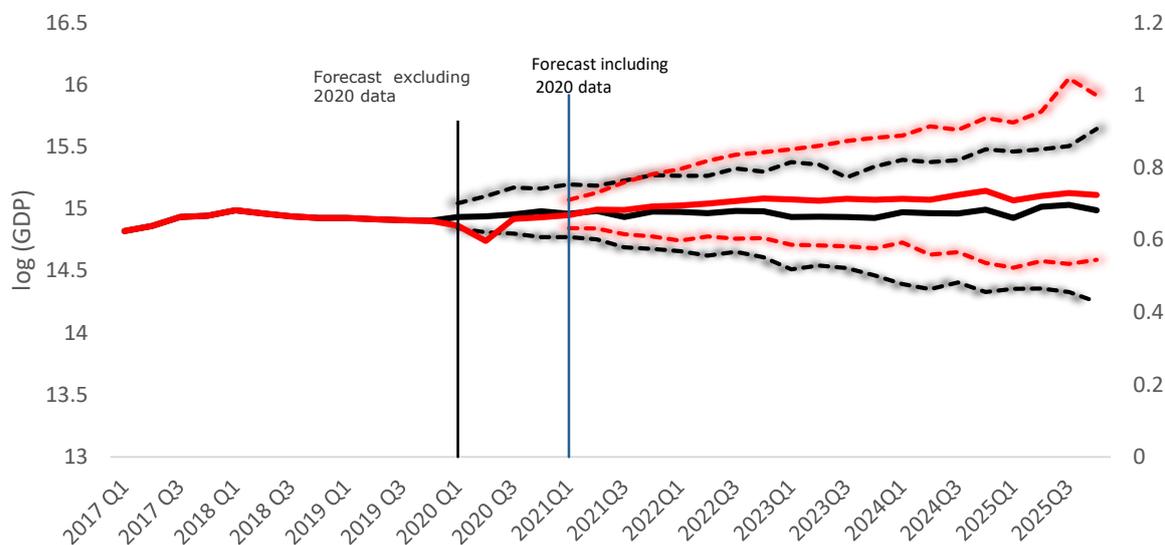
Source: Authors' calculations.

### Forecast for the euro area economy

Finally, we provide a forecast of real GDP for the euro area until the end of 2025 (Figure 4-10). We present two forecasts, one employing the sample used for the estimation, i.e. up to 2019, and another including the year 2020, since the year has already been realised. The solid lines in each figure represent GDP (in log). The shaded dotted lines define the confidence intervals of 90% for each of the GDP forecasts.

It is important to clarify that the figures show the GDP path that might have been reached in the absence of the COVID-19 pandemic, based on the model predictions, as well as the future path predicted by the model using 2020 data, so including the pandemic shock.

Figure 4-10. GDP forecast for the euro area



**Source:** Authors' calculations, based on the GVAR model.

**Note:** The red lines are generated by the model including actual data for 2020.

Overall, the outlook including data for 2020 (red lines) suggests a relatively fast recovery in the euro area, which returns more quickly to the pre-COVID path. Furthermore, the GVAR model forecasts a slight acceleration in the growth rate in 2022 (compared to the baseline scenario – black line) driven by the fast rebound of 2020, which outperforms the previous weak growth path, during the whole forecast horizon. It should be noted that NextGenEU is not included in the estimates.

### 4.3 Concluding remarks

In general, our analysis based on the GVAR model reveals that spillovers from US monetary and fiscal policies to the euro area economy tend to be rather small and uncertain in the presence of policy shocks of a standard size. Rather, the euro area economy appears to be more affected by a synchronised global shock. In light of this, the global pandemic-induced recession appears to have generated large spillovers to the economy on both sides of the Atlantic. In addition, the exceptional size of the US fiscal stimulus can have a larger and more clear-cut impact on the euro area than predicted by the model, as the impact of the ARP is not accounted for.

Regarding transmission channels, the trade variable seems to have a more prominent role than financial variables, equity prices and exchange rate. This implies that spillover effects may be different across the EU member states, and affect most those countries that have an important export base in the US.

An additional consideration relates to monetary policy. If the FED is forced to react to inflationary pressures earlier and stronger than the rest of the world, as appears to be the case, financial variables may turn out to be more reactive than predicted by the model, which is based on a 'normal times' assumption. Within capital flows, portfolio investments are those most sensitive to interest differentials. They can change rapidly, and their magnitude has grown in recent years.

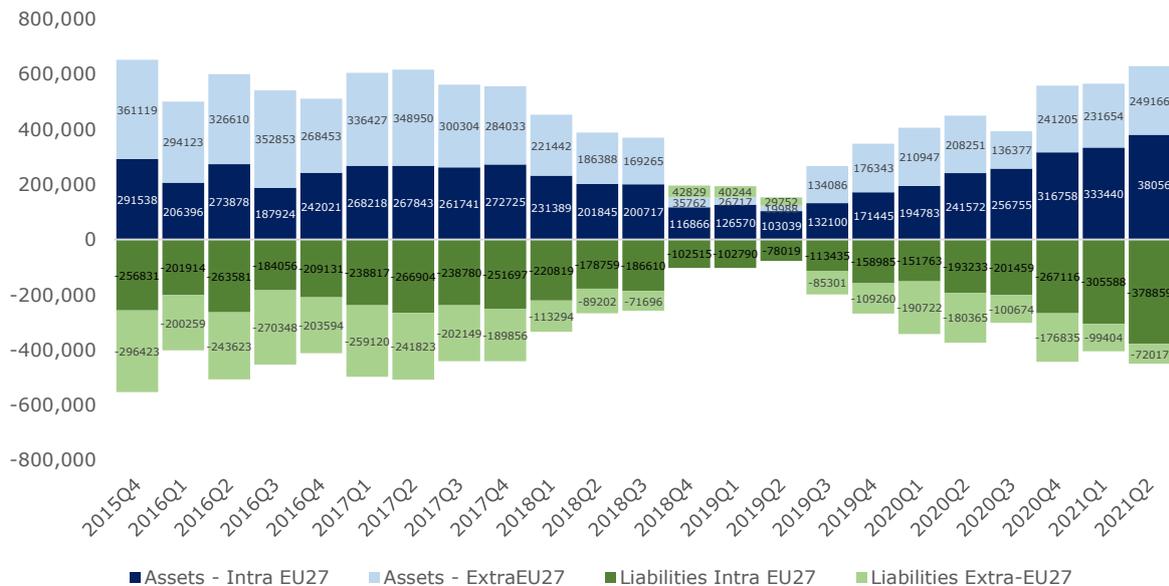
The cumulative effect of (past) expansionary fiscal policy, which in the model is associated with increasing inflation expectations and hence longer-term interest rates, and a change in monetary policy stance leading to higher short-term interest rates, is likely to result in a growing interest rate (positive) differential in the US, which could attract capital flows and lead to a USD appreciation.

Finally, based on Alcidi et al. (2020), as well as additional evidence provided in this report, the sensitivity of (official) FDI data to real economy variables appear to have declined in the recent times and to be lower than expected. A more uncertain macroeconomic environment, driven by pandemic developments or policy changes, could affect FDI even more than predicted by macroeconomic models.

## 5 Intra-EU capital movements and financial integration

Until roughly 2017, when the UK was still part of the EU, intra-EU-28 gross flows were systematically larger than extra-EU flows. Since 2016, the difference between the size of intra and extra-EU-27 gross flows has been less clear cut, and in the most recent years intra-EU-27 assets and liabilities have been larger than extra-EU-27 ones (see Figure 5-1).

Figure 5-1. EU-27 gross flows, intra- and extra-EU-27, EUR million, 2015 Q4 – 2021 Q2



**Source:** Eurostat, BoP data.

**Note:** Moving average over four quarters. Liabilities are represented by negative sign for visualisation purposes. Positive asset flows correspond to EU residents acquiring more assets abroad than they dispose of. Positive values for liabilities indicate disinvestment.

Interestingly, the fall in gross flows recorded between late 2018 and mid-2019 (the size of EU-27 gross flows, both assets and liabilities, roughly halved) clearly appears as a temporary phenomenon and unlikely to be related to the Brexit referendum of 2016. From 2019 Q3, both assets and liabilities started to recover towards the levels of early 2018. As argued in Alcidi et al. (2020), a positive sign of extra-EU-27 liabilities, which signals disinvestment from abroad (liabilities are reported in the figure with negative sign for visualisation purposes), is most likely explained by the US Tax Cuts and Jobs Act of December 2017, a one-off policy measure that incentivised the repatriation of profits from abroad. Remarkably, the chart (at annualised frequency) does not show any major change in 2020. The COVID-19 pandemic does not seem to have visibly impacted EU-27 aggregate assets and liabilities. In order to understand whether aggregate data hide changes in the composition, the next section looks in detail at the different categories of cross-border investments.

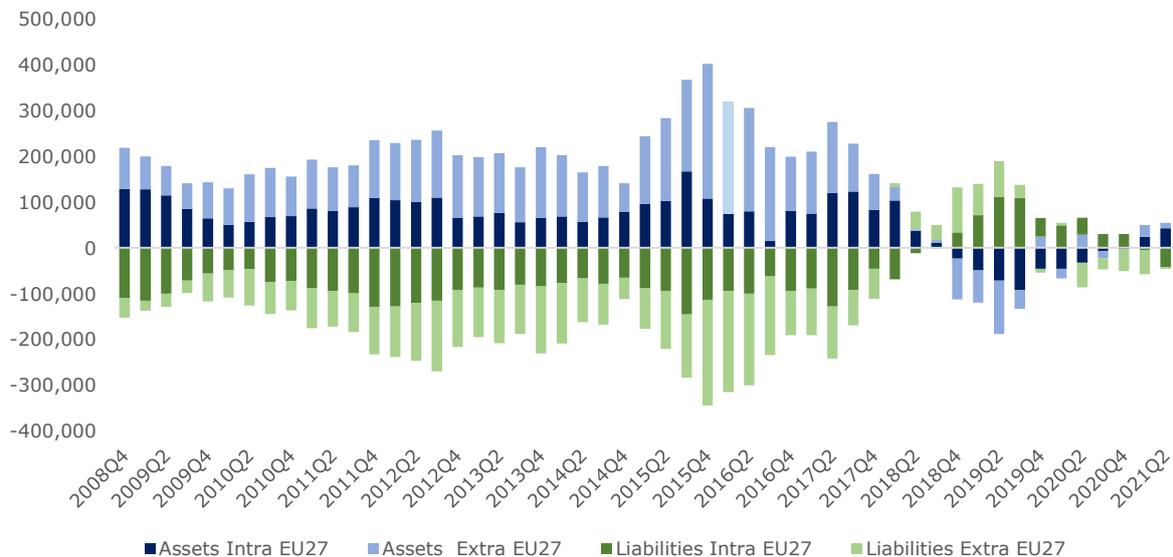
### 5.1 The EU-27 financial account

The following sub-section focuses on the different components of EU-27 financial flows, in order to find the most recent patterns and attempt to disentangle the role of different shocks and policies.

### 5.1.1 Foreign direct investment

EU-27 FDI gross flows (both assets and liabilities) fell drastically in 2018 Q2 (see Figure 5-2), and even more in 2020, after a mild recovery in 2019. Extra-EU-27 liabilities vanished, then became negative (represented as a positive value in the figure) and remained so until late 2019. In fact, FDI assets and liabilities, intra- and extra-EU-27, have the 'unusual' sign almost systematically between 2018 Q3 and the end of 2021 Q2. The latter points to disinvestment taking place and/or changes in intra-group positions, for instance through the reimbursement of loans. Assets and liabilities with the unexpected sign (negative and positive, respectively, in the chart) did not appear in the aftermath of the GFC, when FDI remained remarkably resilient despite huge market turbulences. We maintain that the main driver behind such phenomenon in 2018 – and to some extent 2019 (since we are considering moving averages over four quarters) – is the US tax reform and the repatriation of profits, in which SPEs located in several EU countries potentially played a role (see Section 6 for a detailed analysis of SPEs). Since 2020 and the outbreak of the pandemic, flows have been exceptionally low, and in some cases disinvestment operations appear to still be in place.

Figure 5-2. Gross FDI, EU-27, intra and extra, EUR million, 2008 Q4 – 2021 Q2



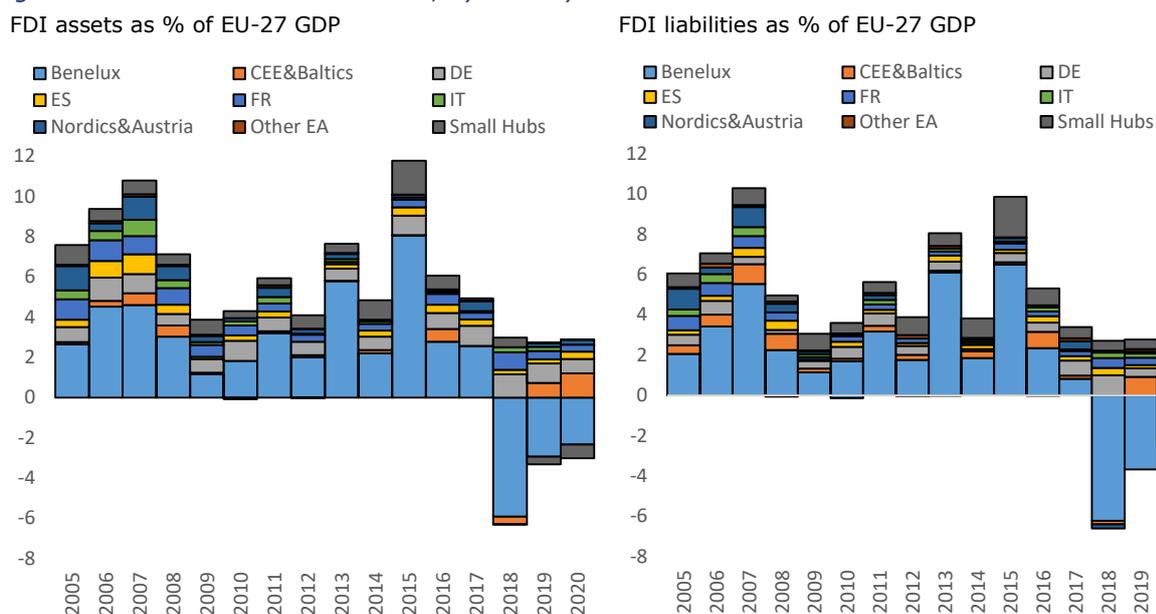
**Source:** Eurostat, BoP data.

**Notes:** Moving average over four quarters. Liabilities are represented by negative sign for visualisation purposes.

In order to clarify the drivers of such dynamics, we look at the FDI assets and liabilities of the EU Member States (individually and groups of smaller countries). Belgium, Luxembourg and the Netherlands (Benelux group in Figure 5-3) stand out as the main countries responsible for the 'unusual' sign in the figure above. Between 2018 and 2020, both FDI assets and liabilities are negative, highlighting the disinvestment of residents and non-residents in these countries, and the total amount of disinvestment more than offsets the investment flows in all the other countries. The year 2018 is clearly exceptional, but the same trend continues in 2020.

As mentioned several times above, when looking at investment as a percentage of GDP, 2020 does not appear exceptional, but the large fall in GDP can also hide a large fall in investment.

Figure 5-3. FDI assets and liabilities, by country



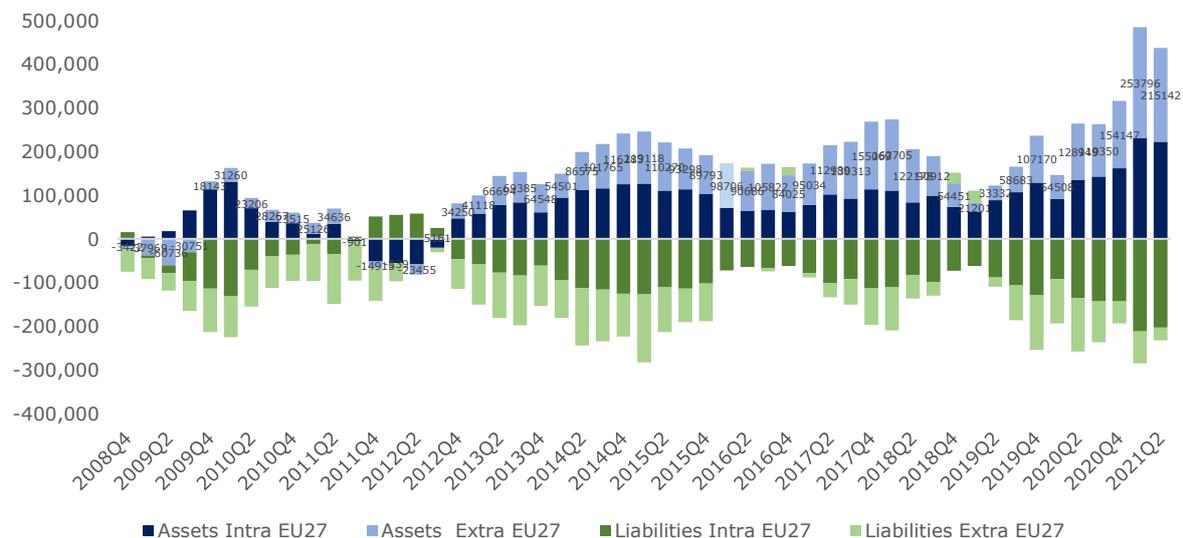
Source: CEPS (2020) based on Eurostat, BoP data. Assets and liabilities vis-à-vis the rest of the world.

Notes: Nordics & Austria include Austria, Denmark, Finland and Sweden. Small hubs include Cyprus, Ireland and Malta. CEE and Baltics include Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland and Romania. Other euro area includes Greece, Portugal, Slovakia and Slovenia.

### 5.1.2 Portfolio investment

In general, portfolio investment seems to show quite cyclical behaviour, with short periods characterised by a rise followed by a decline. Unlike FDI, intra- and extra-EU-27 portfolio investments have experienced a gradual increase since 2018 (see Figure 5-4).

Figure 5-4. Gross portfolio investment, EU-27, intra and extra, 2008 Q4 – 2021 Q2



Source: Eurostat.

Notes: Moving average over four quarters. Liabilities are represented by negative sign for visualisation purposes.

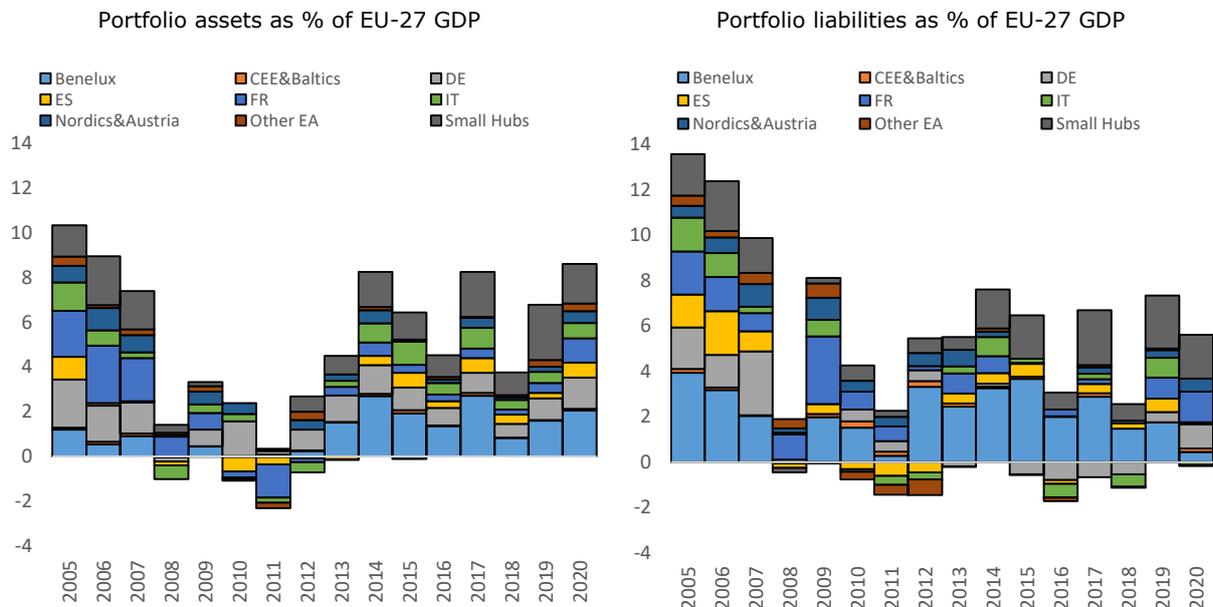
However, since the outbreak of COVID-19 pandemic, and more evidently in 2021, large increases are visible. This is the case for outflows (assets), both towards other EU-27

countries and, above all, towards the rest of the world, as well as in inflows (liabilities), which by contrast are dominated by intra-EU-27 investment.

The size of EU-27 portfolio assets roughly doubled in 2021 compared to 2020, reaching a historical height. Portfolio investment has become much larger than FDI, which is a rather exceptional situation for the EU.

When looking at what is happening at Member State level, two observations can be made (see Figure 5-5). In 2020, both assets and liabilities, as a percentage of GDP, appear comparable to previous years, and higher than in 2016 and 2018 (which may be special). If one accounts for the exceptional fall in EU GDP in 2020, asset and liability flows are much larger than in the past, and this is even more likely to be the case in 2021 (data are not yet available). In terms of the role played by individual countries, two changes deserve to be noted. The year 2020 recorded an increase in inflows into France (which since 2009 have been very low) and a strong decline into the Benelux liabilities (inflows). For the Benelux countries, FDI instead of portfolio investments seems to have been the instrument through which more action took place in 2020. Lastly, the group of countries made up of Cyprus, Ireland and Malta continue to play a major role in portfolio investment.

Figure 5-5. Portfolio investment assets and liabilities by country



Source: Authors' calculations based on Eurostat, BoP data.

Notes: Nordics & Austria include Austria, Denmark, Finland and Sweden. Small hubs include Cyprus, Ireland and Malta. CEE and Baltics include Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland and Romania. Other euro area includes Greece, Portugal, Slovakia and Slovenia.

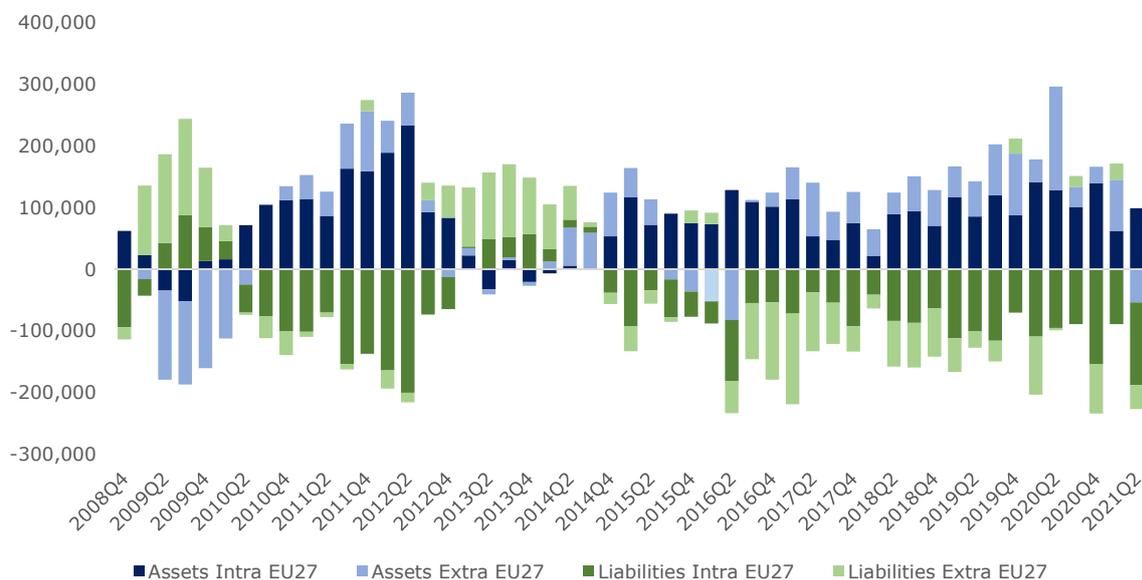
### 5.1.3 Other investment

By definition, other investment is a residual category of the balance of payments (not included under direct investment, portfolio investment, financial derivatives or reserve assets), with various categories of instruments (e.g. currency and deposits, and loans) but also investors (including central banks and central governments). The banking sector typically plays a key role in originating such investment, which by nature tends to be quite volatile.

During the GFC, other investment within the EU-27 was characterised by sudden stops (collapses in inflows) and retrenchments (collapses in outflows) which are visible in the

chart through negative assets and positive liabilities (hence the unusual sign) until 2010 and then in 2012. Interestingly, such a clear pattern does not emerge in 2020. Other investments seem to have faced the pandemic without major disruptions.

Figure 5-6. Gross other investment, EU-27, intra and extra, 2008 Q4 – 2021 Q2

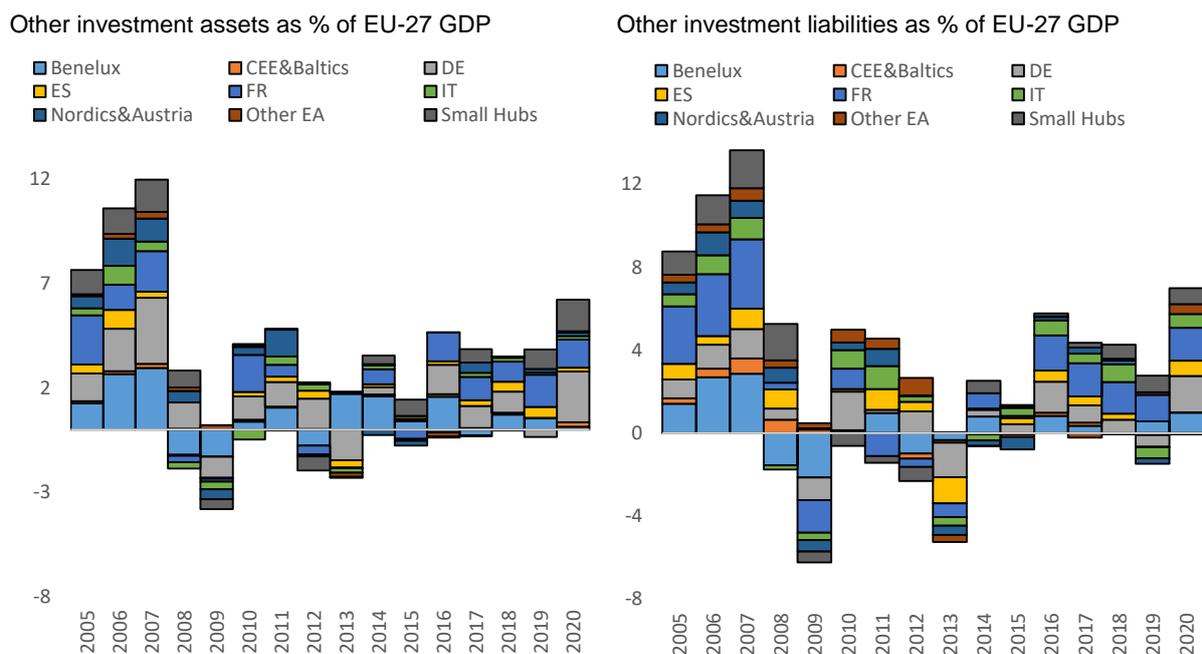


**Source:** Eurostat.

**Notes:** Moving average over four quarters. Liabilities are represented by negative sign for visualisation purposes.

A similar conclusion emerges from the visual inspection of countries' assets and liabilities (see Figure 5-7), which display no disinvestment operations taking place in 2020.

Figure 5-7. Other investment assets and liabilities by country



**Source:** Authors' calculations based on Eurostat, BoP data.

The data as a percentage of GDP appear exceptionally high in the post-GFC period, but are likely to be inflated by a small denominator. Interestingly, and in contrast with FDI and portfolio investment, large countries like France, Germany, Italy and Spain play the biggest role.

## 5.2 Resilience of financial integration in the EU

This section looks at trends and recent developments associated with the impact of the COVID-19 pandemic on the EU's financial integration. The outbreak of the pandemic represented an important test for financial integration. At the onset of the crisis, mounting uncertainty drove fears among market operators and tensions on markets in general. Early policy interventions, mostly by central banks across the world, however, managed to keep the situation under control.

As in Alcidi et al. (2020), we first monitor developments in euro area financial integration, as measured by the ECB indicators. These indicators combine information on the most important financial markets, and distinguish price and quantity information. At first sight, the impact of COVID-19 appears relatively mild. First, the discrepancy between financial integration composite indicators (i.e. price based and quantity based) (see Figure 5-8) started in 2016 and continued until 2020. Developments in financial integration measured by price convergence are characterised by higher volatility, though on a growing trend, while cross-border investment growth has been stalling with some fluctuations. Since the end of 2020, however, the quantity-based indicator has rebounded, mimicking the pattern of the price-based indicator. Such development seems to point to a rather good state of financial integration.

Figure 5-8. Euro area: Quantity- and price-based indicators of financial integration, 1999-2021 Q3



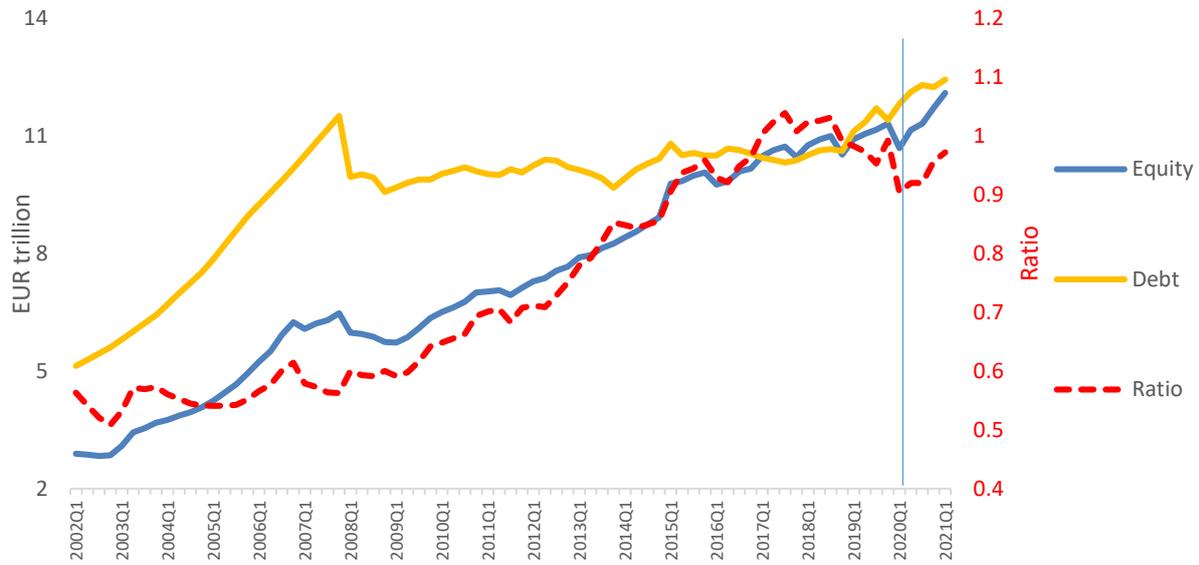
Source: ECB

In order to add some consideration to the degree of resilience of financial integration – not only its state – in the face of the pandemic and extending the perspective to the EU, as in Alcidi et al. (2020) we look at recent developments in the relative shares of cross-border equity and debt, and the relative weight of FDI to portfolio investment. In theory, larger weight of equity over debt – and of FDI over portfolio – would signal stronger resilience.

As illustrated in Figure 5-9, the outbreak of the pandemic coincides with a reversal of the pre-existing trend in the ratio between equity and debt holdings, pointing to a strengthening of the resilience of financial integration. It should be noted that holdings of both assets have been on a rather strong upward trend, particularly in the case of equities. Global

equity markets have fared the pandemic relatively well since the initial fall, and this has also been the case in the EU.

Figure 5-9. Intra-EU-27 cross-border holdings of equity and debt, 2002 Q1 – 2021 Q1

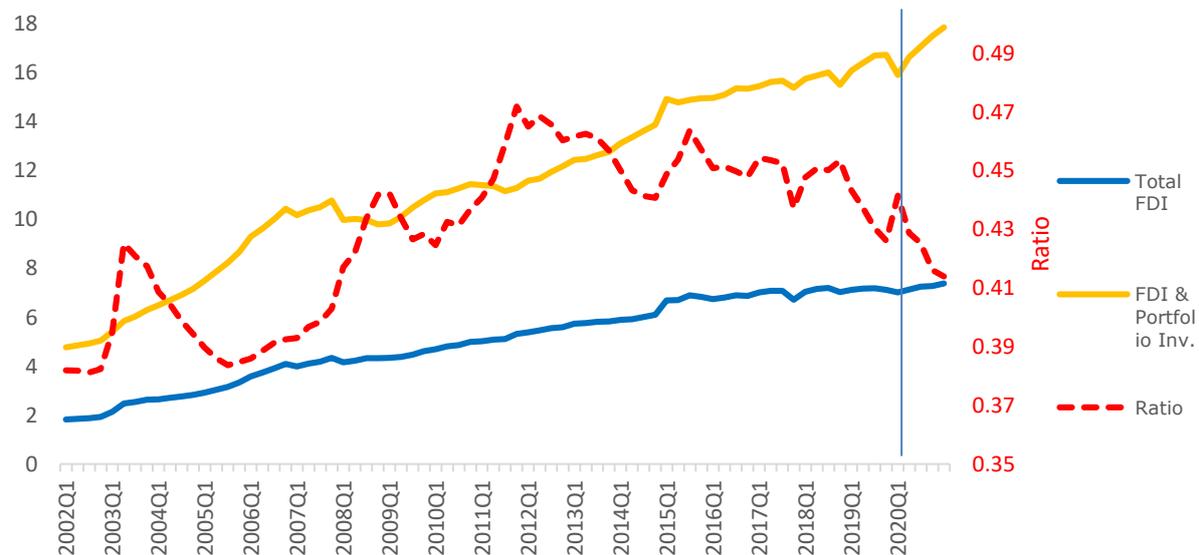


**Source:** Authors' calculations based on Eurostat BoP data and Finflows database.

**Note:** Equity is defined as FDI and portfolio investment equity. Debt is the sum of debt securities in portfolio investment and other investment loans, debt securities in FDI. Luxembourg and Malta are not included, as Eurostat does not report any statistics vis-à-vis the EU-27 before 2021, and 2021 data are incomplete.

By contrast, the ratio between FDI and portfolio points to a decline in the resilience of financial integration, as the relative importance of FDI declines and importance of portfolio increases (see Figure 5-10). This seems to confirm a pre-existing trend that started in 2015, with little change that could be linked to a major reversal.

Figure 5-10. Intra-EU-27 FDI and portfolio investment ratio, 2002 Q1 – 2021 Q1



**Source:** CEPS (2020) calculations based on Eurostat BoP data.

**Note:** Luxembourg and Malta are not included as Eurostat does not report any statistics vis-à-vis the EU-27 in 2020, and 2021 data are incomplete.

As explained in Alcidi et al. (2020) and reported in other chapters of this report, EU FDIs have experienced major changes in the last years, both in their size and in their nature.

Since the mid-2010s, and more evidently around 2018, FDI gross flows exhibit quite high volatility<sup>31</sup>, making them more similar to portfolio investment than traditional FDI. As suggested by the analysis in Section 6, this can be at least partially explained by the fact that FDI statistics include cross-border investments that are not driven by real economy considerations, but tax related.

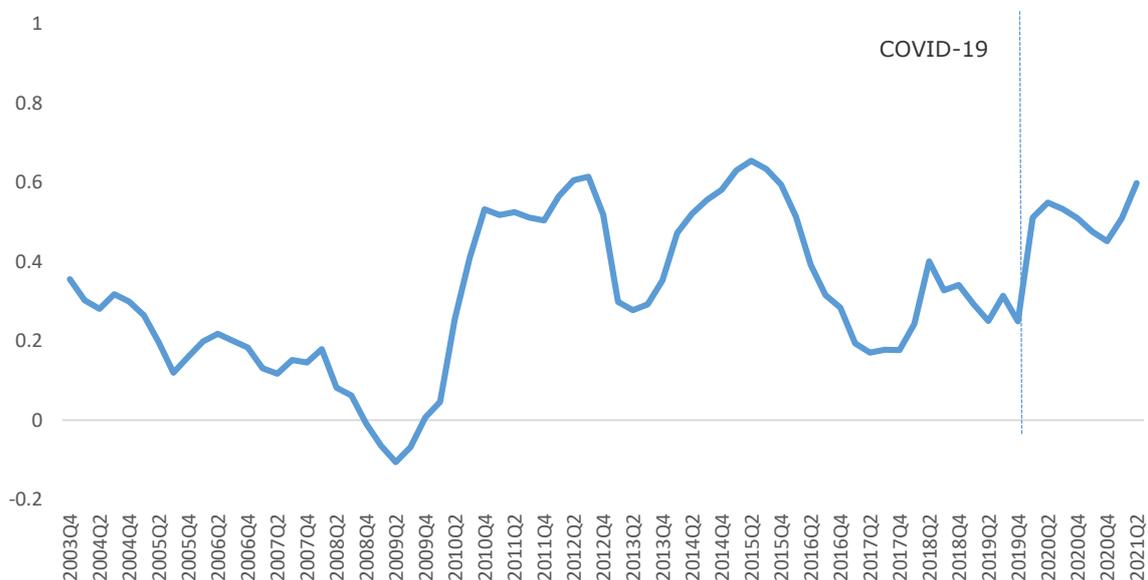
Such concerns imply that the fall in resilience of financial integration suggested by the ratio above should be taken with a pinch of salt.

### 5.3 Risk sharing in the euro area

The notion of international risk sharing is based on the assumption that while country-specific shocks cannot be avoided, their effects can be distributed across other countries to reduce their impact on domestic consumption.

In times of crisis, the concept of risk sharing becomes particularly important, even more so in the context of a monetary union. Domestic consumption should not necessarily reflect variations in domestic output when markets are highly integrated. The correlation between domestic consumption and income should, therefore, be low. Figure 5-11, which illustrates the evolution of the correlation between output and consumption in the euro area, suggests that after some major swings in the post-financial crisis period, risk sharing remained at a lower level than in the pre-crisis period. At the onset of the COVID-19 pandemic (2020 Q1), however, the coefficient almost doubled, signalling a reduction in risk sharing. It then slowly declined, and since 2021 has started to increase again. Importantly, international risk sharing can provide an important tool for shock adsorption capacity in case of asymmetric shocks, not for symmetric shocks<sup>32</sup>. Given that COVID-19 was a symmetric shock, one should not expect an increase in risk sharing (hence falling correlation).

Figure 5-11. Risk sharing in the euro area, 2003 Q4 – 2021 Q2



**Source:** ECB.

**Note:** Correlation between consumption and output across euro area countries.

<sup>31</sup> It should be noted that higher volatility is a feature of global FDI, not only EU FDI.

<sup>32</sup> Giovannini et al. (2021) qualify the pandemic as a symmetric shock with asymmetric impact.

In order to better understand what appears to be a change in the trend of risk sharing, it is instructive to deepen the analysis.

In the context of a pool of countries that are economically integrated, such as the euro area, the most widely used framework to measure the degree of risk sharing and the different channels through which it is achieved is the one formulated by Asdrubali et al. (1996) and refined by Sørensen and Yosha (1998). The empirical strategy consists of applying a variance decomposition of shocks to GDP in order to quantify the share of smoothing achieved via the various channels. It is based on national accounting, and the starting point is the disaggregation of states' GDP into gross national income (GNI), net national disposable income (NNDI) and total public and private consumption (CON), as follows:

$$GDP_{it} = (GDP_{it} - GNI_{it}) + (GNI_{it} - NNDI_{it}) + (NNDI_{it} - CON_{it}) + CON_{it}$$

From such a decomposition three channels for risk sharing are identified and correspond to: net factor income, net international taxes and transfers, and net savings. Net factor income comprises income from productive assets, such as FDI, equity and debt securities, loans and labour income. The second channel, the fiscal insurance channel, reflects international taxes and transfers (e.g. EU structural funds), accounting for the difference between per capita GNI and disposable income. The third channel, which captures net savings (difference between disposable income and consumption) of households, and government and corporate savings, is called the credit channel<sup>33</sup>. For euro area countries, this also includes borrowing from the European Stability Mechanism (ESM). Following Alcidi et al. (2017), the first two channels capture the ex-ante mechanism of risk sharing, while the latter is considered an ex-post mechanism, which is activated after the shock to per capita GDP has occurred.

Building on Alcidi et al. (2017), the yearly country-level dataset is based on Eurostat and covers the period 1998 to 2020, for both the euro area and other EU non-euro area countries. The idea is to use the latter as a control group to capture potential differences in risk sharing that could be associated with euro area membership. It should be noted, however, that even if non-euro area countries still have a national currency and monetary policy, economic, trade and financial integration through the single market is high among all EU countries. In addition, the EU regulatory and institutional framework applies to all, hence the difference is likely to be small. This is indeed what the empirical results suggest.

Luxembourg, Malta, Cyprus and Estonia, as well as Bulgaria and Romania, are omitted from the data set for the analysis. The first three countries are left out because they are small in size but exhibit very large financial flows, which would be captured in the difference between GDP and GNI, i.e. capital market channel, while having limited relation with national consumption<sup>34</sup>. Their inclusion would lead to overestimates of such channel, without having much to do with actual risk sharing. The latter three are excluded due to lack of data availability.

The results first focus on the differences in the functioning of the three channels of risk sharing between the euro area and non-euro area countries. Then the breakdown in different periods accounts for the potential effect of the GFC, the post-crisis period and the impact of COVID-19.

<sup>33</sup> Importantly, the credit channel, which in practice is consumption smoothing, should not be confused with inter-temporal smoothing, which cannot be captured in this setting, given that in the decomposition GDP and consumption refer to the whole economy.

<sup>34</sup> Regressions were also conducted excluding Ireland, which could have a similar problem to Luxembourg, but the inclusion of Ireland does not impact the results if a control (dummy) variable for 2015 is included.

The results for the euro area over the full period since the introduction of the euro show overall limited risk sharing, and quite a large impact of GDP shock on consumption, with an unsmoothed coefficient in regression close to 85%. These findings are consistent with Alcidi et al. (2017)<sup>35</sup> and broadly with the existing literature<sup>36</sup>. The role of savings – the credit channel – appears to be the most important channel at work, though small in size. Fiscal transfers appear to have a very small risk-sharing role, yet are statistically significant.

*Table 5-1. Income and consumption smoothing in the euro area, 1998-2020*

	(1) <b>Capital markets</b>	(2) <b>Fiscal transfers</b>	(3) <b>Credit channel</b>	(4) <b>Unsmoothed</b>
GDP	.04 (.029)	.02* (.01)	0.09*** (.031)	0.85*** (.025)

**Notes:** Dummy for Ireland in 2015 to isolate an occasional large difference between GDP and GNI. Percentage of shocks to GDP absorbed at each level of smoothing. Standard errors in parentheses. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . We interpret the first three  $\beta$ -coefficients as the incremental amount of smoothing achieved through the three risk-sharing channels considered: capital markets, fiscal transfers and consumption smoothing. The last coefficient is the fraction of shocks left unsmoothed.

Given our interest in comparing risk-sharing capacity across the euro area and non-euro area, we run the same regression as above but for the 21 EU countries for which we have data, over a shorter period of time (2007-2020) to account for EU membership. The results are broadly in line with the previous ones. The main difference is that fiscal transfers are no longer significant, while capital markets are (though very small).

*Table 5-2. Income and consumption smoothing in the EU, 2007-2020*

	(1) <b>Capital markets</b>	(2) <b>Fiscal transfers</b>	(3) <b>Credit channel</b>	(4) <b>Unsmoothed</b>
GDP	0.05* (.028)	0.01 (.009)	0.06** (.031)	0.87*** (.055)

**Notes:** Dummy for Ireland in 2015 to isolate an occasional large difference between GDP and GNI. Percentage of shocks to GDP absorbed at each level of smoothing. Standard errors in parentheses. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . We interpret the first three  $\beta$ -coefficients as the incremental amount of smoothing achieved through the three risk-sharing channels considered: capital markets, fiscal transfers and consumption smoothing. The last coefficient is the fraction of shocks left unsmoothed.

Lastly, we look at different sub-periods to try to isolate the impact of the GFC and the COVID-19 crisis from the rest, in addition to potentially different dynamics within the monetary union and outside.

*Table 5-3. Income and consumption smoothing in the euro area and non-euro area, by sub-period*

	(1) <b>Capital markets</b>	(2) <b>Fiscal transfers</b>	(3) <b>Credit channel</b>	(4) <b>Unsmoothed</b>
EA 2008-2009	0.01	0.02	0.02	0.94***

<sup>35</sup> It should be noted that the results are not exactly the same because the pool of countries considered is larger in this case and data are retrieved from Eurostat, instead of OECD. In particular, the HICP index is used instead of a broad consumer price index (CPI).

<sup>36</sup> In the ECB Economic Bulletin (2018), estimates for the channels are shown for each year and are calculated using a VAR model whose parameters are estimated over a 10-year rolling window of annual data. This is a methodological extension of the same framework, and the results are broadly in line, pointing to a large unsmoothed shock. The main difference is in the role of capital markets, which is larger according to the ECB estimates.

	(.063)	(.022)	(.068)	(.052)
Non-EA 2008-2009	0.02 (.043)	0.02 (.015)	-0.13*** (.048)	1.09*** (.043)
EA 2010-2019	0.08 (.053)	0.01 (.017)	0.11** (.056)	0.80*** (.043)
Non-EA 2010-2019	-0.04 (.041)	-0.00 (.013)	0.12*** (.046)	0.92*** (.04)
EA 2020	0.11 (.129)	0.02 (.026)	0.43*** (.125)	0.44*** (.111)
Non-EA 2020	0.10 (.118)	0.04 (.033)	0.41*** (.124)	0.44*** (.118)

**Notes:** Dummy for Ireland in 2015 to isolate an occasional large difference between GDP and GNI. Percentage of shocks to GDP absorbed at each level of smoothing. Standard errors in parentheses. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . We interpret the first three  $\beta$ -coefficients as the incremental amount of smoothing achieved through the three risk-sharing channels considered: capital markets, fiscal transfers and consumption smoothing. The last coefficient is the fraction of shocks left unsmoothed.

Two main results stand out. First, the unsmoothed part of the shock is usually higher in the non-euro area than euro area countries. In 2020, however, no substantial difference emerges between the two blocs, and more than 50% of the shock is smoothed in both. The second result is that the only risk-sharing channel that seems to be working (statistically different from zero) is the credit channel (which includes fiscal policy). The channel appears to have played a major role in absorbing the impact of the GDP collapse on consumption during the COVID-19 crisis, when unprecedented fiscal policy measures were put in place. This is a very different outcome to during the GFC, when for non-euro area countries, the channel appears to have had a de-smoothing effect, hence working as an amplifier of the shock on consumption.

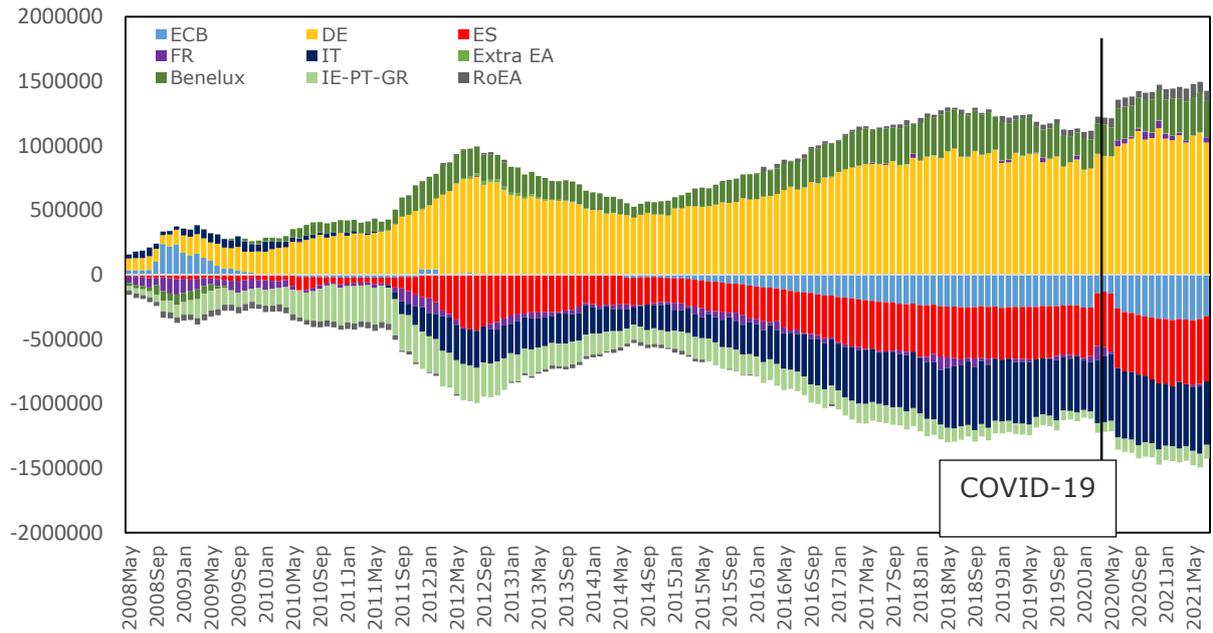
It is worth mentioning that supportive national fiscal policies and the resilience of the banking sector (no financial fragmentation), supported by the Banking Union, are likely to be responsible for the good performance of the credit channel. By contrast, the (persistent) limited risk-sharing capacity provided through the market channel can be related to a delay in progress towards the Capital Markets Union (CMU). Finally, the NextGenEU funds, which are being distributed to Member States, are expected to enhance the shock absorption capacity in all EU countries. This is likely to be captured by a stronger credit channel and/or the activation of the fiscal transfer channel.

#### 5.4 Monitoring TARGET2 and financial integration in the euro area

Finally, to complement the analysis above on financial integration, we look at the evolution of euro area cross-country payment. Within the euro area, payments arising from cross-border trade, and financial flows between euro area countries, are processed via the TARGET2 payment system, which was introduced with the stated objective of enhancing European financial integration.

Figure 5-12 illustrates the time evolution of the TARGET2 balances, considering both individual Member States and groups of them. As expected, when in March 2020 the ECB started the Pandemic Emergency Purchase Programme (PEPP), the target balances started to increase again. During the first months of 2021, the amount stabilised and even started to decline. As in the past, Germany, Italy and Spain are the main parts of the balances.

Figure 5-12. TARGET2 balances, end of month position, EUR million, 2008 M5 – 2021 M7



**Source:** Authors' calculations based on ECB Statistical Data Warehouse.

**Note:** The rest of the euro area includes Austria, Cyprus, Estonia, Finland, Latvia, Lithuania, Malta, Slovakia and Slovenia.

## 6 Disentangling EU-28 FDI<sup>37</sup>

This section aims to disentangle FDI into companies with limited to no contribution to the local economy, and those contributing to economic development in the receiving economy.

FDI is generally considered an important driver of international economic integration, stimulating job creation and boosting productivity through transfers of capital, skills and technology. However, there is a growing consensus that current statistics about total FDI substantially overestimate its expected productivity gains.

The main reason for this is that FDI statistics also capture investment flows towards companies with limited or no economic substance. These companies – or special purpose entity (SPEs) – are often located in offshore centres or countries with favourable regulatory frameworks, with the purpose of moving risk away from the parent company's balance sheet, increasing confidentiality and taking advantage of local tax systems. In all of these cases, the real economic contribution of the FDI is less significant than if it was also operating in the country. It contributes to the erosion of the tax bases of some countries at the cost of others. Although SPEs are an issue of global relevance, the ability of FDI to contribute to delivering growth is of particular importance to the EU and the functioning of the single market.

There is a growing body of literature disentangling FDI. FDI flows bounced back strongly after the 2007-2009 GFC, and a few countries managed to attract huge amounts of FDI. Lane and Milesi-Ferretti (2018) argue that cross-border FDI positions continued to expand at least until 2016, unlike positions in portfolio instruments and other investments. This expansion reflects primarily positions vis-à-vis financial centres, suggesting that the complexity of the corporate structure of large multinationals plays an important role.

A number of studies have looked at the impact of tax motivation on FDI flows. Blonigen and Davies (2005) find that bilateral tax treaties tend to be correlated with higher FDI between the parties involved. Lejour (2014) investigates the same issue by focusing on treaties with clauses related to taxes on profits and retained earnings, and finds robust evidence of 'treaty shopping'. The IMF (2014) highlights the disproportionately large FDI stock in several countries known for their attractive tax regimes and extensive treaty networks, arguing that this hints at the potentially large role that taxation plays in shaping the structure of direct capital flows. Hines (2010) and Zucman (2014) argue that tax planning is a plausible explanation for the huge FDI positions of countries with very small GDP such as the Netherlands, Luxembourg, Hong Kong, Switzerland, Singapore, Ireland, Bermuda, the British Virgin Islands and the Cayman Islands. The concentration of holding and intra-group finance activities in favourable tax environments can be recorded as FDI positions having no link with the economy of the receiving country.

Blanchard and Acalin (2019) look at FDI flows to EMEs and find a surprisingly high correlation between quarterly FDI inflows and outflows. This evidence goes against a reasonable expectation of a short-term correlation close to zero or even negative. In addition, they find an increase in quarterly FDI inflows to EMEs, and an increase in outflows from EMEs in response to decreases in the US monetary policy rate. These findings also go against expectations. The authors argue that in many countries, a large proportion of inflows measured as FDI are just going in and out of the country on their way to their final destination. In other words, some of these flows are transitory. Blanchard and Acalin maintain that this is due in part to favourable corporate tax conditions. This phenomenon is not new, but its magnitude has increased in recent years. A second point they make is

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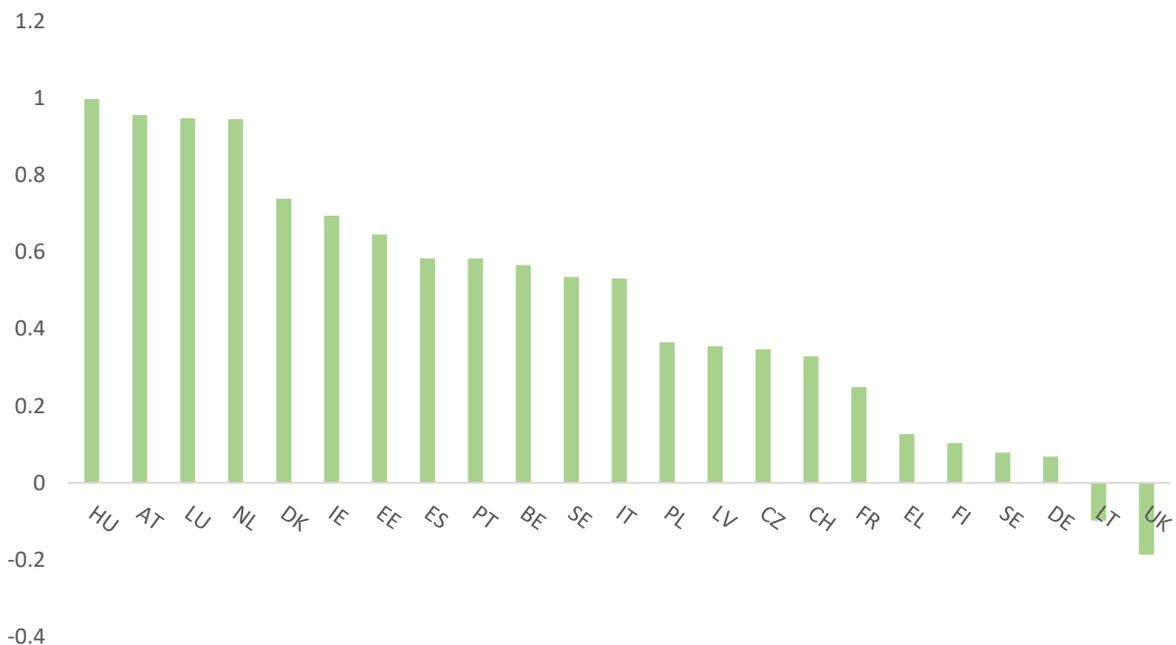
<sup>37</sup> This chapter is an update and an extension of Chapter 5 on 'Disentangling EU-28 FDI' in Alcidi et al. (2020). It should be noted, however, that punctual estimates are not directly comparable due to adjustments in the methodology.

that some of these measured FDI flows are much closer to portfolio debt flows than cross-border investment for productive purposes.

In practice, EU countries appear to be highly affected by such issues. As shown in greater detail below, the Netherlands and Luxembourg host a lot of SPEs, and evidence of treaty shopping is largely based on the experience of EU countries.

In addition, high correlation of inflows and outflows does not seem to be a feature that is exclusive to EMEs. Some EU countries exhibit correlation at quarterly frequency close to 1 (see Figure 6-1).

Figure 6-1. Correlation between quarterly FDI inflows and outflows, 2013 Q1 – 2021 Q1



Source: Eurostat.

To capture the role played by SPEs, a new stream of literature is focusing on firm-level data. By definition, FDI captures all cross-border investment between firms belonging to the same multinational group. These also include any investment passing through empty corporate shells that perform holding activities or intra-firm financing, for different reasons.

SPEs influence direct investment positions and their capital flows. The reason is twofold. First, the immediate foreign counterpart of an FDI is not necessarily the original investor but a shell, which can lead to high chances of double counting. Second, the host countries of SPEs are overstating their FDI figures, inflated by the pass-through funds, whose relative share should be distinguished from economically significant investments. Financial and tax engineering blurs traditional FDI statistics and makes it difficult to understand genuine economic integration.

In order to address this problem, Eurostat and the OECD have joined forces to produce statistics, with separate categories for SPEs and non-SPEs, and to map bilateral investment relationships. In practice, however, SPE data are difficult to collect and the distinction is

not always clear<sup>38</sup>. Data from Eurostat and the OECD are very informative but do not cover all countries, and data for some countries are partial.

Using FDI positions disaggregated into SPEs and non-SPEs, as provided by the OECD, and estimating similar separation for countries for which information is not directly available<sup>39</sup>, Damgaard et al. (2019) find that about 40% of global FDI is not driven by productive purposes. According to the authors, Luxembourg and the Netherlands host nearly half of these investments. On a relative basis, Luxembourg hosts as much FDI as the US and much more than China, and its USD 4 trillion in FDI implies some USD 6 million FDI per inhabitant. There is no doubt that not all of this FDI is genuine investment. The authors call inflows into SPEs 'phantom' FDI, as opposed to 'real' FDI. In addition, the paper finds that the 50 largest economies are much more integrated than the traditional statistics show, owing to FDI channelled through offshore centres.

Against this background and the importance of improved FDI statistics for the purpose of the single market and integration in the EU, in the next sections we apply the same methodology as in Damgaard et al. (2019) to distinguish 'real' from 'phantom' FDI and to allocate real investment to ultimate investor economies, with a special focus on the FDI positions of EU countries. The objective of the exercise is to: i) estimate the portion of the total FDI position of each EU country that is directed into resident SPEs; ii) estimate the true degree and network of EU FDI integration by removing phantom FDI from the network of total FDI; and iii) estimate what proportion of recent declines in intra-EU FDI are due to lower phantom investments.

## 6.1 Methodology

This section uses a combination of macro and firm-level data to describe the FDI network in the EU-28 and to allocate the reported bilateral investment positions to ultimate investor economies. As in Damgaard et al. (2019), the estimations rely on several datasets and proceed in steps.

The **first step** consists of determining the IIP of each EU-28 Member State vis-à-vis the other EU Member States and the rest of the world. For this task, Eurostat data on net inward FDI position are used<sup>40</sup>. Detailed statistics for the EU-28 countries are reported. The UK is still included as the data in this chapter are mostly for 2019. For non-EU countries, the investment position is reported as one aggregate.

The **second step** consists of determining the amount of FDI in non-SPEs (i.e. real FDI) and in SPEs (i.e. phantom FDI) for each of the EU-28 Member States. To this end, the analysis uses the decomposition of total FDI into FDI through SPEs and non-SPEs provided by Eurostat. Submission to Eurostat of FDI data through SPEs is voluntary, thus statistics

<sup>38</sup> Because of data limitation, Leino et al. (2014) attempt to distinguish economically meaningful FDI from other flows by proposing a different methodology that does not require data on SPEs. In this paper, the authors propose a new method to identify and segregate the pass-through funding, without the need to employ the 'SPE method'. They analyse the relationship between FDI and real investment by using firm-level FDI official data and investment data from the financial statements of FDI target firms. The approach proposed involves three main stages: first, comparing the inward and outward FDI figures of each enterprise; second, selecting between the two the figure that is closer to zero; and finally, indicating a part or all of that amount as pass-through funding in that firm. This method can, however, only work if the inward and outward FDI figures have the same signs (either both positive or both negative), while for the remaining enterprises the pass-through amount will be set to zero, as there is no reliable way to evaluate it. In a last step, the enterprise-level data on pass-through funding are aggregated, creating an estimate of the total amount of pass-through funding of FDI in the economy. This methodology, however, requires very detailed firm-level data, which are not available for all countries.

<sup>39</sup> See Nardo et al. (2017).

<sup>40</sup> Damgaard et al. (2019) use IMF data from the Coordinated Direct Investment Survey (CDIS), which reports FDI statistics based on annual surveys about large businesses' foreign investors and investments. The CDIS statistics are compiled using the inward/outward principle and the immediate investor criterion.

are only available for 14 countries<sup>41</sup>. Some countries, such as the Netherlands, report bilateral FDI positions in SPEs. Other countries, such as Luxembourg, report only aggregate FDI positions in SPEs but do not provide bilateral statistics. Where official data on bilateral FDI positions in SPEs are reported in the Eurostat database, this information is used for the estimations. Where the breakdown at country level between SPEs and non-SPEs is provided only at aggregate level, the share of FDI in SPEs over the total FDI is calculated and assumed for all bilateral relations. Yet for approximately half of the EU countries, statistics on FDI involving SPEs and non-SPEs are unavailable. To overcome this limitation, the share of FDI in non-SPEs is estimated following the model developed by Damgaard et al (2019). The authors demonstrate the existence of a strong negative correlation between the ratio of real FDI to total FDI and the ratio of total FDI to the GDP of the reporting economy. The model uses a logarithmic transformation (see Table 6-1).

*Table 6-1. Estimation of real FDI*

Variables	Share of real FDI
Share of total FDI over GDP	-0.695*** (0.0647)
Constant	-0.483*** (0.0850)
Observations	99
R-squared	0.887

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** CEPS (2021) analysis based on Damgaard et al (2019) on ESTAT data.

The **third step** focuses on real FDI only and its ultimate investor countries. This estimation is performed based on firm-level data obtained from ORBIS.<sup>42</sup> For active companies in the EU-28 with at least one foreign shareholder, identification, financial and ownership information is obtained. To approximate the official definition of FDI, the scope of analysis is narrowed to just investment positions with a minimum foreign ownership threshold of 15%<sup>43</sup>. In total, about 2.2 million companies meet these criteria.

To estimate total FDI by ultimate investor countries, a set of core variables are defined, including: i) total equity of the company receiving FDI; ii) direct ownership information of shareholders; iii) country of residence of the majority shareholders; and iv) country of residency of the ultimate owner of the shareholders. We drop from the database all the companies for which ORBIS does not report this minimum set of information. Furthermore, to ensure the quality of the database, we delete companies for which ORBIS reports illogical values. In particular, those for which the total shareholders' ownership stake exceeds 100%.

Following the methodology of Damgaard et al. (2019), companies employing fewer than five employees and with a level of assets per employee larger than EUR 10 million are identified as SPEs and dropped from the database. This results in a dataset containing a

<sup>41</sup> Belgium, Denmark, Ireland, Spain, Cyprus, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Poland, Portugal, Sweden and the UK.

<sup>42</sup> ORBIS is database containing comparable data on private companies with information on more than 400 million companies across the globe

<sup>43</sup> Official FDI statistics set the threshold at 10%. There are no strong motivations for choosing 10% or any other value below 50% for the FDI statistics (IMF, 2004). The slightly higher threshold allows us to exclude the smaller shareholdings, which are more likely to contain errors.

total of approximately 550 000 real investment positions. Contrary to FDI in equities, FDI through debt instruments cannot be directly estimated using ORBIS information. Following Damgaard et al. (2019), it is assumed that the 20% of debt held by the companies included in the database arises from affiliate entities (i.e. internal debt). The internal debt is distributed proportionally to the ownership share of the shareholder.

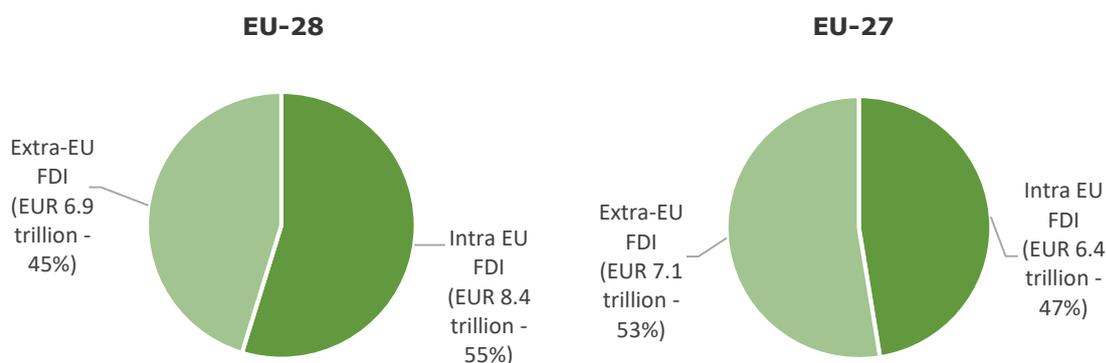
Subsequently, the database aggregates the investments by immediate investor and ultimate investor countries, and derives the composition of the stock of FDI by ultimate investor between two economies. In practice, for each pair of economies, the share of FDI for each ultimate investor country is calculated. For example, the estimated stock of real FDI in Denmark from Luxembourg is approximately EUR 11.6 billion, which is almost twice as much as the aggregated amount based on the ORBIS information, i.e. EUR 6.1 billion. This is due to incomplete coverage of companies at firm level in the ORBIS database. However, the ORBIS dataset allows us to map available FDI positions and distinguish the country of the immediate and ultimate owner. Therefore, the ORBIS information is used to estimate the share of the immediate and ultimate owner for each pair of EU Member States<sup>44</sup>. Turning back to the example, just over a tenth (12%) of the real immediate FDI from Luxembourg in Denmark originates in companies residing in Luxembourg. The ultimate investors of approximately half (45%) of the real immediate FDI in Denmark from Luxembourg reside in the US. For each pair of economies where the stock of FDI observed in ORBIS is at least 30% of the official statistics reported by Eurostat<sup>45</sup>, the stock of immediate FDI by ultimate owner by attributing the share of FDI positions is based on ORBIS information.

## 6.2 Real vs phantom FDI in EU-28

According to the Eurostat database, in 2019 the stock of inward FDI in the EU-28, including equity and debt instruments, amounted to approximately EUR 15 trillion (see Figure 6-2). Just over half of inward FDI in the EU-28 originated in other EU-28 countries (EUR 8.4 trillion or 55%), while the remainder originated in non-EU countries (EUR 6.9 trillion or 45%).

When the UK is taken out of the EU figures (i.e. EU-27), the balance shifts somewhat. Extra-EU FDI now represents just over half of total FDI. The UK's exit from the EU reduces the total FDI inward position (-EUR 1.8 trillion or -11.8%) and increases the extra-EU share due to a re-classification of some of the intra-EU positions as an extra-EU FDI position.

Figure 6-2. FDI inward positions by immediate investor, 2019



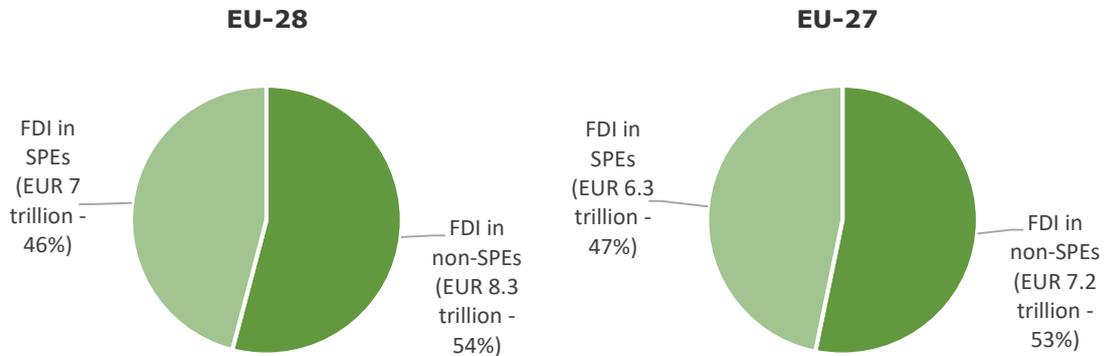
Source: CEPS (2021) analysis of ESTAT data.

<sup>44</sup> See Annex I for more details.

<sup>45</sup> We drop cases in which the FDI coverage in ORBIS is too small and the estimated coefficient may be unreliable.

It is estimated that in 2019 just less than half (46%) of the inward FDI positions in the EU-28 involved SPEs (see Figure 6-3). When excluding the UK, the share of phantom FDI remains similar (47%).

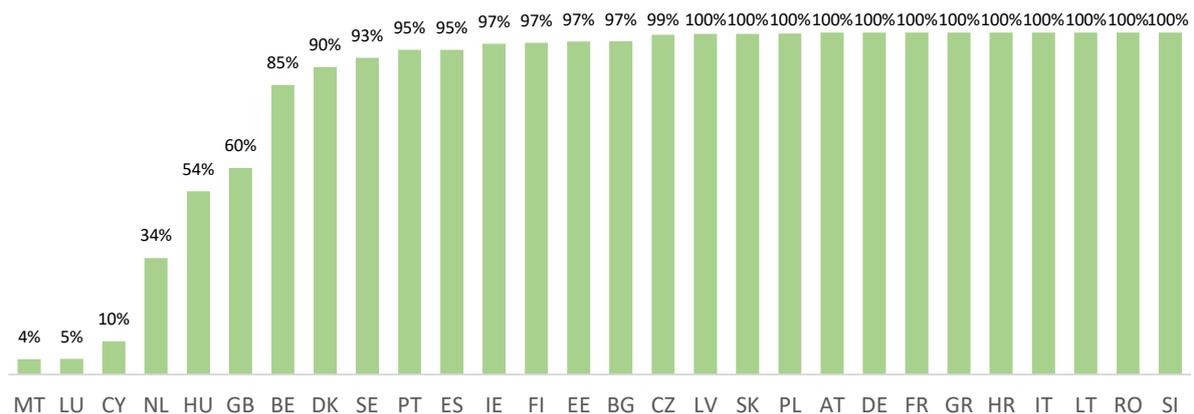
Figure 6-3. FDI inward positions by type of recipient, 2019



Source: CEPS (2021) analysis based on Damgaard et al. (2019), Eurostat and OECD data.

The distribution of real FDI varies significantly across EU Member States (see Figure 6-4). There are three EU Member States where the share of FDI in non-SPEs is significantly lower than 30%. In Cyprus (10% to non-SPEs), Malta (4%) and Luxembourg (5%), inward FDI is almost entirely directed into SPEs. In the Netherlands (34%), the share of real FDI amounts to approximately one third of total inward FDI. In Hungary and the UK, the share of real FDI ranges between 50 and 60%. In the larger EU economies (e.g. France, Germany, Italy and Spain) inward FDI is totally or almost totally real.

Figure 6-4. Share of FDI in non-SPEs by EU Member State, 2019



Source: CEPS (2021) analysis based on Damgaard et al (2019), Eurostat and OECD data.

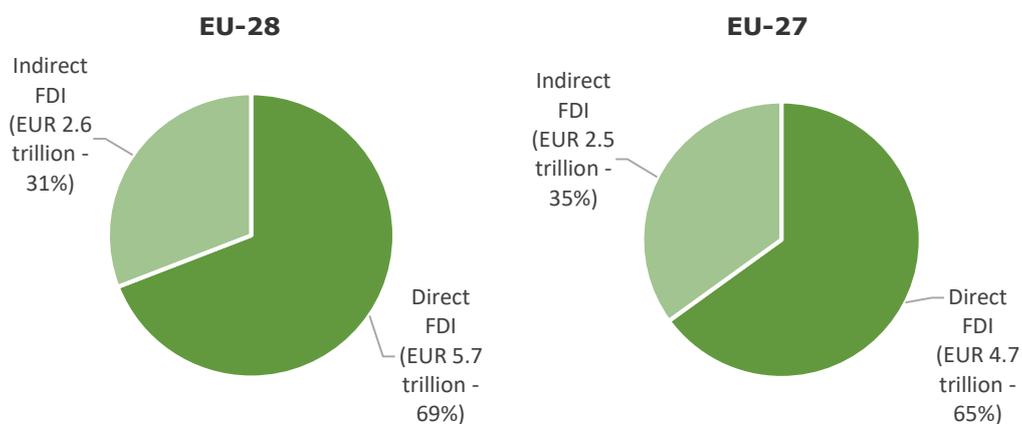
### 6.3 The real EU-28 FDI network

Real FDI (i.e. FDI into non-SPEs) can be further disentangled into FDI by immediate and ultimate investors. For these estimations, the ownership structure of more than 400 000 companies based in the EU-28 countries are used.

The results of the analysis show that for almost a third of real FDI in the EU-28 (EUR 2.6 trillion or 31%), the country of the ultimate investors is different to that of the immediate investors (see Figure 6-5)<sup>46</sup>. Although the amounts are significantly less when the UK is excluded, the shares are quite comparable. There is a slight shift from direct FDI (EUR 4.7 trillion or 65%) to indirect FDI (EUR 4.5 trillion or 35%).

In other words, for a significant portion of FDI, investment decisions and associated risks are ultimately borne by companies residing in a different country to the one where the FDI position is reported under the official statistics. In this study, these investments are referred to as *indirect FDI* (i.e. FDI from country A into country C, through country B). In practice, country B is the country that would appear on the official FDI statistics. In turn, investments for which the country of the immediate investor matches the country of the ultimate investor are referred to as *direct FDI*.

Figure 6-5. Direct and indirect real FDI, 2019



Source: CEPS (2021) analysis.

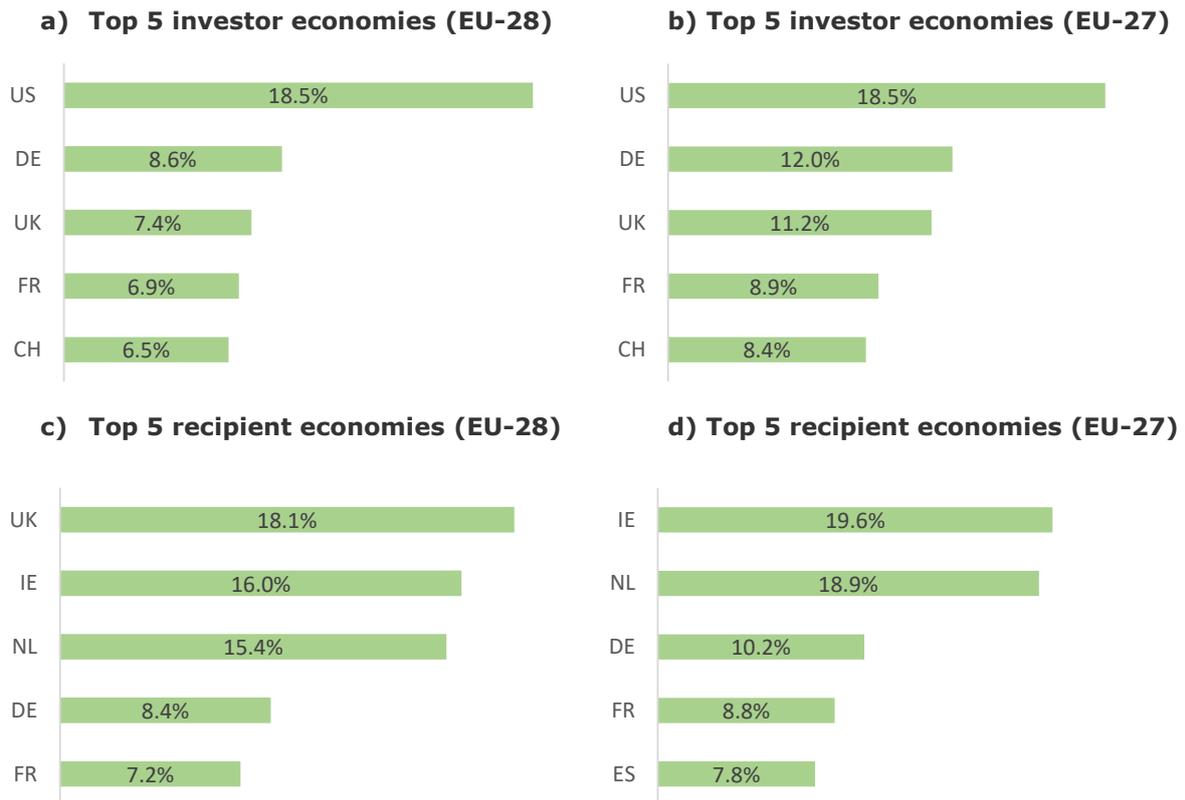
**Note:** Direct FDI refers to investment positions in which the country of the ultimate investor corresponds to that of the immediate investor. Indirect FDI refers to investment positions in which the ultimate investor resides in a different country to the immediate investor. The breakdown between direct and indirect real FDI is calculated using ownership information from a sample of more than 400 000 companies.

Looking at the distribution of the origin of direct FDI (see Figure 6-6), almost half of the real EU-28 FDI positions originate in the sum of the US (17%), Germany (8%), UK (7%), France (7%) and Switzerland (7%). As a counterpart, almost two thirds of direct real FDI are concentrated in the UK (18%), Ireland (16%), the Netherlands (15%), Germany (8%) and France (7%).

The exclusion of the UK from the EU does not have an impact on the composition of the top five investor countries. However, the shares do change, with Germany (12%), UK (11%), France (9%) and Switzerland (8%) having a larger share among the investor economies. In turn, the exclusion of the UK changes the composition of the top five recipient countries, making Ireland (20%) and the Netherlands (19%) the top beneficiaries, followed at some distance by Germany (10%), France (9%) and Spain (8%). The latter replaces the UK among the main recipients of direct FDI.

<sup>46</sup> Indirect FDI includes round tripping investments. The latter refers to real domestic investments in the domestic economy channelled through a foreign entity.

Figure 6-6. Origin of direct (real) FDI, 2019



**Source:** CEPS (2021) analysis.

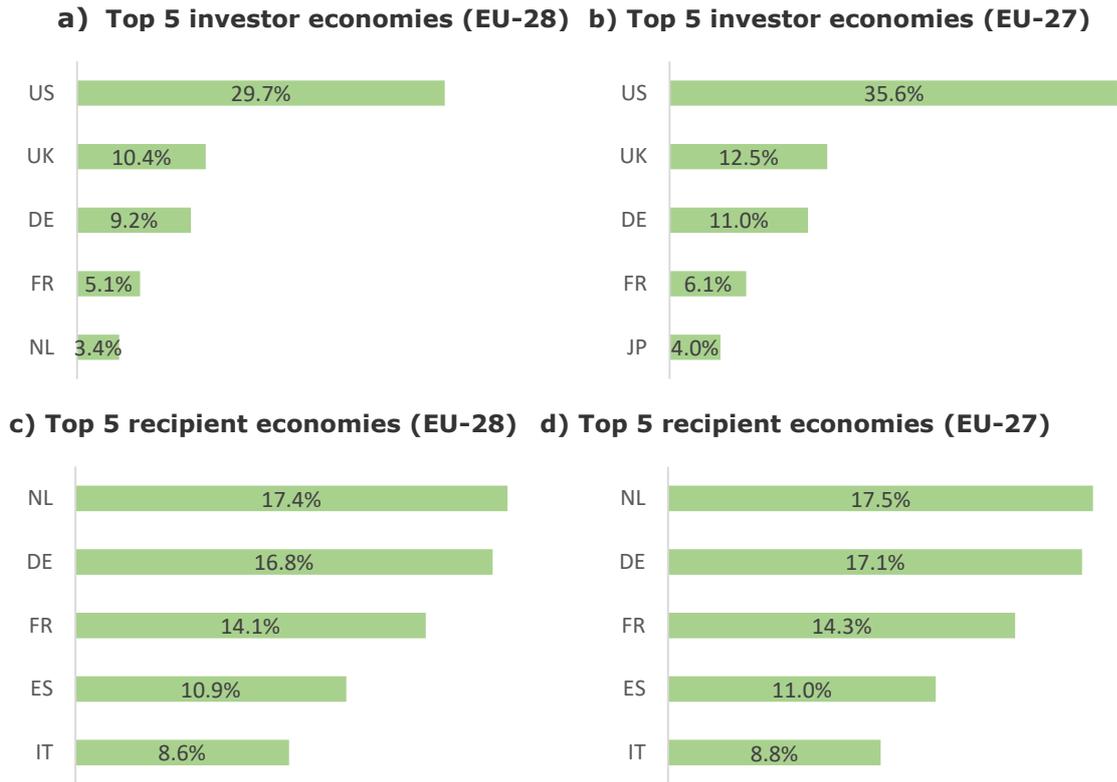
**Note:** Direct FDI refers to investment positions in which the country of the ultimate investor corresponds to that of the immediate investor. The breakdown of direct real FDI is calculated using ownership information from a sample of more than 400 000 FDI recipient companies.

The US is also the largest indirect investor in the EU-28. While indirect investment is smaller in size than direct FDI, the US accounts for about 30% of indirect real FDI (see Figure 6-7). Furthermore, the UK (10%), Germany (9%), France (5%) and the Netherlands (3%) account for a cumulative share of indirect real FDI of less than a third (28%). This figure measures the extent to which they invest in other EU partners by passing through another country, possibly outside the EU, but most often another EU Member State.

The Netherlands (17%), Germany (17%), France (14%) and Spain (11%) are the largest recipient economies of indirect real FDI. They are followed by Italy, which receives less than 10% of indirect real FDI. Overall, the five countries account for about two thirds of the EU's total indirect FDI.

When the UK is excluded, the composition does not change much. The order of the top investor economies remains almost unchanged; only the Netherlands is replaced by Japan in fifth place. The shares of indirect real FDI are slightly higher for the EU-27, with the main recipient economies of indirect real FDI remaining almost identical to the EU-28.

Figure 6-7. Origin of indirect real FDI, 2019



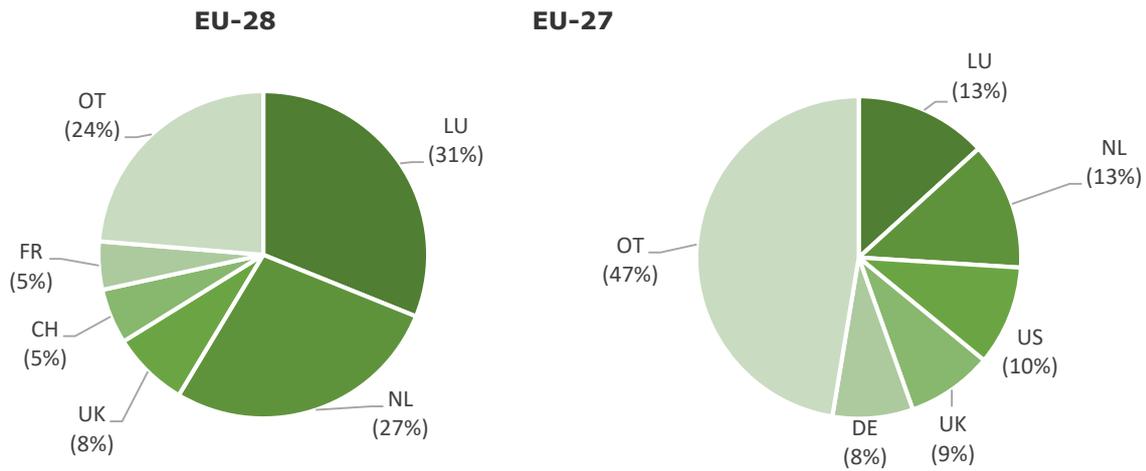
Source: CEPS (2021) analysis.

**Note:** Indirect FDI refers to investment positions in which the ultimate investor resides in a different country to the immediate investor. The breakdown of indirect real FDI is calculated using ownership information from a sample of more than 400 000 FDI recipient companies.

Overall, approximately 76% of indirect real FDI in the EU-28 is intermediated by five countries (see Figure 6-8). Luxembourg (31%) and the Netherlands (27%) alone account for almost 60%, while the UK (8%), Switzerland (5%) and France (5%) add the remaining indirect real FDI.

Excluding the UK as a recipient of FDI produces some notable changes in the composition of intermediary countries of real indirect FDI. Most notably, Luxembourg and the Netherlands command a much smaller share as intermediate countries of real FDI, indicating their importance as intermediaries for the UK. On the other hand, all the other countries outside the top five now account for almost half the intermediated real indirect FDI. The main countries included among these are Switzerland (7%), France (6%) and Italy (3%).

Figure 6-8. Intermediate country of real indirect FDI, 2019

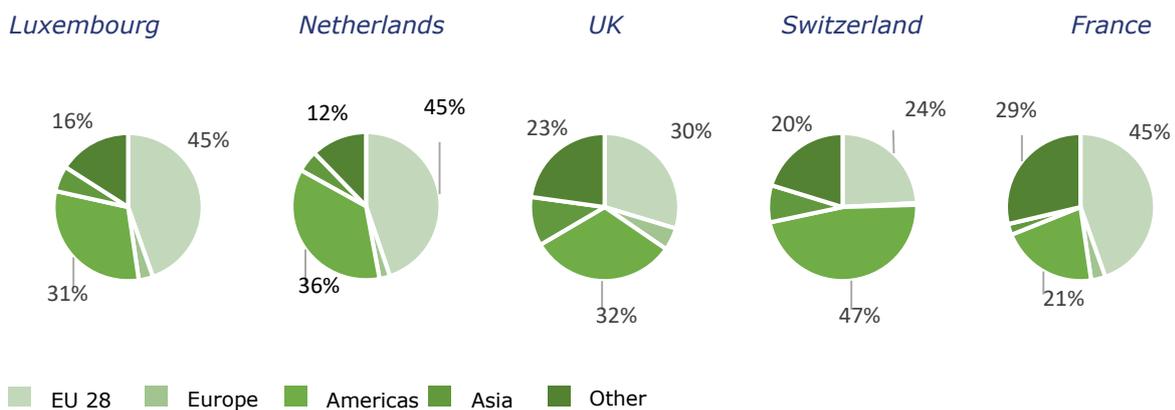


Source: CEPS (2021) analysis.

Note: Indirect FDI refers to investment positions in which the ultimate investor resides in a different country to the immediate investor. 'OT' is the aggregate for all the other countries in the world.

Interestingly, it looks like there are some established practices among countries. There is quite a strong segmentation in the country of origin of the indirect FDI (see Figure 6-9). Each of the five countries intermediate investment coming from one or two specific regions. About two thirds of investments channelled through Luxembourg and the Netherlands originate in the EU-28 and the Americas, with a higher share of indirect investments from the EU-28. In the UK, the share of indirect investment originating in the Americas amounts to almost a third, while the share originating in the EU-28 is comparable. Almost half of indirect investments channelled through Switzerland originate in the Americas. Finally, France is often used as a channel by companies residing in other EU countries.

Figure 6-9. Origin of indirect FDI, 2019



Source: CEPS (2021) analysis.

Note: The origin of indirect real FDI is extrapolated using ownership information from a sample of more than 420 000 FDI recipient companies.

The distinction between ultimate and immediate investor countries, as well as between direct and indirect investment, allows us to separate intra- and extra-EU FDI with greater accuracy (see Table 6-2). The estimates indicate that about one third of the total real FDI position in the EU-28 (about EUR 2.4 trillion or 30% of total real FDI) comes from ultimate investors residing outside the EU-28 countries, while the investment is intermediated by

other EU-28 countries. Such an amount is typically included in official statistics as intra-EU FDI because the immediate investor is based in an EU country.

By contrast, a very small amount (about 1% of the total, or EUR 73 billion) is likely to be recorded as extra-EU, but in fact the ultimate investor is based in an EU country. Lastly, about EUR 0.6 trillion or 8% of the real FDI inward positions of EU countries have another EU country as their counterpart, but different from the country of residence of the ultimate owner.

Table 6-2. Real FDI in EU-28, 2019

Region of ultimate investors	Type of FDI	Region of intermediate investors	Total real FDI	
			EUR billion	% of total
EU-28	Direct		2 925.2	35.3
	Indirect	EU-28	983.3	11.9
		Non-EU-28	63.8	0.8
Non-EU-28	Direct		2 799.5	33.8
	Indirect	EU-28	1 289.9	15.6
		Non-EU-28	223.8	2.7
<b>Total real FDI</b>			<b>8 285.5</b>	<b>100.0</b>

Source: CEPS (2021) analysis.

Note: Direct FDI refers to investment positions in which the country of the ultimate investor corresponds to that of the immediate investor. Indirect FDI refers to investment positions in which the ultimate investor resides in a different country to the immediate investor. The breakdown between direct and indirect real FDI, as well as the region of the ultimate and immediate investor, is extrapolated using ownership information from a sample of more than 400 000 FDI recipient companies.

Without the UK as part of the EU, the distribution of the origin of direct and indirect FDI changes significantly. The share of intra-EU direct investment is larger than when the EU-28 countries are considered. The indirect investment categories are significantly lower when the ultimate investor is from the EU-27. In turn, there is a notable increase in non-EU-27 ultimate investors using non-EU-27 intermediate investors.

Table 6-3. Real FDI in EU-27, 2019

Region of ultimate investors	Type of FDI	Region of intermediate investors	Total real FDI	
			EUR billion	% of total
EU-27	Direct		2 120.6	29.4
	Indirect	EU-27	656.9	9.1
		Non-EU-27	110.2	1.5
Non-EU-27	Direct		2 569.9	35.6
	Indirect	EU-27	1 385.0	19.2
		Non-EU-27	373.7	5.2
<b>Total real FDI</b>			<b>7 216.2</b>	<b>100.0</b>

Source: CEPS (2021) analysis.

Note: Direct FDI refers to investment positions in which the country of the ultimate investor corresponds to that of the immediate investor. Indirect FDI refers to investment positions in which the ultimate investor resides in a different country to the immediate investor. The breakdown between direct and indirect real FDI, as well as the region of the ultimate and immediate investor, is extrapolated using ownership information from a sample of more than 400 000 FDI recipient companies.

To complete the picture for each of the EU-28 Member States, the amounts of inward real FDI, broken down by type of FDI and by distinguishing round-tripping investment, are estimated (see Table 6-4).

The latter refers to real investments in the domestic economy channelled through a foreign entity. It is estimated that real round-tripping FDI accounts for a small percentage (approximately 3%) of the real inward FDI in the EU-28, or some EUR 245 billion. The largest round-tripping FDI in absolute terms is estimated for Germany (EUR 68 billion), France (EUR 50 billion), the Netherlands (EUR 23 billion) and Belgium (EUR 22 billion).

Table 6-4. Real FDI in EU-28 by recipient and type (EUR billion, 2019)

Recipient country	Direct FDI	Indirect FDI		Total FDI
		Other partners	Round-tripping	
Austria	121.8	55.7	1.7	<b>179.2</b>
Belgium	274.4	138.9	22.0	<b>435.4</b>
Bulgaria	26.5	17.6	1.1	<b>45.2</b>
Cyprus	32.5	6.4	0.0	<b>38.9</b>
Czechia	98.4	50.5	1.6	<b>150.6</b>
Germany	479.8	362.9	68.2	<b>910.9</b>
Denmark	53.8	52.2	2.5	<b>108.5</b>
Estonia	19.1	5	0.1	<b>24.2</b>
Greece	23.4	4.2	2.9	<b>30.4</b>
Spain	365.0	261.3	18.0	<b>644.3</b>
Finland	46.9	25.6	1.6	<b>74.1</b>
France	411.2	311.4	50.4	<b>773.0</b>
Croatia	18.8	7.2	0.3	<b>26.2</b>
Hungary	62.7	23.8	0.9	<b>87.4</b>
Ireland	917.0	69.9	5.6	<b>992.5</b>
Italy	174.9	202.0	19.4	<b>396.3</b>
Lithuania	14.4	3.7	0.4	<b>18.6</b>
Luxembourg	142.6	0	0	<b>142.6</b>
Latvia	11.1	4.5	0.3	<b>15.9</b>
Malta	8.3	0.1	0	<b>8.4</b>
Netherlands	882.5	422.8	22.6	<b>1 327.8</b>
Poland	109.9	96.4	3.4	<b>209.6</b>
Portugal	119	16.7	1	<b>136.7</b>
Romania	49.3	37.8	1.1	<b>88.2</b>
Sweden	182.5	83.5	15.1	<b>281.1</b>
Slovenia	9.5	6.4	0.2	<b>16.0</b>
Slovakia	31.4	21.0	1.7	<b>54.1</b>
UK	1 037.8	28.6	2.9	<b>1 069.4</b>
<b>Total EU-28</b>	<b>5 724.6</b>	<b>2 315.9</b>	<b>245.0</b>	<b>8 285.5</b>

**Source:** CEPS (2021) analysis.

**Notes:** Direct FDI refers to investment positions in which the country of the ultimate investor corresponds to that of the immediate investor. Indirect FDI refers to investment positions in which the ultimate investor resides in a different country to the immediate investor. The breakdown between direct and indirect real FDI is extrapolated using ownership information from a sample of more than 400 000 FDI recipient companies. Issues with the representativeness of samples mean that it is not possible to determine the share of indirect FDI for Luxembourg or Cyprus.

The coefficients estimated using ORBIS data are used to allocate the real FDI in the EU-28 to real and ultimate investor countries (see Table 6-5). The results show that, among EU countries, the largest differences between real immediate and real ultimate FDI investors are registered in Luxembourg and the Netherlands. In particular, real immediate FDI amounts to approximately EUR 1.1 trillion in Luxembourg and EUR 1.0 trillion in the Netherlands. Real FDI with its ultimate owner resident in Luxembourg and the Netherlands is much lower, at EUR 0.4 trillion and EUR 0.4 trillion respectively. Conversely, real ultimate FDI from the US is estimated to be some 75% larger (EUR 1.8 trillion) than real immediate FDI (EUR 1.1 trillion). With the exception of Switzerland, for all non-EU countries, FDI into the EU based on ultimate investor location is substantially larger than real immediate FDI.

Table 6-5. Real FDI in EU-28 by type of investor (EUR billion, 2019)

Investor country	Real immediate FDI	Real ultimate FDI
Austria	121.1	95.6
Belgium	222.5	176.1
Bulgaria	1.0	2.1
Cyprus	48.6	34.4
Czechia	17.4	22.5
Germany	604.7	728.2
Denmark	77.6	73.7
Estonia	5.7	4.7
Greece	5.1	8.1
Spain	190.6	168.4
Finland	47.1	59.5
France	515.0	523.2
Croatia	1.4	1.7
Hungary	17.4	19.6
Ireland	177.3	188.5
Italy	222.8	262.8
Lithuania	2.6	3.1
Luxembourg	1 130.0	367.0
Latvia	1.7	1.4
Malta	16.2	14.5
Netherlands	999.8	384.8
Poland	5.3	6.9
Portugal	23.1	10.9
Romania	0.4	1.3
Sweden	122.6	115.9
Slovenia	1.5	1.4
Slovakia	5.7	7.6
UK	614.3	688.7
<b>Total intra-EU-28 FDI</b>	<b>5 198.4</b>	<b>3 972.4</b>
Switzerland	512.3	436.9
Russia	26.8	40.8
Canada	55.4	109.6
US	1 071.1	1 821.8
China	40.5	116.2
Hong Kong	66.9	70.7
India	5.0	22.2
Japan	156.9	234.4
Other world economies	1 152.0	1 460.6
<b>Total extra-EU-28 FDI</b>	<b>3 087.1</b>	<b>4 313.2</b>
<b>Total EU-28 FDI</b>	<b>8 285.5</b>	<b>8 285.5</b>

**Source:** CEPS (2021) analysis.

**Note:** See notes to Table 6-4.

While these results are based on estimations, and while exact numbers have some uncertainty, their magnitude leaves little doubt about their importance, noting also the exclusion of SPEs from these estimations.

Overall, this exercise has important implications for the way in which FDI statistics should be used to draw conclusions about the state of investment linkages and of financial integration, both globally and, more specifically, in the EU-28. Standard statistics based on FDI overestimate the links between the EU-28 Member States and underestimate the integration between large EU countries and non-EU Member States.

#### 6.4 Another look at intra-EU FDI and financial integration

The results of the analysis above have important implications for the assessment of financial integration in the EU and its resilience. Indeed, the three indicators are based on FDI statistics. Unfortunately, the data underlying the financial integration indicators and the analysis above are based on different reporting principles<sup>47</sup>, and indicators consider flows while the analysis in this section is based on stocks, meaning that an accurate comparison is impossible. However, it appears to be the case that a large part of the intra-EU FDI positions, potentially as large as 50% of the total FDI, is associated with phantom flows directed into SPEs, and an additional part is only intermediated in the EU but has ultimate ownership outside the EU. Neglecting these elements may lead to an overestimation of financial integration and its resilience. In practice, SPE operations can lead to double counting of investment, and some FDI could entail transactions that are more similar in nature to portfolio investment than to true FDI.

A final consideration relates to the role of FDI as a driver of economic and financial integration. For example, EU FDI in new Member States has always been seen as key for economic convergence. To better understand this point, the real EU FDI by different country groups (core, east and south) are considered.

Core countries are by no means the main destination for real FDI, from both other EU and non-EU countries (see Table 6-6). Southern European countries are the destination for about 15% of the total FDI, and eastern countries just less than 10%. Of these, for both groups the largest portion comes directly from other EU countries. Given the relative size (in terms of GDP) of the east group, the amount of FDI is very substantial.

Table 6-6. Real FDI in EU-28, by recipient country group (EUR billion, 2019)

Ultimate investor region		EU-28		Non-EU-28		Total
Intermediate investor region		EU-28	Non-EU-28	EU-28	Non-EU-28	
Recipient region	Core	2 648	41	883	2 722	6 294
	East	511	10	130	85	736
	South	749	12	277	216	1 254
<b>Total</b>		<b>3 908</b>	<b>63</b>	<b>1 290</b>	<b>3 023</b>	<b>8 284</b>

Source: CEPS (2021) analysis.

Note: Core is composed of AT, BE, DE, DK, FI, FR, IE, LU, NL, SE and UK. East is composed of BG, CZ, EE, HR, HU, LV, LT, PL, RO, SK and SI. South is composed of CY, EL, ES, IT, MT and PT.

<sup>47</sup> The results in this section are based on Eurostat FDI positions, while figures in Section 4 are based on Eurostat flow data. In addition, these statistics are based on two different reporting principles: directional, in the case of the positions, and assets and liabilities (typical of BoP data) in the case of the flows. The comparison is made even more difficult by the fact that Luxembourg does not report its position vis-à-vis the EU.

Considering only the EU-27, there are a few noticeable changes. The exclusion of the UK, particularly as a large recipient of direct FDI, results in a large decrease for the core region as the destination for real FDI by EU-27 ultimate investor region. Overall, EU-27 direct FDI with EU-27 countries as ultimate and intermediate investor regions is only the second largest category, falling behind non-EU-27 countries fulfilling the role of ultimate and intermediate investor.

Table 6-7. Real FDI in EU-27, by recipient country group (EUR billion, 2019)

Ultimate investor region		EU-27		Non-EU-27		Total
Intermediate investor region		EU-27	Non-EU-27	EU-27	Non-EU-27	
Recipient region	Core	1 711	51	948	2 516	5 226
	East	466	12	153	106	737
	South	600	48	284	322	1 250
<b>Total</b>		<b>2 777</b>	<b>110</b>	<b>1 385</b>	<b>2 944</b>	<b>7 216</b>

**Source:** CEPS (2021) analysis.

**Note:** Core is composed of AT, BE, DE, DK, FI, FR, IE, LU, NL and SE. East is composed of BG, CZ, EE, HR, HU, LV, LT, PL, RO, SK and SI. South is composed of CY, EL, ES, IT, MT and PT.

In order to better capture the role of the core countries as the home of foreign investors in other parts of the EU, we repeat the estimations above with only core countries as immediate investors and consider both direct FDI and indirect FDI, from either other EU countries and non-EU countries. The core countries intermediate about EUR 4.4 trillion from EU and non-EU countries (see

Table 6-8). Direct real FDI is clearly the most important modality of investment in the core and south countries, while indirect real FDI is most important in the east countries.

Table 6-8. Real core FDI by EU-28 recipient country group (EUR billion, 2019)

Ultimate investor region		EU-28		Non-EU-28
Intermediate investor region		Core		Core
Type		Direct	Indirect	Indirect
Recipient region	Core	1 739	428	857
	East	28	108	111
	South	461	169	257
<b>Total</b>		<b>2 483</b>	<b>705</b>	<b>1 225</b>

**Source:** CEPS (2021) analysis.

**Note:** Core is composed of AT, BE, DE, DK, FI, FR, IE, LU, NL, SE and UK. East is composed of BG, CZ, EE, HR, HU, LV, LT, PL, RO, SK and SI. South is composed of CY, EL, ES, IT, MT and PT.

The changes when only considering the EU-27 are similar to those observed in other figures where the UK is excluded. There is a large drop in the core countries as the recipient region of real core FDI. Moreover, there is a marginal increase in non-EU-27 indirect real FDI.

Table 6-9. Real core FDI by EU-27 recipient country group (EUR billion, 2019)

Ultimate investor region		EU-27		Non-EU-27
Intermediate investor region		Core		Core
Type		Direct	Indirect	Indirect
Recipient region	Core	1 075	226	924
	East	27	82	131
	South	400	94	263
<b>Total</b>		<b>1 502</b>	<b>402</b>	<b>1 318</b>

Source: CEPS (2021) analysis.

Note: Core is composed of AT, BE, DE, DK, FI, FR, IE, LU, NL and SE. East is composed of BG, CZ, EE, HR, HU, LV, LT, PL, RO, SK and SI. South is composed of CY, EL, ES, IT, MT and PT.

## 6.5 Sectoral distribution of FDI

In order to determine the main sectors engaged in FDI as both investors and recipients, the NACE 2 classification as provided for the recipient company and direct and ultimate investors in the ORBIS database is used. Company data is used in the absence of sector-to-sector positions in terms of FDI in Eurostat. Only information on the inward and outward position a country's economy may have in another country's sector is available.

Looking at the origin of direct FDI (see Table 6-10), more than half of the investment can be attributed to manufacturing (28%) and financial companies (25%) combined. This is to be expected, as both of these sectors are very capital intensive. On the other hand, two thirds of investments end up in finance and insurance companies (66%), while none of the other recipient sectors account for more than 10%.

Table 6-10. Top five direct FDI sectors, 2019

Direct			
Ultimate investor sector		Recipient sector	
Manufacturing	28%	Finance/Insurance	66%
Finance/Insurance	25%	Manufacturing	8%
Information/Comm	7%	Prof. activities	6%
Electricity, gas, steam	6%	Information/Comm	4%
Mining, quarrying	3%	Wholesale/Retail	4%

Source: CEPS (2021) analysis.

Considering FDI intermediated through another company before reaching the final recipient, three sectors combined account for more than half of all indirect FDI (see

Table 6-11). Along with finance (19%) and manufacturing (18%), which also play a large role as ultimate investor sectors in direct FDI, information and communication are responsible for a large share of the ultimate investor sectors in indirect FDI. The intermediate and recipient sectors are dominated by the finance sector, representing more than 40% of indirect FDI.

Table 6-11. Top five indirect FDI sectors, 2019

Indirect					
Ultimate investor sector		Intermediate sector		Recipient sector	
Finance/Insurance	19%	Finance/Insurance	50%	Finance/Insurance	42%
Manufacturing	18%	Prof. activities	13%	Manufacturing	14%
Information/Comm	15%	Manufacturing	12%	Prof. activities	11%
Public authority	9%	Wholesale/Retail	5%	Information/Comm	10%
Prof. activities	6%	Admin. services	4%	Wholesale/Retail	6%

Source: CEPS (2021) analysis.

## 7 Conclusions

This section draws conclusions from the analysis of the main trends and developments in global and EU capital movements observed in 2020 and until mid-2021, focusing on the impact of the COVID-19 pandemic on capital flows.

While the pandemic dominated the headlines, the year 2020 also marked the end of the transition period for the UK and its formal exit from the EU. This represented a major change for the EU, as well as for the UK. The UK is now a 'new' and special EU neighbour with longstanding, strict economic ties. The actual effects of Brexit on such linkages are, however, still difficult to disentangle, given that data for 2021 are still partial, and that pending issues surrounding the Withdrawal Agreement are a source of uncertainty. From the few indicators available – mostly trade – linkages between the EU and the UK are weakening.

A common point between the UK and countries in the southern and eastern neighbourhood is that relations with the EU have become more uncertain, and could become increasingly difficult. For the southern and eastern neighbourhood regions, this is because of developments in relations with a major player in each of them, Turkey and Russia respectively.

In the analysis of the trends and developments in capital flows, the main focus has been on understanding the extent to which the pandemic has represented a break compared to pre-existing trends, and whether similarities with the GFC emerge.

A visual inspection of trends at global, regional and EU level, combined with findings from the most recent literature, point to three broad findings: i) the COVID-19 pandemic outbreak represented a sudden, short-lived shock for global capital markets; ii) there has been a continuation of pre-existing major trends in capital flows, with a possible acceleration of some of them, in particular falling FDI, growing portfolio investment and other stable investment, the latter driven by a banking sector that seems to have weathered the crisis well; and iii) timely policy interventions appear to have played a key role in mitigating the impact of the pandemic on the economy. These three features are very different to what happened during the GFC. The financial crisis started in 2007 and drove radical and abrupt changes in capital flows trends. It took a long time for policies to counter the shock.

Although the impact of the pandemic on economic activity weakened considerably over the course of 2020 and even more so in 2021 thanks to the vaccination rollout and the relaxation of containment measures, COVID-19 has not yet been defeated. The spread of the Omicron variant and the subsequent huge surge of cases has pushed some EU countries to reinstate containment measures, with some impact – though moderate – on the economy. Hence, the pandemic still represents a major risk, especially to those advanced economies where hesitancy to vaccinate is high, and in developing and less-developed economies where delays in the distribution of the vaccine is resulting in overall limited coverage of the population. Yet, for well-vaccinated countries, 2022 is likely to be a vast improvement compared to the first two years of the pandemic, and COVID-19 is expected to become an endemic disease. The combination of vaccines and the rapid development of antiviral drugs that minimise the severity of COVID-19 symptoms is likely to facilitate a return to (seemingly) pre-pandemic conditions. While this is good news, overall it will result in an increased gap between the two groups of countries, both at global level and also potentially within the EU.

In this context, financial market volatility is likely to be the main certainty against numerous and persisting uncertainties. Investor sentiment could shift rapidly, in advanced or developing economies. While at aggregate level EMEs did not experience any major

disruption in accessing financial markets in 2020, most of them are vulnerable and exposed to high risks. This is especially the case for those with large foreign currency debt and difficulties with rolling over their external obligations; all aspects that could result in adverse growth outcomes. In addition, some countries in Sub-Saharan Africa and the Middle East and Central Asia have also experienced an increase in global food prices driven by shortages, which could hamper recovery, if persistent.

In advanced economies, especially in the US, financial market volatility may represent an important source of risk, with implications for global capital flows. In the US, inflation is growing fast, driven by a combination of pandemic-induced supply-demand mismatches, rising commodity prices, especially energy prices, and policy-related developments. While commodity price increases are likely to be temporary, the most likely effect of the current situation will be an increased global volatility, as a US monetary policy response to inflation is likely to have global implications. Monetary tightening will lead to dollar appreciation and hence affect EME capital flows, as debt is often denominated in USD. It is still unclear whether the ECB will have to follow suit at the same speed, but price dynamics are also on a rising trend in Europe, though of a much smaller magnitude. In practice, both an alignment of the policy stance and a divergence could impact financial flows, though in a different manner.

In the report, we attempt to estimate spillovers between the US and the euro area arising from fiscal and monetary policy changes in the US. The empirical findings suggest that in normal times, rather small spillover effects arise from a US fiscal stimulus, and somewhat larger effects are associated with a change in the US interest rate. By contrast, global shocks tend to be much more powerful in generating spillover effects. Overall, while US spillover effects into the euro area tend to be small, if the pandemic continues to affect the global economy, and/or US policy has an impact at global scale, the effect on the European economy is also likely to be greater.

From a more internal EU perspective, it is worth mentioning that supportive national fiscal policies and the resilience of the banking sector (no financial fragmentation), supported by the Banking Union, are likely to be responsible for the good performance of the credit channel. By contrast, the (persistent) limited risk-sharing capacity of the market channel can be linked to a delay in progress towards the CMU. Progress with the CMU could contribute significantly to enhancing the resilience of the EU to shocks. Finally, the NextGenEU funds, which are being distributed, should enhance the capacity of EU countries to absorb shocks, hence stabilising consumption.

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