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Review of European Economic Policy

FORUM

EU Enlargement in a New Light

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André Sapir, Ilona Sologoub, Tinatin Akhvlediani, Elise Bernard

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of History
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The New Cold War and the Return of History

The 24th of February marked the beginning of a new dreadful war and the return of military conflicts to Europe. The Russian war against Ukraine as well as the resulting economic war between most of the OECD countries and Russia can be seen as a turning point in future history books with far-reaching consequences for several markets, multiple crises in numerous regions and the return of the threat of nuclear warfare. It is conceivable that we see the rebirth of a new era of conflict, the end of the late 20th century unipolar international security architecture under the hegemony of the United States, the end of globalisation and the beginning of a new cold war between the West and the East.

In the logic of the previous Cold War era, conflicts do not necessarily mean war between the large powers, but rather geopolitical tension, hostility or a proxy war, in which one or both of the larger powers challenges the other indirectly, as in Korea, Vietnam or Afghanistan. Based on the Thucydides trap hypothesis, Dalio (2021) recently predicted a higher probability of wars in economic, trade and geopolitical dimensions.

The Thucydides trap refers to the increasing risk of a war between two countries when a rising power challenges a ruling power in a joint area of influence. The deadly trap has been first described by the ancient Greek historian Thucydides, who wrote about the conflict between two ancient Greek city-states: “It was the rise of Athens and the fear that this instilled in Sparta that made war inevitable”.

According to Allison (2017), the rise of China can be seen as such a serious threat to the United States that they are on a collision course for war “unless both parties take difficult and painful actions to avert it”. In this line, NATO increasingly warns about the threat by China, e.g. in the NATO 2022 Strategic Concept, which was immediately criticised by China.

Allison (2017) reviewed 16 cases in the past 500 years of world history and concluded that 12 of them indeed led to war, most notably the big 20th century wars between the rising industrial powers in Europe (Germany) and Asia (Japan) and their neighbouring countries (World Wars I and II). Surprisingly, the conflict between the Soviet Union and the United States in the second half of the 20th century (Cold War) is one of the rare circumstances in which the conflict de-escalated without leading to a direct military confrontation. It is arguable that the threat of nuclear destruction leads to a balance of deterrence and helps to direct conflicts towards a frozen conflict or a “cold war”. Unfortunately, a cold war does not mean peace.

It is reasonable to assume that Russia in 2022 would not be able, or would be less likely, to challenge the United States without the existence of the rising economic powers in Asia, India and China, who have made clear that they are not going to implement economic sanctions against Russia and may even stand to benefit from the redirected supply of Russian energy and raw materials (e.g. Kasturi, 2022). Given that the sanctions are built on the idea of influencing the cost-benefit balance of an aggressor to incentivise peace, incentives would be stronger if more countries or a larger fraction of world GDP would participate. In this line, sanctions lose their impact if not coordinated within a reasonably large share of the world market. But large groups of countries have not imposed sanctions on Russia, and the share of world GDP of the countries imposing sanctions

with the United States has steadily declined, reflecting the waning economic power of the United States and the Thucydides trap.

According to estimates by the IMF World Economic Outlook, China has overtaken the United States as the largest economic power in terms of GDP in purchasing power parity in 2017, and it is expected to exceed the US economy by 40% in 2028, while its weight has been only 10% of the GDP of the United States at the beginning of the 1980s. The shift in the balance of economic power tends to affect diplomatic power, weights in international organisations and negotiations, as well as military power. However, so far the United States has not put a lot of emphasis on acknowledging the rising powers in Asia.

Against the background of a “changing world order”, Dalio (2021) argued that the likelihood of an intensified conflict, an economic war or a geopolitical war, increases. He predicted a probability of a war in the range of roughly 35%. Navarro (2015), who later served as a director of the Office of Trade and Manufacturing Policy in the Trump administration, discussed the challenges of the Chinese rising military power and predicted a “coming China war”. Not surprisingly, the United States during the Trump administration tackled the “China threat” as a trade and tariff war, which has not been particularly effective. His tariffs not only addressed China but also his allies, for instance Germany, leading to confusion in Europe. Trump’s ideas on defense have not been convincing either. A bit ahead of his time, he pushed for a rearmament of the “obsolete” alliance. It is not unlikely that the United States under a second Trump administration would leave NATO in an attempt to make the former allies “pay for security”. As this remains a possibility, Europe needs to build a European defense union, independent of the United States.

Ironically, 33 years ago, in the summer of 1989, Fukuyama (1989) famously described the “unabashed victory of economic and political liberalism” as the “end of history”. Indeed, during the 1990s and 2000s the world seemed to come to an ideological, cultural, political and economic consensus. Fukuyama (1989) builds on the concept of Hegelian idealism, suggesting that history is made by ideas, including religion, culture and moral values, and contrasts this with the Marxian materialistic approach, which criticised Hegelian idealism back in 19th century.

As Hegel, who believed that history comes to an end with the victory of the ideas of the French revolution and with Napoleon’s defeat of the Prussian monarchy at the Battle of Jena in 1806, Fukuyama assumed that the fall of the Iron Curtain represents an end of history in the sense that Western liberalism is not any longer challenged by any other ideological concept like Marxism–Leninism.

Today it seems that Fukuyama has been wrong. Not only because NATO is challenged again by an autocratic regime that obviously does not share the values of Western liberalism. Nor because the rise of the Chinese version of a socialist market economy might represent a more sophisticated metamorphosis of communist ideology. The recent internal challenges within the Western democracies show that a defence of democratic values does not necessarily need to begin in the international landscape. It is challenged in every election in every democratic country. The recent upcoming election polls, e.g. in the United States or Italy, do not provide a conclusive picture for the idea that Western values will a priori prevail.

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EU Enlargement in a New Light

On 23 June, EU leaders converged to throw their unanimous support behind the candidacy for EU membership of Ukraine and Moldova and acknowledge the eligibility of Georgia. This historic decision was made just over 100 days after Russia invaded its sovereign neighbour Ukraine, unleashing the most deadly military campaign and creating the largest outflow of refugees on European soil since World War II. This crisis is the test that the EU was made to handle. Still, the path to EU membership is long and fraught. This moment and these new candidates present the EU with an opportunity to reform, redefine and recreate itself to meet the new challenges that lay ahead, conceptualise joint foreign and security policy and carve out its place as a geopolitical actor in its own neighbourhood and beyond.

EU Enlargement: Expanding the Union and Its Potential

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Towards a New Eastern Enlargement of the EU and Beyond

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Ukraine and the EU: Enlargement at a New Crossroads

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Ukraine's EU Integration: A Long Way Home

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Geopolitical and Security Concerns of the EU's Enlargement to the East: The Case of Ukraine, Moldova and Georgia

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EU Enlargement: Expanding the Union and Its Potential

On 23 June, the European Council granted candidate status to Ukraine and Moldova and acknowledged the eligibility of Georgia – an act that would not have been possible, in reality, without the egregious assault on Ukraine by Russia. While the countries were given candidate status at record speed, it is unlikely that the accession process will be as swift. The set criteria are difficult for any candidate country to meet – much less one with an active conflict on its territory. However, this symbolic gesture of support and solidarity created momentum for much needed reform and restarted the debate about the role of the EU as a geopolitical actor.

In the first four months of Russia's war on Ukraine, EU citizens' wave of solidarity helped to consolidate the EU's political response (European Commission, 2022a; Mascherini, 2022). Ukrainian citizens are also overwhelmingly in favour of EU integration. According to a recent survey, shown in Figure 1, around 90% of Ukrainians support their country's accession to the EU (support for Ukraine joining NATO is around 76%). Public support for EU membership has hovered around 60% since 2015, but in March 2022 it rose steeply across all age groups and geographic areas (Rating Group Ukraine, 2022).

Over three-quarters of Ukrainians believe that their country will join the EU in the next ten years: 40% believe that the accession will happen over the next one to two years, 29% of respondents expect this process to take up to five years and 14% think that Ukraine will become an EU member within five to ten years (see Figure 2). Only around 3% of all respondents have a more realistic idea of

how long it could take for Ukraine to become a member of the EU, namely up to 20 years. Such unrealistic expectations will certainly lead to disappointment.

The process of joining the EU is long and arduous (Sapir, 2022; Dabrowski, 2022). Finland and Sweden are the only member states that took less than five years to join – from submitting their applications to becoming EU members. On average, it took EU member states around ten years to complete the steps of this complex process involving long and complicated negotiations, while Turkey has been a candidate for EU membership since 1999.

Deeply entrenched social, economic and political power structures in Ukraine pose a serious challenge to its bid to join the EU (Sapir, 2022). Candidate status is the first step on the long path of reform in the country's judicial system and government. However, "Politics is the process by which a society chooses the rules that will govern it" (Acemoglu and Robinson, 2012, 79), and a credible EU membership perspective has strong potential to transform the candidate countries' politics.

Public opinion can change very fast. It is therefore all the more important that the symbolic gesture of declaring Ukraine a candidate for membership in the face of Russia's aggression should be supported by steps, from both sides, to fortify Europe's unity around its common values and move towards greater integration (Sologoub, 2022).

Obstacles to enlargement

Not only are candidate countries required to fulfil numerous conditions and to harmonise rules and standards on issues ranging from taxation to pet travel. The Union's capacity to absorb new members, while maintaining the momentum of European integration is an additional obstruction (European Council, 1993). The war in Ukraine has led to a reassessment of approaches to the EU in a number of member states. However, the European consensus on offering Ukraine and Moldova EU candidate status does not automatically translate into a common position on the EU's capacity to take in new members. There remain a number of concerns regarding the pending expansion.

One that is not related to Ukraine itself is known as "enlargement fatigue" (Balfour and Stratulat, 2012). The objection is that the governance of an ever-expanding EU becomes very difficult, as countries are not at the same

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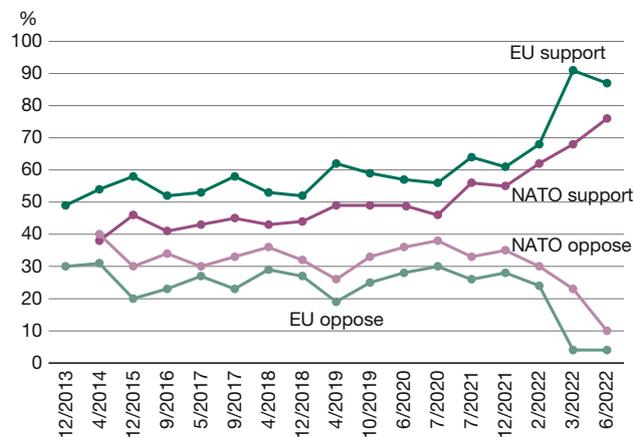
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Figure 1
Ukrainian citizens' views on EU and NATO integration



Source: Rating Group Ukraine, 2022.

level of economic development, or indeed of quality of institutions. This objection echoes the concern that the EU has not been able to really absorb the last waves of enlargement. And it should not be forgotten that a number of countries in the Western Balkans are in line to join, but are still far from meeting the necessary requirements.

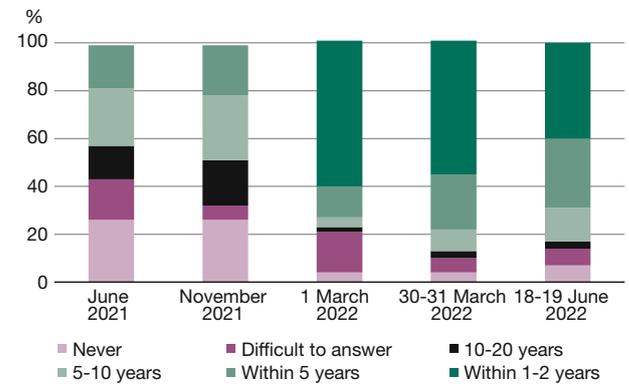
Another reason has more to do directly with Ukraine: EU enlargement has now acquired a geopolitical meaning (Van der Loo and Van Elsuwege, 2022). The emergence of China had brought the world to a state of greater economic competition rather than cooperation. The war in Ukraine has deepened geopolitical divisions and forced the EU to step up its global role in a myriad of ways.

Countries in the EU will break their dependence on Russian energy in a number of months, not years. They will invest more in their military power and reconsider military alliances in ways that might have been unthinkable only a few months ago – Sweden and Finland joining NATO, for example. Crucial to all this, however, is what the relationship between the EU and Russia will be in the medium to long run.

Will Russia continue to be the uncomfortable neighbour to the east, or can there be a peaceful coexistence? All agree that as Europe re-arms, Ukraine's role in this relationship will be crucial. But not all agree that the EU's interests are best served with Ukraine as a full EU member. Some see it as a buffer between the EU and Russia. Others believe that Ukraine as a full member is a safer counterweight to Russia.

The EU's geopolitical engagement has been importantly shaped and even guided by Russia's military moves. The

Figure 2
Ukrainian citizens' beliefs about duration of EU accession process



Source: Rating Group Ukraine, 2022.

war in Ukraine has laid bare the weaknesses of the EU as a geopolitical actor, particularly its energy dependence and complete lack of a coordinated defence strategy. While individual member states are taking the urgent steps necessary to severely limit and ideally completely wean themselves off of Russian gas and oil, it will take time and coordination in order to ensure as smooth a transition as possible. Long-term structural reforms are necessary to address the new geopolitical landscape created by Russia's war in Ukraine and enable the EU to uphold its treaty commitments and aspirations.

European security

The EU is currently witnessing another of Russia's military invasions of its sovereign neighbour following the annexation of Crimea and occupation of the Donbas in 2014 and its invasion of Georgia in 2008. And while the EU is not capable of offering its members security guarantees, it is also unable to guarantee its current members peace and security as long as these conflicts rage on. Russia's wars fully intend to destabilise and disrupt the democratic institutions of these states. Akhvediani (2022, 226) argues that bringing the Associated Trio countries into the EU will deliver "a strong political message to Russia that the EU is committed to restoring peace on the European continent."

The war in Ukraine has also reignited a conversation about Europe's own security capabilities. EU members acted immediately to impose restrictive measures on Russian financial institutions and some of the heaviest sanctions yet on its oil and gas industry, while the European Peace Facility has been activated to support Ukrainian armed forces with a budget of €1.5 billion and Ukrain-

ian nationals fleeing the war have been given temporary protection in the surrounding member states. Still there are those who believe that while this is a start, it is not enough and advocate for the EU to become a hard power (Borrell, 2022). The United States has long advocated for NATO members to increase their contributions to meet the 2% goal. Within days of Russia's invasion of Ukraine, the German Bundestag voted to increase defense spending by €100 billion – a move that was unthinkable just a week earlier.

Bernard (2022, 231) describes the need for the EU to provide a minimum guarantee of security to its members: “because the rule of law requires a sovereign state that is indisputable in its territorial integrity, its population and the existence of a legitimate government.” To do so the EU needs to agree upon a doctrine regarding a state whose territorial integrity, population and government are being threatened. The EU must clearly communicate to the state in question where it stands with regards to its relationship to the EU.

Still, the EU is right to worry about becoming ungovernable. And there is a valid concern that enlarging goes against the ability to integrate more deeply. Taking more countries in makes it harder or simply impossible for those that want to cooperate more closely. This tension has given rise to the idea of going at different speeds (Pisani-Ferry et al., 2016).

Differentiated integration

While Ukraine and Moldova were granted candidate country status at record speed, it is unlikely that the accession process will be as rapid. The set criteria are difficult for any candidate country to meet – much less one with an active conflict on its territory.

The Commission has repeatedly stated that its “enlargement policy is a geostrategic investment in peace, stability, security and economic growth in the whole of Europe” (e.g. European Commission, 2021, 25). Yet the lack of progress in EU enlargement to the Western Balkans has undermined the credibility of the EU and the effectiveness of its enlargement policy (Dabrowski, 2022; Fouéré, 2022). Enlargement is a strong geopolitical instrument and could bring the candidate countries closer to the EU sphere of influence, however, traditional paths to membership may need to be reconsidered.

Due to the fact that some EU members are reluctant to enlarge the EU without deepening it first, it is necessary to look at differentiated forms of European integration for candidate countries. This would mean something that is

more than the current Association Agreements but not yet full EU membership (Sapir, 2022). The heterogeneity, in terms of preferences and conditions, is extremely large among European countries, and therefore various forms of differentiated integration need to be considered both within the EU and between the EU and the countries outside the EU. This is particularly urgent given not only the current situation but the understandably mounting frustration of the Western Balkan countries, who have grown wary of the drawn-out process.

In order to ease tensions and facilitate the process, it may be helpful to consider a differentiated format in which members would adhere to core policies such as the single market, but could choose to be part of various groups or partnerships. French President Emmanuel Macron proposed the creation of a European Political Community that would give the opportunity to all Council of Europe members outside the EU to become part of the EU's life (French Presidency of the Council of the European Union, 2022). Another variation is a Continental Partnership (Pisani-Ferry, 2016), which could establish a single market between the countries belonging to the European single market and other interested European countries.

The EU's enlargement policy could act as a coordinating mechanism for its foreign and security policies. Putin's invasion of Ukraine has succeeded in uniting the EU's members around strategic goals and security threats in a way that nothing else could. The failure to coalesce around a common foreign and security policy increased the EU's dependency on Russian energy supplies, thereby filling Russia's war coffers that have allowed Putin to initiate this brutal and increasingly lengthy conflict.

Granting Ukraine candidate status provided an opportunity to reflect on the enlargement process. While it was the right thing to do to show support and solidarity while sending Putin a warning, EU enlargement is a demanding and lengthy process that requires a unanimous decision and the EU needs to address the setbacks attached to this process. A differentiated process may be required in order to reform its enlargement policy, a particularly important step necessitated by the urgency of the times.

Conclusions

Over the past decades, the European unification project seemed to rely largely on progress in economic terms, but the rationale behind the European Coal and Steel Community was to support cross-border cooperation in the most fundamental industries in order to promote peace in Europe (Grabbe, 2012). And Europe was peaceful. The founders of the European project envisaged and

created an ambitious – and indeed successful – reconciliation project. Will Russia’s war on Ukraine transform the current EU and its enlargement in order to give real meaning to the idea of the European Union as a community of values?

The new EU member candidates, as well as those who have had this status for a decade, present the Union with an opportunity to decide what kind of club it should be. As a club of like-minded countries, it will no doubt be easier to manage from the inside. But it will also be entrenching the differences of views, which will make cooperation with the non-like-minded considerably more difficult.

Or it can be a sphere of influence that appreciates that global problems cannot be addressed by engaging only with the like-minded. Global issues, from climate change to nuclear disarmament, mean there is more need to engage with those that think differently. Such a club would need to rethink and innovate in terms of how it integrates its increasingly diverse members. But it would be a club worth joining.

Irrespective of which direction the EU takes, the arguments that made it possible for the Ukraine to become a candidate country in June despite any expectations also mean that Ukraine will remain a special case. While the EU countries decide what kind of club the EU is, they will also need to deal with the very special position in which the Russian invasion has put Ukraine. This will no doubt create challenges for other candidate or aspiring countries that must be carefully managed.

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Marek Dabrowski

Towards a New Eastern Enlargement of the EU and Beyond

During its meeting on 23-24 June 2022, the European Council gave the European Union (EU) candidate status to Ukraine and Moldova. This decision went further than expected in early March 2022, when three Eastern Partnership countries – Georgia, Moldova and Ukraine – submitted their membership applications. At that time, given an enlargement scepticism in some member states, I suggested a political declaration that would confirm the eligibility of these countries to obtain a candidate status in the future, similar to the 2003 Thessaloniki declaration that started the EU accession of the Western Balkan countries (Dabrowski, 2022). It is good that the EU summit took a step further and granted two applicants candidate status.

The European Council also confirmed the eligibility of the third country, Georgia, to receive such a status “once the priorities specified in the Commission’s opinion on Georgia’s membership application have been addressed” (European Council, 2022). These priorities concern mainly the first pillar of the so-called Copenhagen criteria, “stability of institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities”. In particular, the European Commission (2022a) recommends further reforms to strengthen judiciary independence and the Anti-Corruption Agency; guarantee independent, pluralistic and professional media; ensure “de-oligarchisation” of the state and economy; and overcome excessive political polarisation. Sadly, in some of these fields, Georgia backtracked on the earlier reforms conducted in the 2000s and 2010s. Let us hope that the decision to leave doors open to obtain the EU candidate status later will mobilise the government of Georgia and its main political forces to rebuild political consensus concerning political and governance reforms.

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Delivering historical justice

After the collapse of the communist system and the dissolution of the Soviet Union, the EU treated countries of the former Soviet Union (FSU) other than the Baltic states in a different way than Central and Eastern Europe (CEE). While CEE and Baltic countries could start the process of European integration in the second half of the 1990s (in 1997 and 1999) and become EU members in 2004 and 2007, the remaining 12 FSU countries were left in a sort of grey zone. The EU concluded partnership and cooperation agreements (PCAs) with them, similarly to other third countries. However, these agreements were not ambitious, politically nor economically (Dabrowski, 2014).

Launching the European Neighbourhood Policy (ENP) in 2004, just after completing the EU Eastern Enlargement changed little. The declared ENP objective was to avoid new dividing lines between the enlarged EU and its old and new direct neighbours as well as to strengthen stability, security and well-being in the entire neighbourhood (both eastern and southern). However, it offered few concrete steps towards a closer partnership. Furthermore, in the ENP Strategy Paper, the European Commission (2004) clearly stated that the ENP is not concerned with the subsequent EU enlargements, nor does it offer neighbours an EU accession perspective. It was the main weakness and central point of criticism of this policy framework (e.g. Milcher et al., 2007).

To address part of the critical comments concerning the limited offer of the ENP, the EU launched the Eastern Partnership initiative in May 2009. It was a supplementary cooperation framework (in addition to the ENP) aimed at deepening the bilateral and multilateral integration of six Eastern neighbours (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) beyond the original ENP design. It involved, among other things, the perspective of bilateral association agreements (AAs), including deep and comprehensive free trade areas (DCFTAs), close cooperation in various sectors, visa facilitation and (in the long-term perspective) visa liberalisation, and the launching of Comprehensive Institution-Building Programmes aimed at improving the administrative capacity of the Eastern partners (Council of the European Union, 2009). Eventually, it resulted in the signing of AAs and DGFTAs between the EU and Georgia, Moldova and Ukraine in 2014, and their subsequent implementation. Citizens of the three countries may travel without visas to the EU:

citizens of Moldova since 2016, citizens of Georgia and Ukraine since 2017.

All three countries declared their geostrategic interest in joining the EU in the early or mid-2000s. They want to anchor their independence (against repeated Russian challenges) and the possibility of peaceful development in the Euro-Atlantic security alliances and the European integration system. They also seek external anchors (incentives) for their domestic economic, political and economic reforms.

AAs and DCFTAs between the EU and three Eastern Partnership countries have not differed substantially from the Stabilisation and Association Agreements between the EU and Western Balkan countries apart from one crucial detail – the lack of any perspective of EU integration.

Now, the decision of the European Council of 23-24 June 2022 eliminates this historical injustice and creates a new perspective for the region.

Importance of membership perspective

The experience of the previous European Economic Community/EU enlargement rounds since the mid-1980s has demonstrated that the accession process offers a solid pro-reform and pro-modernisation incentive (Roland, 2002; Dabrowski and Radziwill, 2007). For the societies and political elites of countries that want to become EU members, the EU integration perspective looks attractive and is worth a serious reform effort for several reasons.

First, the EU is widely considered a club of prosperous, stable and democratic countries. Therefore, joining such a club is a synonym for a better life and the mark of the country's international nobilitation.

Second, membership in the EU means joining the Single European Market and benefiting from its four freedoms: free movement of goods, services, capital and labour. Some of these freedoms, notably free trade in manufacturing goods and part of services, are already available within the existing DGFTAs. However, full membership also means membership in the customs union and complete harmonisation with the EU internal market regulations.

Third, beyond the benefits of market integration, new member states, especially those representing a lower income per capita level, can enjoy a broad spectrum of intra-EU financial transfers related, among others, to a Common Agriculture Policy, cohesion and regional

funds, and more recently, green transition and the Next Generation EU.

Last, geopolitical stability and security are also expected upon completing an accession process. It was an essential argument in the case of the Western Balkans accession initiated in the early 2000s, after the decade of bloody ethnic conflicts in the region. And these arguments are even stronger in the case of the newest candidates. All three countries have been victims of the imperial policy of Putin's Russia through invasions by the Russian army (Georgia in 2008, Ukraine in 2014-2015 and 2022) or by losing control over parts of their territories (Transnistria in Moldova; Abkhazia and South Ossetia in Georgia; Crimea and one-third of Donbas in Ukraine, plus territories occupied in the current war).

For the EU, starting a new enlargement round provides a chance to broaden the area of socio-economic and political stability in Europe, help lower-income countries to catch up with the rest of the continent and minimise the risk of interference from other non-democratic powers and actors.

The decision of the European Council also confirms the credibility of Article 49 of the Treaty on European Union, which says that "any European State which respects the values referred to in Article 2 and is committed to promoting them may apply to become a member of the Union."

Opening the EU accession path in an economic sphere allows consolidation of the existing economic ties between the three Eastern Partnership countries and the EU. The EU is their largest trade partner. In 2020, it accounted for 52.3% of the total trade of Moldova, 39.2% for Ukraine and 22.4% for Georgia. Trade reorientation towards the EU helped these countries, particularly Ukraine, after 2014 (Dabrowski et al., 2020), to neutralise the adverse effects of Russian trade protectionist measures against them. The EU is also a significant source of incoming foreign direct investment to Georgia, Moldova and Ukraine.

In the case of war-affected Ukraine, granting the EU candidate status strengthens the morale and determination of its leaders, army and the entire society to resist aggression. Furthermore, it makes managing extensive assistance to this country easier, which will require further up scaling in the coming months.

A long way to go

Everybody must be realistic. Granting the candidate status, despite its political importance, is only the beginning

of the long and technically tricky accession process. It includes the following stages:

1. opening membership negotiation
2. opening negotiation on each of the 35 chapters of *acquis* grouped into six thematic clusters according to the new enlargement methodology adopted in February 2020 (European Commission, 2020)
3. provisional closing of negotiations on each chapter
4. concluding membership negotiation
5. drafting and signing an accession treaty
6. ratification of an accession treaty by a candidate and all incumbent EU member states and entering the EU.

Moving to the next stage (opening membership negotiations), may take several years. While in the case of Croatia, it took only one year (from 2004 to 2005), Turkey had to wait six years from the time it obtained EU candidate status (1999) to start EU membership negotiations (2005). North Macedonia, which received EU candidate status in 2005, has been waiting 17 years to open membership negotiations (see below).

The European Council (2022) did not set a clear timetable for further integration steps for Moldova and Ukraine. It is only said in para. 12 that

The Commission is invited to report to the Council on the fulfilment of the conditions specified in the Commission's opinions on the respective membership applications as part of its regular enlargement package. The Council will decide on further steps once all these conditions are fully met. (European Council, 2022).

When looking at respective country opinions of the European Commission (2022b; 2022c), they specify several actions, which should be undertaken by parliaments and governments, and which will be subject to a detailed Commission assessment by the end of 2022. Negotiations can be launched no earlier than the first half of 2023.

The list of expected reforms is similar in both countries. It is primarily related to the first pillar of the Copenhagen criteria. It includes completing institutional reforms of a judicial system, including the process of merit-based selection and vetting of judges, strengthening anti-corruption bodies and their independence, strengthening free and pluralistic media and civil society, fighting organised crime and money laundering, further reform of public administration, and de-oligarchisation. According to the new enlargement methodology, most relate to the fundamentals cluster.

Western Balkans and the credibility of an enlargement process

Pro-reform and pro-modernisation incentives can work only if the enlargement process remains credible and affordable for EU candidates. That is, if they remain convinced that they are welcomed as future members by incumbent member states, their accession speed will depend solely on the progress in adopting *acquis*. Otherwise, motivation to undertake difficult reforms, often against influential groups of vested interests, will weaken, and the entire accession process – will be derailed.

The experience of the Western Balkans region, whose EU enlargement process was launched almost two decades ago but remains far from completed, may serve as a warning signal (Dabrowski, 2020).

In June 2003, the EU summit in Thessaloniki expressed “unequivocal support to the European perspective of the Western Balkan countries”; it also declared that “the future of the Balkans is within the European Union” (Council of the European Union, 2003). Today only Croatia is an EU member. Four other countries (Albania, Montenegro, North Macedonia, and Serbia) have EU candidate status. Montenegro and Serbia started accession negotiations in 2012 and 2014, respectively, but the process is slow.

The aforementioned North Macedonia has been waiting to start membership negotiations for almost two decades, becoming a hostage of regional politics. For many years, the delay in beginning accession negotiations was caused by Greece's demand to change the country's name from Macedonia. When this conflict was finally resolved in the Prespa Agreement of June 2018 and the politically painful ratification process of constitutional changes (caused by the change of name) was completed, North Macedonia expected to be rewarded with the opening of accession negotiations. However, it did not happen. First, France blocked the entire enlargement process demanding a new enlargement methodology. Then Bulgaria raised questions about Macedonian national identity and language, which required a new set of constitutional changes in North Macedonia. Other EU member states blocked starting accession negotiations with Albania, mainly for domestic political reasons.

Enlargement and EU institutional reform

The EU also has essential homework to do to make the enlargement process successful. Once again, it must reform its institutions and decision-making process (the last reform was in the Lisbon Treaty signed in December 2007). Further expansion of qualified majority voting

(QMV) and reducing the list of decisions requiring unanimity is the most urgent component of such reform. Too often, the current EU becomes a hostage to individual countries' veto powers, for example, in the areas of the Common Foreign and Security Policy, Multiannual Financial Framework or EU enlargement. Increasing the number of member states without fixing this problem would complicate the situation further.

In the area of enlargement decisions, the unanimity principle should remain at the beginning (granting the candidate status) and the end (accepting a new member upon completing membership negotiation) of the process. All intermediate stages, such as opening and provisional closing negotiations on individual chapters, should be subject to QMV based on the Commission's opinions. Such a change will ensure that the enlargement process is driven by merit-based criteria and minimise abuse of veto power for domestic political purposes.

The EU must also strengthen its law enforcement mechanism with incumbent members to minimise instances of reform reversal and anti-democratic tendencies. It may include a regular Commission's assessment of member states' records in the area of fundamental rights and the rule of law, more active use of infringement procedure in case of failure to implement EU law, strengthening competencies of the Court of Justice of the EU, etc. (Dabrowski, 2016).

It is not the first time in EU history that the enlargement perspective is confronted with the need for integration deepening. It was a frequent topic of debate in the 2000s, at the time of the Eastern enlargement. It is coming back now. However, the alternative debate about enlargement (widening) vs. deepening is wrong. The EU needs both: they are two sides of the same coin (Lippert, 2021).

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André Sapir

Ukraine and the EU: Enlargement at a New Crossroads

On 28 February 2022, the government of war-torn Ukraine signed an application for European Union membership, asking for immediate accession. Three days later, Georgia and Moldova submitted similar applications.

Less than four months later, at the June European Council, EU leaders decided to grant Ukraine and Moldova the status of candidate country, and recognised Georgia's "European perspective," a step towards formal candidacy.

Never before had EU countries reacted affirmatively so quickly to an application for EU membership. This "political gesture" by Europe, as French President Emmanuel Macron described the decision by EU leaders at a press conference during the summit, would not have been possible without the war in Ukraine and the fight of its people "to defend our values, their sovereignty, their territorial integrity," added Macron.

The three countries already had close economic and political ties with the EU. In 2014, they signed Association Agreements with the EU, which include free trade in manufactured goods, some trade liberalisation in agricultural goods and services, and various forms of cooperation aimed at institutional convergence with the EU. But clearly the process of convergence was slow and the prospect of candidate status – which the three countries coveted at least since 2014 – was a distant one before the war in Ukraine.

Joining the EU requires not only that candidate countries fulfil a certain number of conditions, but also that EU countries feel ready to welcome new members.

The question that this paper asks is whether the unprecedented decision by EU leaders to grant candidate status to Ukraine and Moldova is more than a political gesture. What are the prospects for these two countries, and perhaps also Georgia if it obtains the same status, to join the European Union in the near future?

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Prospects for accession: Parallel with the Western Balkan countries

EU accession is a long process that requires many steps: the European Commission must first assess a country's formal application, then make a recommendation to grant the applicant country the status of candidate. The Council of the EU then approves with unanimity the Commission's recommendation, followed by the Commission's recommendation to open negotiations with the candidate country, which, again, must be approved unanimously by the Council. The Commission will then negotiate with the applicant to verify that it meets the criteria for membership. When satisfied, the Commission makes a recommendation to the Council to unanimously sign the treaty of accession. Finally, the candidate country can become a member.

At the 2003 Thessaloniki summit, six Western Balkan countries received a commitment from the EU that it would support their efforts towards European integration. Nearly 20 years later, only Croatia – which had already applied for EU membership before the Thessaloniki summit – has actually joined the EU. Four other countries have received the status of candidate country, but accession negotiations have only started with two of them and are progressing very slowly. The sixth country, Bosnia and Herzegovina, formally applied for EU membership in 2016 but is still waiting to receive the status of candidate country. There were intense efforts in June 2022 to give the green light to launch accession negotiations with North Macedonia and Albania and to grant candidate status to Bosnia and Herzegovina, but they all failed. Table 1 shows the relevant dates for the accession processes of the six Western Balkan countries as well as Turkey.

The message of Table 1 is that even if the accession process of Ukraine and Moldova is as rapid as it was for Croatia, these two countries will have to wait roughly ten years to join the EU.

Before it was invaded by Russia in February 2022, there was not even a question that Ukraine would receive the status of candidate country if it had decided to formally apply to join the EU. There were two major roadblocks. One was the territorial conflict between Russia and Ukraine. Russia had already annexed Crimea and occupied part of the Donbas region of Ukraine, and the two countries had failed to make any progress with the imple-

Table 1
Past and current accession processes since 2003

Countries	Applica- tion	Can- didate status	Start of acces- sion negotia- tion	Signa- ture of acces- sion treaty	Acces- sion	EBRD Governance Index	
						2016	2021
Western Balkans							
Croatia	2/2003	6/2004	10/2005	12/2011	7/2013	6.18	6.12
North Macedonia	3/2004	12/2005	--	--	--	5.77	5.41
Monte- negro	12/2008	12/2010	6/2012	--	--	5.83	6.19
Albania	4/2009	6/2014	--	--	--	5.16	4.59
Serbia	12/2009	3/2012	12/2013	--	--	5.63	5.88
Bosnia and Herzego- vina	2/2016	--	--	--	--	4.52	4.12
New candidates							
Ukraine	2/2022	6/2022	--	--	--	4.09	4.42
Moldova	3/2022	6/2022	--	--	--	4.55	4.88
Georgia	3/2022	--	--	--	--	6.54	6.53
Memo item							
Turkey	4/1987	12/1999	10/2005	--	--	6.08	5.97

Sources: Author's own compilation for the dates; EBRD (2021) for the EBRD governance index.

mentation of the Minsk agreement on the Donbas, which they signed in 2014 thanks to the mediation of France and Germany. Territorial integrity was also a crippling problem for Georgia and Moldova in terms of their accession prospects to the EU.

The other roadblock was the poor quality of governance in Ukraine, in particular with respect to corruption. In 2016, Ukraine ranked last in the European Bank for Reconstruction and Development (EBRD) governance index among the ten countries in Table 1. While it is true that its score improved by 2021, it still ranked ninth, ahead of only Bosnia and Herzegovina, whose score has fallen since 2016. In 2021, Moldova is ranked immediately before Ukraine. On the other hand, Georgia boasted the best score among the ten countries in 2016 and 2021 (see the last column of Table 1).

The war in Ukraine has temporarily lifted these two roadblocks, allowing Ukraine and Moldova to receive the much-coveted status of candidate country. In reality, however, the two roadblocks have not been lifted but simply moved. They will need to be removed perhaps before launching accession negotiations with Ukraine and Mol-

dova, and eventually Georgia, but certainly before completing them.

The question we need to ask therefore is whether the war in Ukraine and the candidate status of Ukraine and Moldova have changed the prospect for improving the situation in these two countries with respect to their territorial integrity and quality of governance. Much depends, obviously, on the prospect of ending the war in Ukraine and under what condition.

If the war ends with a victory of Ukraine and restoration of sovereignty and territorial integrity over all of its internationally recognised borders, then the country's prospect for EU membership would immensely increase. Not only because territorial integrity would be restored but also because victory would lead to the reconstruction of the country, which would likely entail not only physical reconstruction but also a new era of governance, as occurred in Western Europe after World War II thanks to the Marshall Plan.¹

A trickier situation would be if Ukraine's victory is only partial and full territorial integrity is not restored. Such a victory would still be accompanied by a reconstruction of the country and much progress in terms of governance, which would greatly boost the country's prospect for successful EU membership negotiations. However, it would leave open the question of territorial integrity. Would the EU member states be open to admit a country in their midst without territorial integrity and perhaps even without a peace treaty with Russia? This is certainly not the place to try and answer this question, but it will need to be examined at some stage if the outcome of the war in Ukraine is less than a complete victory for Ukraine in the foreseeable future.

The possibility that Ukraine, and also Moldova and Georgia, may not be able to become EU members in the near future – either because they do not fulfil the accession criteria or due to the reluctance of some current EU members to enlarge the EU without first deepening it – leads to the necessity to consider differentiated forms of European integration for these countries involving more than the current Association Agreements but less than (full) EU membership.

Differentiated integration: Part of the solution?

Article 49 of the Treaty on European Union (TEU) states that: "Any European State which respects the values referred to in Article 2 [human dignity, freedom, democ-

¹ See, for instance, Eichengreen (2008).

racy, equality, the rule of law and human rights] and is committed to promoting them may apply to become a member of the Union.” However, the Treaty does not provide a definition nor a list of European states.

For practical purposes, a useful definition consists of the list of countries belonging to the Council of Europe, an international organisation founded after World War II to uphold human rights, democracy and the rule of law in Europe. Besides the fact that the flag of the Council of Europe (introduced in 1955) was adopted by the European Union (in 1985), the two institutions have some overlap in terms of membership since no European state has ever joined the EU without first belonging to the Council of Europe.

Founded in 1949, the Council of Europe currently has 46 member states. Russia, which became its 39th member in February 1996, was excluded by the other members in March 2022, following the invasion of Ukraine.

The 46 states belonging to the Council of Europe fall in three categories with respect to the European Union: 27 members of the European Union; nine EU candidate countries (including Bosnia and Herzegovina and Georgia, which have not yet been granted candidate status); and ten other countries (Andorra, Armenia, Azerbaijan, Iceland, Liechtenstein, Monaco, Norway, San Marino, Switzerland and the United Kingdom) all with close ties to the EU.

Although not all nine current EU candidates may eventually become EU members, nor is it excluded that some of the current non-candidates will one day become EU members, at some point in the foreseeable future European states will fall into just two categories: those belonging to the EU and those outside the EU.

Given the huge heterogeneity between the 46 European states in terms of preferences and conditions, it is necessary to consider different forms of differentiated integration both within the EU and between the EU and the countries outside the EU. This is obviously not a new problem,² but the newly acquired candidate status of Ukraine and Moldova, and the prospect of such status for Georgia, together with the fact that six other European countries are already candidates (or nearly candidates, in the case of Bosnia and Herzegovina), raises this issue to a higher and more urgent level.

As suggested by Demertzis et al. (2018), it is necessary to take a holistic view and propose a complete architec-

² See, for instance, Dewatripont et al. (1995) and Demertzis et al. (2018).

ture for the entire “Europe house”. This house should have two wings: one for the EU members and one for non-members.

There can be differentiation among EU members but all of them must belong to certain core policies like the single market with all four freedoms (the free movement of goods, services, capital and labour). All EU members can also, but need not, belong to one or several clubs or partnerships, like the European monetary union or a future European defence union. Such differentiation has both good and bad aspects. The advantage is that it allows countries to experiment with certain policies according to their preferences and needs. The drawback is that it creates a hierarchy between member states, which may be resented by countries that are excluded from certain clubs because they do not meet the requirements for membership; the flip side is that it incentivises excluded countries to take the necessary measures to meet these requirements if they really want to join a particular club.

An important question concerns the division of policies between the compulsory core and the optional clubs. The narrower the core, the lower the requirement for new countries to join the EU and the higher the differentiation between EU members in terms of club membership. Conversely, the broader the core, the higher the bar for new countries to become EU members; but once in the EU, the lower the degree of differentiation.

The present day EU has a very wide core and only a few clubs, mainly the monetary union and the Schengen area. This is one of the reasons why accession negotiations take such a long time. Countries must satisfy many conditions to adopt the *acquis communautaire*.

Could one envision the fast-tracking of the accession of Ukraine (and Moldova, and perhaps Georgia) to the EU as some have suggested? It depends on what is meant by fast-tracking. If it means providing massive assistance to the country as part of its reconstruction after the war and aiming such assistance at fulfilling the conditions for EU accession, then fast-tracking is not only a possibility but even a likelihood. On the other hand, if fast-tracking means that Ukraine would have to meet fewer conditions than previous EU members and adopt only parts of the *acquis communautaire* upon accession, then this is unlikely to meet the approbation of existing EU members. There is some precedent of the relaxation of entry criteria in exchange for a special surveillance procedure after joining the EU – as in the case of Bulgaria and Romania, which became members in 2007 – but this experience is generally not viewed as very successful.

European Political Community

Turning now to the relationship between the two wings of the European house, between EU members and non-members, President Macron recently proposed the creation of a European Political Community (EPC). The Community would give the opportunity to basically all Council of Europe members outside the EU to become part of the EU's life. It would entail the regular organisation, during the ordinary meetings of the European Council (four times a year in Brussels) of a European Political Community summit, bringing together leaders of the EU27 and their counterparts of the interested countries. Access to the meetings of the European political families, which are often held ahead of summits would also be possible. The political parties from these non-EU countries could join the European political parties. At the European Parliament, delegations from these countries could sit in plenary sessions as observers, enjoying the right to speak and to contribute to the work of parliamentary commissions, without voting rights, with the exception of resolutions adopted under the aegis of the EPC. The relevant configurations of the Council, in particular that of foreign affairs, would also envisage variable-geometry meetings under the EPC format for countries engaged in EU accession negotiations.³

The EPC proposal by President Macron was made in a speech on 9 May 2022. It came in response to the applications for EU membership from Ukraine, Georgia and Moldova, and before the decision by the European Council to grant Ukraine and Moldova candidate status. It was initially rejected by the three applicant countries as a manoeuvre to delay granting them the status of candidate countries. However, now that two of them have obtained the sought-after status, the idea may gain some traction. If so, the EPC could serve as a useful transition to membership to Ukraine and other candidate countries whose accession process may be long.

One of the merits of the EPC proposal is that it seeks to move away from a purely bilateral hub-and-spoke relationship between the EU and other European countries towards a multilateral relationship involving potentially all European countries sharing the values of human rights, democracy and the rule of law that are fundamental to the EPC project.

Continental Partnership

A potentially complementary idea is the Continental Partnership (CP), a proposal made by Pisani-Ferry et al.

³ See Chopin, Macek and Maillard (2022).

(2016) to deal with the relationship between the EU and the post-Brexit United Kingdom, but which the authors considered as also relevant to countries like Ukraine and Turkey whose prospects for EU membership were clearly dim at the time. The CP would establish a single market between, on the one hand, the 30 countries belonging to the European single market (the EU27 plus Iceland, Liechtenstein and Norway) and, on the other, non-EU European countries interested in participating. Contrary to the European single market, which involves four freedoms, the CP single market would only provide three freedoms since it would not include free movement of labour. Low-income countries, like Ukraine, Moldova or Georgia, would gain substantial resources to foster institutional and economic convergence, with access to the resources contingent on their making sufficient progress towards this objective. And like the EPC, the CP would create a multilateral relationship among its participants. Non-EU CP members would all participate in the functioning of some EU institutions with observer status or potentially more, but only EU members would have voting rights in the Commission, the Council and the Parliament.

CP membership would mark a huge improvement for Ukraine, Moldova and Georgia compared to their Association Agreements with the EU. It would promote economic and political reforms that would enable these countries to enjoy the kind of economic stability and economic convergence to which they aspire. Like the EPC, it could be a stepping stone towards EU membership, rather than a stumbling block as some fear.

Conclusion

Before it was invaded by Russia in 2022, Ukraine had little prospect to obtain the status of candidate from the EU, let alone actually become an EU member anytime soon. The war in Ukraine and the heroic fight of its citizens against the Russian invaders have earned the respect of everyone in the EU and obliged its leaders to make a political gesture by granting Ukraine and its next-door neighbour Moldova the status of candidate countries.

If Ukraine decisively wins the war, the two main road-blocks to its EU accession – a territory partly occupied by Russia and the poor quality of governance – may simply be ignored. It will have recuperated its territory, and the spirit of victory supported by massive reconstruction aid will likely transform its governance as happened in Western Europe after World War II. In this case, Ukraine may reasonably hope to join the EU in the foreseeable future.

However, if the outcome of the war is less than a full victory for Ukraine, the prospect of EU membership is likely

to be less favourable. Some of the EU countries will be hesitant to accept a country whose territory remains partially occupied by Russia, especially if the continuous conflict with Russia prevents the country from fully reconstructing itself and decisively improving the quality of its governance. In this case, Ukraine may be forced to wait a long time before joining the EU, and mechanisms like the European Political Community or the Continental Partnership may be very useful bridges towards future EU membership.

For its part, the European Union would do well to prepare itself for a new enlargement that may see not only Ukraine, but also Moldova, Georgia and the Western Balkan countries become EU members in the next 10 or 20 years. This will require, as on the occasion of past enlargements, that the widening of the EU is accompanied by its deepening.

In this respect, it is disappointing that EU leaders, who decided to grant candidate status to Ukraine and Moldova at their June 2022 summit, did not use the occasion to also convene a European Convention in order to amend the European Treaties.

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Ilona Sologoub

Ukraine's EU Integration: A Long Way Home

Ukraine's integration into the EU has many powerful advocates from the European Commission President to about 90% of Ukrainian people (Rating Group Ukraine, 2022). Certainly the process will take some time (hopefully years rather than decades) and will require the transformation of both Ukraine and the EU. However, today the entire world is changing and there will be no return to the reality before 24 February 2022. This new reality requires strategic thinking and bold imagination. The current full-scale war makes it necessary to critically reconsider many things that were perceived as given and finally solve many problems that have been shelved for a long time.

This paper does not try to provide a comprehensive overview of the implementation of the EU-Ukraine Association Agreement – there are quite a few excellent studies that do this (see e.g. Emerson et al., 2021; Ukraine-Europe, 2021). Rather, it discusses several aspects of EU-Ukraine relations and highlights questions that will need to be answered together by Ukraine and the EU when they undergo this journey to accession.

Political relations

The EU invited Ukraine to the dialogue on 2 December 1991, the day after the Ukrainian people expressed their wish to live in an independent state at a referendum. This event can be called the start of Ukraine-EU relations. They have never been simple (see Table 1). There were both “springs” and “winters” but at the decisive moments, the Ukrainian people defended their democracy and their right to be in the EU. Until now, Ukrainians have been better at uniting against an enemy than around the implementation of reforms. However, after a few centuries of Russian oppression, Ukrainian political culture is gradually developing. On the other hand, looking at the history of continuous attempts to erase Ukrainian language, culture, memory and millions of Ukrainian people, it is a miracle that Ukraine is still alive and fighting. This means

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that the Ukrainian idea is very resilient. At the same time, this idea is very simple – to have a “normal” nation state, similar to Poland or Lithuania and to eventually rejoin the European family, which Ukraine has been a part of for most of its history.

Since 1991 Ukraine has gone a long way from an autocracy with a planned economy, where entrepreneurship was prosecuted and prices were set by the state, to a market-based democracy, however imperfect. With the help of the International Monetary Fund (IMF), the EU, other governments and international organisations, Ukraine has implemented many reforms, especially since 2014. Certainly, its progress could have been faster. Unfortunately, the legacy of Russian oppression has been very strong. However, over the past 20 years the idea of European integration has spread from a group of enthusiastic technocrats to nearly the entire society.

Since 2014, the majority of Ukrainians support European integration. EU membership will become an anchor for the post-war reconstruction of Ukraine, which will require not only physical reconstruction but also modernisation of institutions. Ukraine has strong economic and personal ties with Europe (see Figures 1, 2 and 3), and given that five million refugees are now hosted in the EU, these ties will become even stronger.

Economic relations

The EU has always been one of the main trading partners of Ukraine, and since 2014 it is the main trading partner (Figures 1 and 2). After Russia attacked Ukraine in 2014, the EU became the main destination for Ukrainian labour migrants: In 2014-2019 the EU issued 2.8 million permits to Ukrainians for remunerated activities (Dubenko and Kravchuk, 2021).

The EU accounts for about 70% of foreign direct investment (FDI) in Ukraine (although this is partially Ukrainian money previously transferred to Cyprus or other offshores, see Figure 3). And, according to the National Bank of Ukraine data, over 90% of FDI from Ukraine goes to the EU.

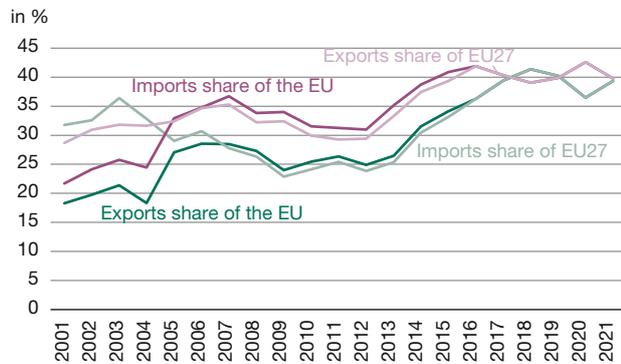
The Deep and Comprehensive Free Trade Area (DCFTA) opened new opportunities for Ukrainian businesses – in 2020, 40% of them reported that the EU integration was beneficial for them, about 6% felt worse off, and the rest

Table 1
Milestones of Ukraine-EU cooperation

Date	Milestone
2 December 1991	In the Declaration on Ukraine, the European Union noted the democratic character of the All-Ukrainian Referendum and called on Ukraine to maintain an open and constructive dialogue with the EU.
October 1993	Kyiv opening of the European Commission Representation in Ukraine.
14 June 1994	A Partnership and Cooperation Agreement between Ukraine and the EU is signed.
1 June 1995	Temporary Agreement on Trade and Issues Related to Trade Between Ukraine and the European Community, the European Coal and Steel Community and the European Atomic Energy Community is signed.
July 1995	The Mission of Ukraine to the European Union is established.
June 1996	The European Union recognised the status of Ukraine as a country with a transitional economy.
1 March 1998	Partnership and Cooperation Agreement between Ukraine and the EU came into force.
11 June 1998	The Decree of the President of Ukraine approved the Strategy of Ukraine's integration to the EU.
10 December 1999	The European Council approved the EU Common Strategy on Ukraine aimed at strengthening the strategic partnership between Ukraine and the EU.
11 October 2000	The resolution of EU Council removing Ukraine from the list of non-market economies became effective.
15 March 2001	The European Parliament adopted a Resolution on the EU Common Strategy on Ukraine.
February 2005	A Joint EU-Ukraine Action Plan (a framework for key reforms in Ukraine) was endorsed by the European Council.
March 2007	EU and Ukraine started talks about a new "wider agreement", aiming at offering a legal framework for a closer economic cooperation, including a free trade area, and a better political dialogue.
18 February 2008	Talks on free trade agreement between Ukraine and EU started.
29 October 2008	Negotiations on visa-free travel started.
2009	Eastern Partnership cooperation mechanism established for Ukraine and five other post-Soviet countries.
30 March 2012	The EU-Ukraine Association Agreement (AA) was initiated.
2012	Ukraine-EU relations deteriorated because then-president Yanukovich jailed the opposition leaders (Yuriy Lutsenko and Yulia Tymoshenko). Later he released Lutsenko.
29 November 2013	Yanukovich refuses to sign the AA at the Vilnius summit at the insistence of Russia. Euromaidan protests begin.
21 March 2014	Political part of the Association Agreement signed by the Prime Minister Yatseniuk.
27 June 2014	Economic part of the AA signed by the President Poroshenko.
16 September 2014	AA ratified by Ukraine.
December 2014	The EU Advisory Mission for Civilian Security Sector Reform Ukraine is deployed.
1 January 2016	The Deep and Comprehensive Free Trade Area between Ukraine and the EU entered into force.
April 2016	Referendum in Netherlands on AA ratification (the result is a "no"). Other EU states have ratified the AA by that time.
December 2016	To address the results of the referendum, EU member state governments decided to make legally binding clauses of the AA that stated that the EU did not commit to grant Ukraine EU membership candidate status, provide security guarantees, military or financial aid, or free movement within the EU.
11 May 2017	Ukraine was granted visa-free travel with the EU.
1 September 2017	AA fully enters into force.
2021	An annual dialogue between EU and Ukraine on cybersecurity and cyber defense is launched.
12 October 2021	Ukraine and the EU sign the Common Aviation Area Agreement, and agreements on Ukraine's participation in the EU Horizon Europe and Creative Europe programmes.
17 December 2021	The National Energy and Utilities Regulatory Commission of Ukraine certified Ukrenergo as a European-type transmission system operator according to the ISO model. This opened the door to official membership in ENTSO-E.
28 February 2022	Ukraine submitted an application to join the EU.
April 2022	Ukraine filled in the questionnaire for consideration by the EU Commission.
26 April 2022	Ukraine became an observer member of ENTSO-E. In March, Ukrainian grid was synchronised with the EU one and disconnected from Russia and Belarus.
June 2022	Ukraine is granted EU candidate status.

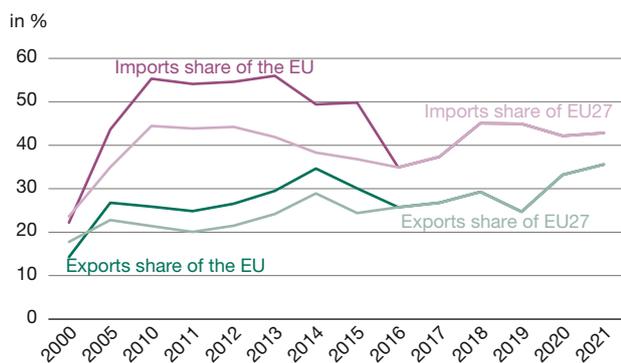
Sources: Compiled by author based on the data of Wolczuk (2003), Ministry of Foreign Affairs of Ukraine, and Ukraine-Europe (2021).

Figure 1
Ukraine-EU trade in goods



Source: State Statistics Service of Ukraine.

Figure 2
Ukraine-EU trade in services



Source: State Statistics Service of Ukraine.

Figure 3
EU share of foreign direct investment to Ukraine



Source: State Statistics Service of Ukraine and National Bank of Ukraine.

did not feel any changes (European Pravda, 2020). As it is unlikely that Ukraine will renew economic ties with Russia any time soon, the importance of the European market for Ukraine will increase, and Ukraine will become more economically and logistically integrated with the EU.

Popular perception

Looking at the past period since 1991, we can say that until recently Ukraine’s progress was driven by a motivated minority. Indeed, in 1991 communists held a majority in the first democratically elected parliament of Ukraine. Despite this, the national democrats, backed by thousands of people in the streets, managed to persuade communists to vote for Ukraine’s independence, which was later supported by the majority of Ukrainians in a referendum (84% participated in the referendum and over 90% said “yes” to independence (Commission on Security and Cooperation in Europe, 1992)).

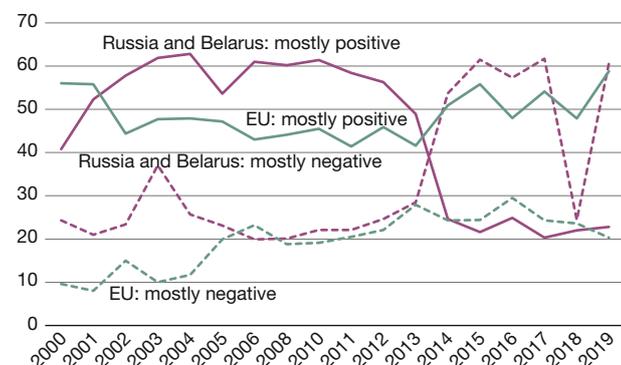
In the early 2000s, European integration was promoted by a few people within the government who were concentrated in the Ministry of Foreign Affairs and the Ministry of Economy and European Integration (Wolczuk, 2003) while president Kuchma was pursuing his “multi-vector” policy. Nevertheless, at that time an important work on the harmonisation of Ukraine’s legislation with EU laws was implemented.

An Ilko Kucheriv Democratic Initiatives Foundation (DIF) survey performed in September 2004 showed that 49% of Ukrainians believed that Ukraine would be better off in a union with Russia and Belarus while 29% believed that it would be better off in the EU (DIF, 2004). Yet, two months later Ukrainians came to the streets to protect their electoral choice and democracy. In 2007-08, public opinion moved towards the EU: Polls taken at the time show that the majority of those who would participate in a referendum on joining the EU would vote in favour (DIF, 2008). However, when a survey question included a choice between the EU and Russia, we can see that until 2014 many Ukrainians believed that it was possible to integrate in both directions (Figure 4).¹ Other surveys corroborate this result. For example, the IRI (Rating Group Ukraine, 2019) and KIIS surveys (Petrenko, 2016) show that in 2012-13 the shares of Ukrainians who favoured joining the EU and the Customs Union led by Russia were roughly equal. But supporters of EU integration (as well as Putin) understood that the signing of the Association Agreement would be the “point of no return” for Ukraine (Spiliopoulos, 2014). More importantly, they were ready to actively protect their interests.

About 20% of Ukraine’s population participated in Euromaidan in all regions of Ukraine (DIF, 2014). This is a

¹ This opinion seems strange today but one may remember that for quite a long time the EU was pursuing a “Russia first” policy, and some of its politicians even talked about “Europe from Lisbon to Vladivostok”.

Figure 4
Answers to the question “What is your attitude towards joining the EU or the union with Russia and Belarus”?



Source: Social monitoring surveys of the Institute of Sociology of the National Academy of Sciences of Ukraine.

minority but it changed the course of the country. Since the Euromaidan, a clear majority of Ukrainians have been supporting EU integration (Figure 4). Perhaps some of these people were “convinced” by the Russian attack on Ukraine in 2014. A recent survey suggests that Russia became even more “convincing” – the share of supporters of EU integration increased from 55%-65% in 2016-2020 to 91% in March 2022 (Rating Group Ukraine, 2022).

What about the Europeans? Are they ready to welcome Ukrainians in the EU? Recent surveys show that between 66% and 71% of Europeans support Ukraine’s admission (Eurobarometer, 2022; Finchelstein et al., 2022).

Ukraine’s reforms

The EU, along with the IMF, the World Bank, other governments and international organisations, have been promoting the reforms in Ukraine since the early 1990s – first under the Technical Assistance to the Commonwealth of Independent States programme, later under Twinning and other arrangements. Within the macrofinancial assistance programme, the EU disbursed nearly €6 billion to Ukraine since 2014. Since the start of the full-scale attack on Ukraine, the EU provided Ukraine €1.2 billion under this programme and promised to secure an additional loan of €9 billion in 2022 (European Commission, 2022a).

After 2014 the reforms have considerably intensified. The major factors behind this were the signing of the Association Agreement (AA) with the EU, the existential threat for the country, increased civic activism and “money in exchange for reforms” programmes implemented by the

IMF and the EU. Latest studies show that Ukraine was rather successful in implementing the AA. Emerson et al. (2021) suggest that of 26 AA Chapters, Ukraine implemented 17 at a score 2 or higher (on a scale from 1 to 3). The most problematic areas in their view are anti-corruption, rule of law and transport, while civil society received the highest score.

The Ukrainian government estimates that as of 2021, Ukraine implemented 63% of the AA clauses with the highest progress in political dialogue, humanitarian policy as well as justice, freedom and security and human rights protection, while financial cooperation, labour relations and transport lag behind (Ukraine-Europe, 2021).

As Lough et al. (2017) note, the Association Agreement and DCFTA were designed to bring Ukraine closer to the EU (without promising full membership), and some of the clauses were overly complicated given the state of institutional development of Ukraine. Nevertheless, the progress of reforms since 2014 has been substantial. According to VoxUkraine estimates,² between January 2015 and June 2022, almost 1,300 reformist legislative acts have been adopted with the most progress in business environment and governance. Of these legislative acts, 127 tackled corruption, 59 indirectly, i.e. by changing the procedures (the most prominent example is the public procurement reform), opening data or deregulating certain spheres. As a result, Ukraine’s corruption perception score improved from 25 in 2013 to 32 in 2021; for comparison, Hungary’s score fell from 54 to 43 over the same period (Transparency International, 2021).

Since 2014, Ukraine has shown a lot of improvement not only in public attitude to corruption (the share of people who gave bribes declined, while the share of people who cannot justify corruption under any circumstances grew – see Gorodnichenko et al., 2022) but also in the establishment of formal institutions that fight corruption. Thus, National Anti-Corruption Bureau (2021) reports about 859 active investigations in the second half of 2021, and the Higher Anti-Corruption Court completed hearings on more than 110 cases since its launch in 2019; 58 people were convicted.³ There were attempts by the establishment to reverse some of the anti-corruption developments but the active civil society position helped to reverse those attempts (Euronews, 2020). Certainly, there are remaining problems, of which the unfinished judicial reform is the most important. This reform, as well as anti-corruption reform, is high on the popular agenda. For example, a DIF (2019) survey shows that the five most im-

² See <http://imorevox.org/releases-pdf/>.

³ See <https://hcac.court.gov.ua/hcac/gromadyanam/analysis/>.

portant reforms for Ukrainian citizens are anti-corruption (63%), healthcare (57%), pension and social security reform (52%), reform of judiciary and prosecution (37%) and lustration (33%). Certainly, today Ukrainians care most about winning the war. For if there is no Ukraine then the level of corruption would not matter. However, during the reconstruction, which hopefully will be led by the EU, the interests of Ukrainians and the European institutions will be very much aligned (European Commission, 2022b).

Despite these problems, Ukraine is as qualified for candidate status as the Western Balkan states (Emerson et al, 2022). Provision of the candidate status has no downsides since this status does not foresee any specific admission dates. At the same time it has a huge upside: It gives moral support to the Ukrainian people during the war and, more importantly, provides an anchor for further reforms (an additional bonus is proving Putin, who said that Ukraine would never become an EU member (VoxUkraine, 2021), wrong). Ukraine's path for reforms is rather clear and has been described, for example, in the IMF programmes, European Commission (2020) recommendations or papers on Ukraine reconstruction (Becker et al., 2022). As already mentioned, the most important is completion of the judicial reform, followed by reform of the public service (the decision-making in the public sphere) and reforms that develop markets, including antitrust. Continuing decentralisation is also very important – this is one of the most successful and most popular reforms.

Ukraine's admission to the EU would be beneficial not only for Ukraine but also for the EU itself. One obvious benefit is security: If Ukraine was not currently fighting, Russian tanks would probably already be in Warsaw or Tallinn. In peaceful times, there are many opportunities for cooperation. Obvious spheres are food security and energy production; besides, Ukraine has a lot of human capital and entrepreneurial talent, and it is quite advanced in IT, machine building and other industries that require high-level technical skills. Ukrainian culture is rich and authentic.

However, during the admission process not only Ukraine will change. The EU itself will reform in response to the new challenges. And it will need to answer a few important questions.

How to modernise the EU?

The necessity of reforms strengthening European unity has been discussed for quite a while. This discussion includes several issues. First, a mechanism of decision-making other than unanimity (Morcos, 2022). As the situation with the sixth package of sanctions showed,

Russia can find a “weak link” in the EU and effectively block its decision or cause discord. Second, common or much more aligned fiscal policy (Sapir, 2022). The latest debt crisis in Greece required a lot of money and effort for the sake of saving the eurozone (Gorodnichenko and Korenok, 2015). Third, common foreign policy, a part of which is further EU enlargement, e.g. there is a proposal on staged accession to the EU in order not to discourage Balkan states (Emerson and Blockmans, 2022). If adopted, this procedure can be also applied to Ukraine, Georgia and Moldova.

At the same time, adoption of the EU regulations by candidate states may revitalise the debate on the review of European regulations. Deregulation would make the EU more competitive compared to the US or China.

In short, a larger EU requires more efficient decision-making mechanisms. At the same time, the EU that speaks with one voice can become a much stronger international player. Since the EU is based on values such as respect for human rights, freedom and democracy, this will help to make the world a more democratic and safer place (democracies are less likely to unleash wars, see e.g. Mintz and Geva (1993)). This has direct implications for regional and global security. Recall that the EU was based on the very simple idea of preventing another war in Europe by making European countries as economically intertwined as possible. This did not work with Russia because it is not a democracy. Thus, it is time to rethink the basic idea of the EU and at the same time answer other important questions.

What to do with Russia?

The *realpolitik* idea rooted in the mid-20th century proved to be wrong. Turning a blind eye to violations of human rights and international laws did not pacify Russia (nor will they pacify China or other autocracies).

The European Council (2022) in its recent statement seems to realise this. At least it demands that Russia withdraw its troops from the entire territory of Ukraine and recognises the need to reduce the EU strategic dependence on Russia.

However, this is not enough. It is time to admit that Russia's values are the opposite of EU basic values. There is no respect for human rights in Russia, no freedom or democracy and no rule of law. Moreover, Russia, as well as the USSR before 1991, tries to undermine these values whenever it can. In fact, today's Russia is nothing new. It is the same as Germany in the 1930s or the USSR throughout its history (Marayev and Guz, 2022). Its exter-

nal and internal policy is terror supported by a large part of the population (Levada Center, 2022; Zholud and Sologoub, 2022).⁴ Therefore, it should be recognised as a terrorist state and treated accordingly.

To become a “normal” nation, the Russian imperial project should be defeated in the same way as Nazi Germany and Imperial Japan. And this is not only a Ukrainian endeavor. The outcome of this war will have long-lasting implications for both the EU and the world. While economic implications of the war for the EU seem rather modest (They are smaller than the consequences of the COVID-19 pandemic in terms of GDP decline, see Blanchard and Pisani-Ferry (2022)), its political and security consequences will be huge. Russia’s threat to the Eastern European states as well as to Central Asian countries such as Kazakhstan is very real. Other countries, first of all China, are now discovering the ability of the collective West to protect its values. Thus, any scenario that involves further “appeasement” of Russia will be a threat not only to millions of Ukrainians. This scenario will enable multiple armed conflicts around the world (many of them will be spurred by Russia).

It is time to admit that while Russia remains an empire and has nuclear weapons, it will always be an existential threat to democracies. Thus, the EU should start communications with the civil society and possible leaders of the new independent states that will emerge after the demise of Russia (the obvious candidates are Ichkeria (Chechnya) that fought for its independence for over a decade (Roland, 2022), as well as Karelia, Tatarstan, Komi and Yakut Republics that declared their independence in 1989-90 (Corbet and Gummich, 1990)). As the example of Ukraine, Belarus and Kazakhstan shows, it is much easier to convince nation states to give up their nuclear weapons compared to the state that considers itself a “superpower” (Gorodnichenko and Sologoub, 2022). Generally, the “superpower” concept is outdated. If we believe that modern states are based on principles of equal rights and rule of law, these principles should apply not only to people but also to nations. How can we ensure this?

How to reform the world security system?

The reform of the UN has also been discussed for quite a while. Many countries are upset by the veto power and by the fact that some countries have more rights than others. Many observers are outraged by Russia’s conduct and impunity as

4 During Stalin’s Great Terror campaign people were writing delations about their neighbours and friends knowing that they will be repressed and likely killed. Many Russians are still in favour of punishing “traitors”.

a permanent security council member. If today’s war is not a sufficient incentive to finally start the UN reform, then what is?

Stating the obvious, rules are useless if they are not enforced. Thus, there should be a mechanism that immediately punishes the aggressor state if it attacks another country. If such a mechanism was in place in 2014, then asset freezes and oil embargos as well as a ban on imports would have been automatically applied to Russia as soon as it annexed Crimea. When such a mechanism is created, it would increase the cost of war for authoritarian states (since these are more likely to attack other countries (see Coleman, 2004)) and limit their ability to wage a war.

The world is becoming a more complicated place. A place where the role of natural resources⁵ is fading and the role of human capital is rising. Since human capital can be utilised to the full extent only in an environment of personal freedoms and protected human rights, logically the states that provide this environment will win the battle for the future. However, as the war of Russia on Ukraine shows, sometimes nations not only prefer to stay in the past but also try to prevent modernisation of others.

Conclusions

The current ongoing war is the war for the future. Thus, Ukraine must win. This victory will benefit Europe, the entire world and even (paradoxically) Russia. But today Ukraine urgently needs weapons to reduce the human cost of this victory.

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Tinatin Akhvlediani

Geopolitical and Security Concerns of the EU's Enlargement to the East: The Case of Ukraine, Moldova and Georgia

Russia's unprovoked and unjustified full-scale invasion of Ukraine has significantly changed the geopolitical circumstances on the European continent and is also importantly reshaping the EU's enlargement policy. The so-called Associated Trio countries – Georgia, Moldova and Ukraine – have been gradually integrated into the EU since concluding their Association Agreements back in 2014. Yet, it was the outbreak of the war that created the momentum for Ukraine, and afterwards Moldova and Georgia, to apply for EU membership. The European Council gave high priority to discuss the EU membership applications of the Trio and based on the Opinions of the European Commission, the Council has granted candidacy to Ukraine and Moldova, and laid down a list of priorities for Georgia to fulfil before receiving candidate status (European Council, 2022). With this step, the EU has moved the three states from its neighbourhood into its enlargement policy framework.

This contribution briefly reviews the current state of the Trio countries in terms of the accession criteria, discusses security and geopolitical implications of the EU's enlargement to the East and illustrates how the enlargement policy could be a useful tool for the EU to coordinate its foreign and security policy, become a stronger geo-political actor and promote European values and democracy in its immediate neighbourhood and beyond.

Accession criteria

In line with the Treaty on European Union (TEU), the EU is committed to integrate “any European state which respects [European] values and is committed to promoting them” (Article 49, TEU). The so-called Copenhagen criteria further outlines three conditions for EU membership: political, economic and institutional criteria. For many sceptics of the EU's Eastern enlargement, the question is whether Ukraine, Moldova and Georgia can satisfy

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these criteria. It should be noted here that meeting these criteria is not foreseen by the time of submitting the EU membership application and receiving candidacy, but by the time of the accession, which is usually a lengthy and complex process. In the framework of the EU's current enlargement policy, this would imply opening and closing all 35 chapters covering political, economic and institutional criteria.

The Trio countries, however, have solid grounds to embark on this challenging journey. This is due to the fact that the Trio countries have had Association Agreements (AAs) and Deep and Comprehensive Free Trade Areas (DCFTAs) in place since 2014.¹ With their deep and comprehensive nature, the AAs and DCFTAs are more ambitious agreements than the Stabilisation and Association Agreement (SAA) that the Western Balkan countries have with the EU. Therefore, it should not come as a surprise that according to the opinions of the European Commission (2022), the Trio have solid grounds for meeting accession criteria.² It is due to the progress made by the Trio countries towards approximating the EU acquis and to coming in line with EU policies that Ukraine and Moldova have satisfactory (and Georgia – a positive track record) implementation of the AAs and DCFTAs.

The main concerns around fulfilling the accession criteria refer to the political criteria, including the incomplete rule of law and democratic reforms, routing out corruption and informal governance, and protection of human rights. These challenges are not new to the fragile democracies that the Trio countries represent, but rather they are also challenges for some of the EU member states (for example, Poland, Hungary, Bulgaria and Romania). This only highlights that working on the EU fundamentals requires continued efforts of both the EU member states as well as the candidate countries, otherwise they could be slowly eroded and even abandoned. Having this in mind, granting candidacy to the Trio could serve as a systemic incentive for them in undertaking needed reforms. From the EU's side, closely monitoring the progress towards reaching the accession criteria could be the efficient way to tie the candidate countries to the reform path and deliver clear guidance on how to move forward. In this direction,

1 The EU's Association Agreements with Georgia and Moldova have been provisionally in force since 2014 and for Ukraine since 2016.

2 See also Emerson et al. (2022).

Opinions of the Commission on the membership application of the Trio already provide a good starting point by listing the key priorities for Ukraine, Moldova and Georgia.

European security

While raising questions about the effects of the enlargement policy on European security, the EU should carefully consider whether it is ready to witness Russia's military invasions and all of their consequences ever again in its neighbourhood. Russia's military invasion of Georgia back in 2008, followed by Russia's annexation of Crimea, the outbreak of war in Donbas in 2014 and now Russia's full-scale invasion of Ukraine should make it clear that the EU can no longer live in peace while witnessing wars on its doorstep. As rightly pointed out by the EU's Strategic Compass, Russia's hostile interference and extensive use of military instruments against Ukraine, Moldova and Georgia compromise their stability and their democratic processes and have direct implications for EU security (Akhvlediani, 2022). It is true that the EU cannot offer security guarantees to the Trio countries before they become full-fledged EU member states, but bringing them closer under the enlargement policy framework already delivers a strong political message to Russia that the EU is committed to restoring peace on the European continent.

By sharing a border with the EU, Ukraine and Moldova offer a direct glimpse of the EU's security threats. Georgia, having no land border with the EU, attracts doubts from the sceptics who suggest breaking up the Trio based on geographical grounds (Gijs, 2022). But Georgia still belongs to the EU's immediate neighbourhood and moreover, it is extremely vulnerable to Russian invasion due to the fact that it shares a long border with Russia and that one-fifth of its territory is under Russian occupation. By leaving Georgia behind, the EU risks the outbreak of Russia's new wars against an associated country that, unlike Azerbaijan, is not an autocracy and does not belong to the Eurasian Economic Union like Armenia and Belarus. Therefore, to signal to Russia that it must stop invading countries that have clearly made their European choice, the EU should support Georgia in fulfilling the priorities for receiving candidacy. And the sooner it is done, the more it will help to avoid the outbreak of new wars against associated states on the EU's doorstep.

The enlargement policy could also help the EU to coordinate its foreign and security policies. The full-scale invasion of Ukraine has already united EU member states around the EU's strategic goals and threats to its security. It pressed them to deal with the issues that needed to be addressed years ago, when witnessing Russia's previous

military invasions. It was the lack of common foreign and security policy that has made the EU highly dependent on Russian energy supplies and even contributed to building Putin's war chest by increasing energy imports from Russia (Akhvlediani and De Groen, 2022). The war has finally pressed EU member states to act together to impose unprecedented sanctions against Russia and to take steps towards reducing the EU's dependence on Russian energy supplies (Meister and Jalilvand, 2022).

Unanimity rule has been making the EU's decision making slow and difficult, as each and every member state has veto powers at its disposal. But the Union did succeed in granting candidacy to Ukraine and Moldova, and recognising Georgia's European perspective. By not granting the Trio countries the perspective to become members of the Union, the EU would have made another strategic mistake that would have compromised its security and its aspirations to be a stronger geopolitical player on the world stage. And the fact that the EU member states could unite around granting membership perspective to the Trio indicates that the enlargement policy could still be an important tool to make the Union stronger in coordinating its foreign and security policies. However, as the deadlocked accession process with the Western Balkans indicates (Fouéré, 2022), the EU's enlargement policy has had major setbacks and limitations under unanimity rule. The EU should address these setbacks in order to revitalise and reform (Emerson et al., 2021) its enlargement policy, a soft but powerful tool for coordinating the EU's foreign and security policy.

Being a geopolitical actor

The EU has been aspiring to be a geopolitical actor in its neighbourhood. Yet, as this refers to the contested neighbourhood with Russia, the EU's geopolitical engagement has been importantly shaped and even guided by Russia's military moves. It was Putin's invasion of Georgia in 2008 that mobilised the EU to launch its Eastern Partnership (EaP) policy in 2009. The EaP, however, lacked a security dimension and most importantly an end goal, a tangible long-term objective. This made the EU's engagement rather ambiguous with its Eastern neighbours and did not give a clear signal to Russia to end its military invasions of its neighbours. Meanwhile, the EaP states, in their search for security, have pursued different political paths and have made different choices in their strategic alliances. Belarus and Armenia have strengthened their ties with Russia through their membership in the Eurasian Economic Union. After hijacking the presidential elections in 2020, Lukashenko abandoned the EaP framework (BelTA, 2021). Meanwhile, Azerbaijan, by pursuing autocracy, has distanced itself from key European values, making it

very difficult to strike a new agreement with the EU. Only the Trio countries have stayed committed to their European choice and took a step forward by concluding the AAs with the EU back in 2014. This step caused the Euromaidan uprising, the outbreak of the war in Donbas and Russia's annexation of Crimea back in 2014. Yet, despite the strong commitment to their European choice and the progress made on the implementation of the AAs, the EU has been reluctant to distinguish the three states from the rest of the EaP countries. It was Putin's war that pressed the EU to consider putting forward EU membership perspectives for the Trio countries and granting candidacy to Ukraine and Moldova.

This short history only highlights that the EU has been a weak geopolitical player, reacting to Russia's military moves rather than proactively engaging with its neighbours and giving a clear signal to Russia to stop destabilising the region. Against this background, putting forward the EU membership perspectives to the Trio countries is a promising turning point for the EU towards becoming a stronger geopolitical actor in line with its Treaty commitments and aspirations. Its assistance to Ukraine to survive and win the war against Russia, its support to Moldova to speed up needed reforms and to Georgia to fulfil conditions for receiving candidacy sooner than later will shed more light on the degree of the EU's geopolitical activeness in its immediate neighbourhood.

Promoting democracy

It is the Treaty that requires the EU to integrate any European state which respects European values and is committed to promoting them (Article 49, TEU). With this in mind, granting candidacy to Ukraine was a moral imperative for the EU as a way of showing its support to Ukrainians who are now dying in the fight against autocracy, showing their unwavering commitment to European values and democracy.

Similar to the EU's enlargement and security policies, promoting democracy in the disputed neighbourhood with Russia also has a strong geopolitical dimension. Looking at the paths taken by Georgia, Moldova and Ukraine to build democratic states illustrates that the strong will of people leads to internal transformation, setting a strong foundation for democracy. Yet, it is geopolitics that allows democracy to survive and prosper. Rose and Orange Revolutions in Georgia and in Ukraine back in 2003 and 2004 respectively, and the Twitter Revolution in Moldova in 2009 were illustrations of such strong public will that could lead to internal transformation, laying a cornerstone for building democracy in the Association Trio countries. Yet, further progress on democratic devel-

opment has since been largely dependent on geopolitics. This is because the Trio countries co-exist with democratic and autocratic powers in the contested neighbourhood between the EU and Russia. While the EU, in line with its Treaty, has been promoting European values and democracy in its neighbourhood, Russia has been pursuing military invasions to stop democratic development in the three states. In such, democracy could be fostered as much as Russia's military invasions could allow and as much as the EU could show its strong support for the Trio (Akhvlediani, 2022).

Unlike Russia that has been exploiting its military power to stop its neighbours' democratic transformation, the EU has soft but powerful tools to foster democracies in the Trio: its neighbourhood and enlargement policies. The EU's Eastern neighbourhood policy, embodied in the EaP initiative, has already led to an emergence of the Trio, and now it is the enlargement policy that needs to show prospects for democratic developments in the Trio. With this in mind, granting candidacy to Ukraine and Moldova shows the EU's commitment to act in line with its Treaty obligations and to actively promote European values and democracy in its immediate neighbourhood and beyond. Failing to grant the European perspectives and candidacy to the Trio would only have signalled to Russia that military invasions win the disputed neighbourhoods between the EU and Russia, and that autocracy can prevail by force over democratic values.

Together with Ukraine and Moldova, including Georgia among candidate countries should further reinforce that the EU stands with the neighbours who fight and die for their commitment to European choice and democracy building. Georgia has its homework to do and as soon as it shows progress in fulfilling priorities put forward in the opinion of the Commission, candidacy should follow as this is the only way to shield the democratic process in the country from the security threats posed by Russia's invasions and state capture by Russian-backed oligarchs (see Cenusa, 2018). Otherwise, all of the EU's efforts within the past decade to help Georgia build a democracy will be lost to Russia and its autocratic rule in the region.

Conclusions

Russia's military interventions in the EU's Eastern neighbours within the past decades followed by its full-scale invasion of Ukraine now once again underline that Russia's hostile interferences compromise the democratic processes in the EU's immediate neighbourhood and have direct implications for the EU's security. To this end, the EU's efforts to clarify its engagement with its Associated Trio countries by moving them from the neighbourhood to

the enlargement policy framework delivers a strong political message to Russia that the EU is committed to restoring peace on the European continent. This move is also promising for the EU to become a stronger geopolitical actor in its Eastern neighbourhood and to promote European values by shielding democratic processes in the Trio countries from constant security threats and military invasions of Russia.

Together with strengthening European security, the enlargement policy could also become a powerful tool to unite the EU member states around the EU's strategic goals and aspirations and to help in coordinating its foreign and security policies. Although for this to materialise, the EU should address the major setbacks and limitations of its enlargement policy, otherwise the application of this soft but powerful tool will remain limited under the unanimity rule, reaching new stalemates, instead of coordinating EU foreign and security policy.

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Elise Bernard

Geopolitics of the European Rule of Law – Lessons from Ukraine and the Western Balkans

Against a backdrop of growing Sino-American rivalry, the pandemic crisis and the Russian war on Ukraine no longer leave Europeans any alternative: the European Union will be geopolitical (Arnoult and Gaudot, 2022). Otherwise, it would condemn itself to impotence, returning to the insignificance of the Cold War years: Post-Soviet studies are still ongoing and lead us to promote new ways of thinking about the future. However, the Union can only claim to be such a global player if it resumes both its enlargement process and its constituent process – regardless of the current reluctance of member states to do either. The rule of law, democratic accountability and control are part of the EU's influence, attraction and legitimacy (Bernard, 2022). For their part, the candidate countries have mostly understood this requirement, and Ukraine (and the fact that President Zelensky recognises that it will be difficult) is one of the best examples of this.

At the same time, Russian aggression has rekindled a movement of solidarity in Europe that we thought we had lost. It also confirms for Ukraine its European destiny (Houeix, 2022), and its domino effect on Georgia and Moldova. Any real political community is based, first and foremost, on a shared sense of belonging. In this respect, the return of a large-scale war on the continent will have at least strengthened this feeling, with the influx of Ukrainian families and their fraternal and spontaneous welcome by the peoples of the EU. The increasing Europeanisation of our national political scenes is progressing, slowly but surely, and we can acknowledge the fact that the French Presidency of the Council of the European Union (FPEU) has taken this issue in stride.

The FPEU closed on 30 June 2022 with a strong symbol: the recognition of the candidate status of Ukraine and Moldova to the European Union (EU) and, to a lesser extent, with the vote to lift the Bulgarian veto on North Macedonia. Unfortunately, we are far from concluding that

the next enlargement will be an enthusiastic one: The issues concerning the Western Balkans seem to be leading to the *status quo ante* (Kolozova and Bernard, 2022). However, current events have triggered a refreshed interest in the EU's enlargement goals and processes. Several opportunities arise for rule of law promoters: to reclaim the security discourse; to explain EU enlargement through the commitment to the rule of law; and consequently, to develop a strategy to influence opponents of enlargement.

The opportunity for rule of law promoters to reclaim the security discourse

Ukraine, Moldova and Georgia need guarantees and protection. These countries are struggling for their independence, for their existence and if they fail, they will disappear, as they already disappeared during their history. As they will never join NATO, the EU needs to become a defence and security organisation for its neighbours in order to protect itself. President Macron's proposal about a European Political Community (see e.g. Wheelodon, 2022) is therefore aimed at those who want to link enlargement to basic guarantees of the rule of law, sovereignty and security.

The security rhetoric had been for too long the flagship of populist speeches, and they use it as a justification for their attacks on the rule of law. Their security objectives are limited to regime stability (Löfflmann, 2022).

With regard to EU candidates, it appears that the EU is supporting legislative reforms in the Western Balkans but is partnering with the governments that will not necessarily deliver reforms. In practice, the government of a candidate state, composed of members of populist parties, is the interlocutor of the EU during negotiations. The so-called stabilitocracy (Bieber, 2017), preferred to democracy, justifies disputable breaches like limiting the variety of information sources. Populist movements are primarily responsible for a stalled enlargement process, because enlarging the EU implies enlarging a very strict definition of the rule of law.

We must keep in mind that Ukraine, Moldova and Georgia have a significant number of people in their population, citizens and officials, who prefer a security guaranteed by Moscow. This is not exclusive to candidate and potential

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candidate countries, some EU member states such as Bulgaria are still suffering from it.

As a matter of course, the enlargement was only one item of the European development, and it is becoming a co-item of the EU. If the very essence of European construction is pragmatism, we have two new candidates, Ukraine and Moldova, and a new potential candidate, Georgia, who certainly have ambitions in economic matters and the rule of law but above all peace and security. It has become essential to decide and adopt a stance on the compatibility of the rule of law and security together and, of course, to act accordingly.

These Ukraine, Moldova and Georgia applications, unimaginable at the beginning of the French presidency of the EU Council, were submitted at a particularly critical time ahead of the EU-Western Balkans summit. Unfortunately, there is no EU doctrine on warring and occupied states that are applying for membership.

As regards warring states, the Balkan precedents of the 1990s highlighted the need for European political will but there is no doctrine (“Fragmentations et recompositions”, 2004). Nor is there any doctrine about an occupied state. The specific situation of Cyprus has not prevented part of the island from becoming a member of the EU (Ker-Lindsay, 2005, 223). This may or may not be welcome, as Northern Cyprus is still manifest in a frozen conflict that is likely to be mirrored in eastern Ukraine. We cannot avoid this issue with Moldova and Transnistria, with Ukraine and Donbas and with Georgia and South Ossetia. We will face the same problems as the Serbia and Kosovo precedent if decisions are not made and clear direction is not given.

Distinguish different types of opposition to EU enlargement in the discourse

The rule of law and security have been at the heart of the enlargement issue since the fall of the Iron Curtain. Thus, opponents of enlargement can be characterised as follows:

- those who refuse to see a demanding definition of the rule of law accompanied by security objectives in line with it (the fight against trafficking in particular)
- those who believe that the aspiring state does not offer the guarantees of a legal order indicative of an attachment to a strict definition of the rule of law, and as a result, their security objectives are not compatible with the guarantee of European fundamental rights (in other words, they are not able to combat trafficking).

Therefore, the reasons for the opposition are not necessarily the same. To illustrate this point: In 1995, Austria, Finland and Sweden did not pose any difficulties in terms of the rule of law. Their legal systems are similar to those of the member states in terms of the rigour of its definition. When they joined the EU, the foreign policies of Sweden and Finland were naturally focused on Finland’s foreign policies, which were naturally neighbourhood-oriented, due to their neutral status. The Common European Security Policy as such did not pose any difficulties (European Parliament, 2015). Therefore, it cannot be said to be an extension of the EU’s rule of law and security doctrine.

On the other side of the Iron Curtain a few years later, it is difficult to speak of a definition of the rule of law in the former European communist dictatorships. As far as security is concerned, it is even more complicated because there are non-aligned and former members of the Warsaw Pact. It is therefore difficult to have an overview of who can be considered a European partner.

This situation does not seem to have changed 20 years later. Indeed, if tomorrow Norway starts the process of joining the EU, it will be difficult to find anything to complain about. On the other hand, the current candidate countries meet two types of opponents: critics of EU expansion and sceptics of their ability to adhere to the rule of law.

It is with this in mind that one can distinguish the different vetoes (Koložova and Bernard, 2022) of member states to enlargement.

Develop a strategy to influence opponents of enlargement

Before asking how to convince those who reject the enlargement of the EU, we must answer the following question: Do we want to try to convince the opponents of European rule of law? But we must also answer other, even more delicate questions: Do France, Germany and EU diplomacy want to convince others to adopt the demanding precepts of the European rule of law? Is it necessary? What about Poland, Hungary or Malta?

Directing influence towards the right audiences is a very serious question because efforts to deal with propaganda must be effective and not just counter propaganda (European Parliament, 2016, 2022).

Citizens of states that have little commitment to the rule of law, but are seriously committed themselves to the European rule of law, have a strong tendency to flee and settle further west (Pinna, 2022). It is not a priori neces-

sary to convince them, but it may be wise to highlight them among those who believe that failures in the rule of law are endemic in nature. Communicating that EU enlargement is not a danger in itself seems absolutely unnecessary.

In our view, most of the influence must currently be with those who expect the maximum in terms of guarantees of the rule of law. And in order to do so, the EU – within or without the European Political Community – must guarantee a minimum of security because the rule of law requires a sovereign state that is indisputable in its territorial integrity, its population and the existence of a legitimate government. This means that the EU must adopt a demanding doctrine regarding the definition of a state under attack in its territorial integrity, the threat to its population and the illegitimacy of its government. This message is essential to those who are waiting for answers, whether they are on the EU side or on the candidate or potential candidate state side.

Communicating that respect for the rule of law does not compromise security requirements is more complicated. Schematically, if you put yourself in the shoes of a jaded citizen: If the EU cannot do anything about corruption, you might as well continue to play the game of corruption, opposing it is more dangerous than anything else. Corruption thrives because it is imposed (Pinhero Machado, 2015) and the tools for disbursing funds allow it. Insisting on people's refusal, guaranteeing their security when refusing these pressures and using new tools – such as a programmable currency like the digital euro – should reduce this scourge considerably. This also allows the Union to provide security: compliance and legal certainty. Only under these conditions can EMPACT¹-type co-ordinations with the candidate countries work effectively.

Communicating the efforts and successes of the candidate states to Western citizens and representatives who are sceptical about their chances of complying with the rule of law includes things like joint police-gendarmerie training as well as highlighting the coordination between member states and candidate countries, such as cooperations leading to the dismantling of trafficking. This success can already be promoted, but it is clear that the objective must be to combat the very existence of such trafficking, in particular when it is maintained or tolerated by state representatives. This is clearly evident from the demonstrations in Georgia (Agence France Press, 2022).

1 EMPACT stands for European Multidisciplinary Platform Against Criminal Threats. For more information, see <https://www.europol.europa.eu/crime-areas-and-statistics/empact>.

These demonstrators are exactly like the enlargement sceptics: They believe that the current representatives will not bring them the legal certainty and security that they aspire to.

More must be done to promote an understanding of the societal and state issues of the candidate countries among member states. This would help to put an end to preconceptions about corrupt behaviour being linked to nationality. It is systemically explainable and difficult to overcome for all the reasons associated with resistance to change.

Finally, and most importantly, this is where the work must come from: Candidate states must do their own self-promotion. What do they have to contribute to the European Union? To the member states? To security? To industry? It has become essential to get out of this habitual and deleterious logic of “waiting for directives to get our subsidies”. Unfortunately, it is unlikely that this type of action – the candidate state coming to promote itself to the other member states – will come from state representatives. (Koložova and Bernard, 2022).

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Liviu Voinea and Prakash Loungani*

Excess Savings Are Recession-Specific and Compensatory: Evidence From the US

There is a consensus among academics and policymakers that the excess savings built up by households during the past couple of years are specific to the pandemic. Based on data from the past half century for the US, this article shows that savings generally increase during recessions; the pandemic is different only by the magnitude of these savings, but not by their sign. Moreover, it suggests that these excess savings are rather compensatory than precautionary, as households save more to rebuild their lost wealth.

Higher savings during recessions

There are many ways to calculate excess savings, but it is undeniable that households stashed away piles of money during the COVID-19 pandemic (Krugman, 2021). A consensus has been growing among academics and policymakers that the excess savings built up by households since the outbreak of the coronavirus pandemic are specific to the pandemic and mainly due to the lockdowns enforced at different stages. “COVID-19 made Americans into super savers...as a result of being stuck at home” (Carpenter, 2021), “because they are not dining out or going on vacation due to the pandemic” (Bilbiie et al., 2021). “In contrast to previous economic recessions, the containment measures...saw a significant suppression of consumer spending opportunities, leading to a sizeable contraction in private consumption” (Attinasi et al., 2021). Two other explanatory factors for higher savings favoured by analysts are the massive income support measures and uncertainty (Bilbiie et al., 2021; Attinasi et al., 2021; The Economist, 2022).

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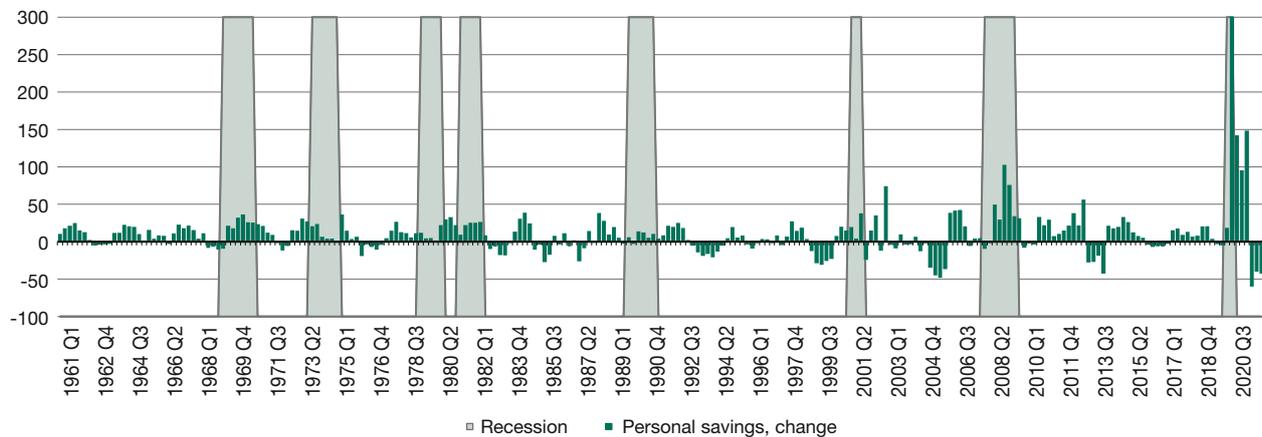
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The main problem with the argument of excess savings being the by-product of the pandemic is the timespan of the analysis. To test whether excess savings are specific to the pandemic, we investigate the time series provided by the FRED database for the US from 1960 onwards. One way to look at it is simply by relating the quarterly data of year-on-year changes (to control for seasonality) in personal savings to the recession episodes. As seen in Figure 1, savings generally increased during recessions, except for the 1973-75 recession – which could be explained by the large inflation at that time. However, when we look at annual data, even that exception dissipates. Figure 2 shows the dynamic of annual personal savings during recessions; data for recessions are calculated as the ratio between nominal savings in the year when a recession ends to the nominal savings in the year before a recession starts. For comparison, we also indicate the percent change of nominal savings in the year before the recession and in the first year after the recession. The story told by Figure 2 is very compelling: savings increase in every recession, significantly faster than before the recession, and drop abruptly when the recession ends. Also, the deeper the recession, the higher the savings ratio – as seen in the milder numbers for the short-lived recessions of the 1990s and early 2000s, versus the larger stockpiling during the first oil shock, the global financial crisis (GFC) and the COVID-19 pandemic.

We take the analysis further, in order to control for inflation and for longer-term trends. Figure 3 presents the excess savings, calculated as the difference between the counterfactual savings (based on what the five-year average at the beginning of the recession would have predicted) and actual savings, all in real terms (at 2021 prices). The existence of excess savings can be documented for all recessions; the extent of these excess savings varies from 10%-20% above the counterfactual savings in the earlier recessions, to 60% in the GFC and 120% during the pandemic.

Figure 1
Quarterly personal savings, year-on-year change, US, 1961-2021

Percent change from year ago



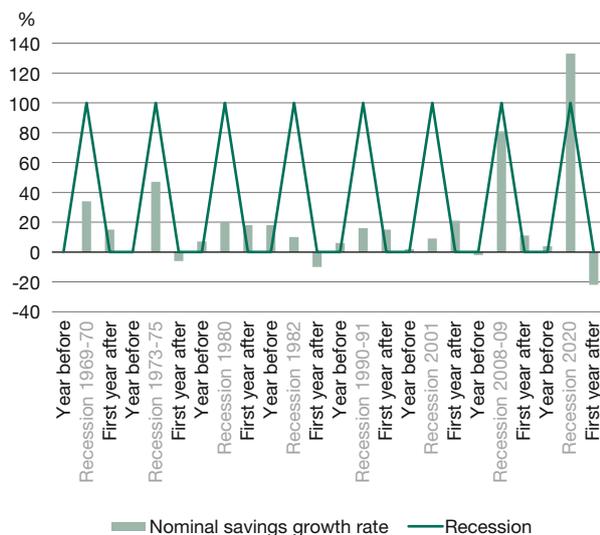
Source: Authors' calculation, based on FRED data.

How was the pandemic-induced recession different?

Our analysis shows that excess savings are not pandemic-specific. The pandemic is different from other recessions only by the magnitude of these additional savings. The lockdown may explain part of this difference, but it is not the trigger of the excess savings phenomenon. The incapacity to access traditional retailers in the first months of

the pandemic was overcome by the surge in online retail. According to the US Census Bureau, US e-commerce sales grew by a staggering 44% year-on-year and 31% quarter-on-quarter in Q2 2020 (up by more than US \$50 billion compared to Q1 2020), which was the first full quarter of the lockdown, almost compensating for the loss of traditional commerce (3.6% fall in total retail sales in the same period). In fact, lockdowns had the opposite effect on consumption in the first weeks as people stockpiled goods (Baker et al., 2020). The year-on-year e-commerce sales recorded huge advances in the following three quarters (36% in Q3 2020, 31% in Q4 2020 and 39% in Q1 2021) to moderate later, but remaining positive in the recent quarters. The direct transfers are also part of the story, but only to a limited extent in the beginning; in fact, only 14% of households saved their stimulus check in the first round of payments, a share that grew to 26% in the second round and 32% in the third

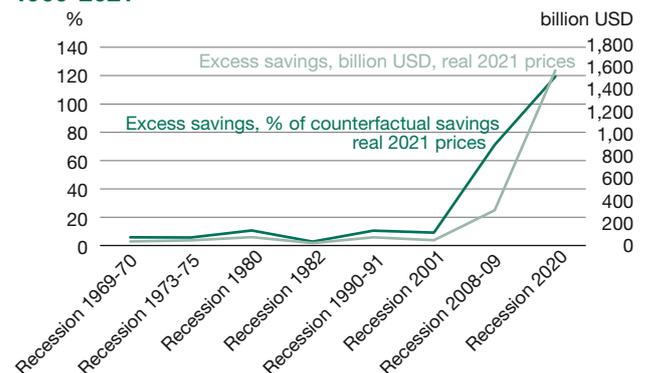
Figure 2
Nominal personal savings, annual growth rate, all recession episodes, US, 1969-2021



Notes: Year before: $S(T-1)/S(T-2)$; recession: $S(T)/S(T-1)$; first year after: $S(T+1)/S(T)$, where T is the last year of the recession (e.g. if a recession lasts two years, T is the second year), T-1 is the last year before recession, and T+1 is the last year after recession.

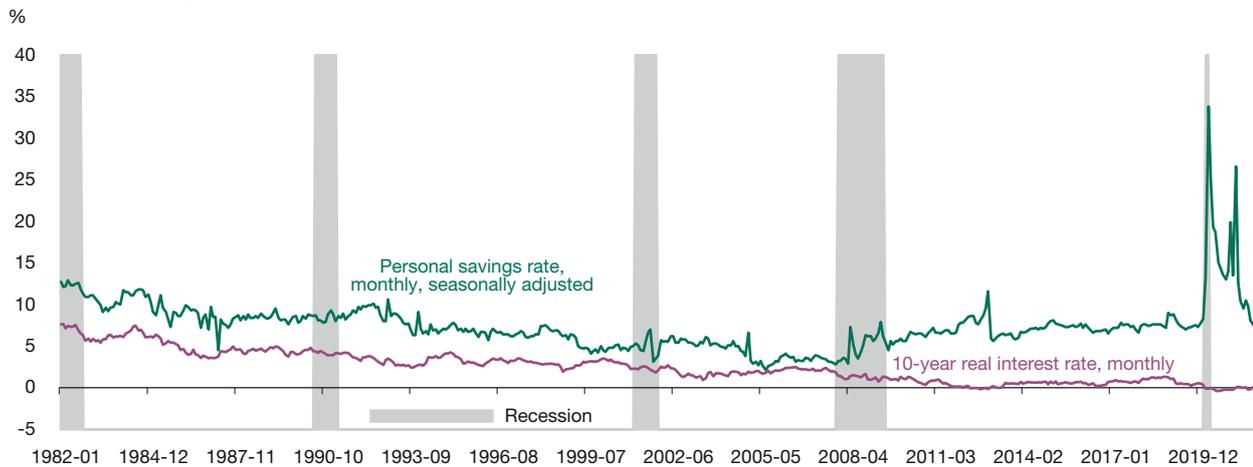
Source: Authors' calculation, based on FRED data.

Figure 3
Real excess savings, all recession episodes, US, 1969-2021



Source: Authors' calculation, based on FRED data.

Figure 4
Personal savings rate vs real interest rate, 1982-2021



Note: FRED time series for the real interest rate starts in 1982.

Source: FRED data.

round (US Census, 2021). By the time one-third of households saved their stimulus checks, the overall savings rate was already adjusting downwards. Smith (2020), using vector autoregression models, also finds that most of the savings since March 2020 have not been driven by the direct income transfers, therefore concluding that the rest is precautionary, driven by uncertainty. Still, this time was truly different, as this was not the kind of uncertainty that can be defined by a value at risk model.

What really made the pandemic different was the Knightian, radical uncertainty (Kay and King, 2021) in its first months (How does it spread? Can it be stopped? Will we survive?), which led to much higher savings in the first quarters. As that radical uncertainty was addressed when vaccines appeared and were distributed on a large scale, the savings rate also dropped much faster than in the previous recessions. Leaving apart the radical uncertainty of a pandemic, we are left with the excess savings that characterise every recession.

Precautionary vs compensatory savings over the business cycle

Friedman's permanent income hypothesis implies that households (dis)save if a change in income is permanent and smooth consumption if it is transitory. However, consumption smoothing requires either selling assets (buffer stock theory – Deaton, 1991) or borrowing. In a recession, liquidity constraints are more binding, affecting the capacity to borrow or sell assets to smooth consumption – hence savings should adjust downwards, if the permanent income hypothesis is true.

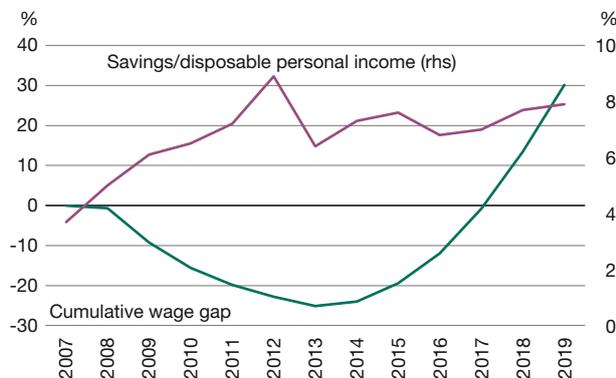
On the other hand, the precautionary savings argument holds that an expected fall in income would determine higher savings (Deaton, 1992; Carroll, 1994). Precautionary saving in response to labour income risk (uncertain income and employment) leads to higher savings (the income effect) and hence it is associated with the convexity of the marginal utility function (Sandmo, 1970; Kimball, 1990). One should note that the precautionary savings argument is forward-looking, as people save in anticipation of a risk that has not yet taken place, while consumption smoothing happens when that risk has already materialised.

Things get more complicated in the presence of an interest rate risk, pushing households to reduce their savings (the substitution effect), hence the simple convexity of marginal utility does not ensure that a precautionary motive for saving emerges (Rothschild and Stiglitz, 1971).

The interest rate risk refers to situations when the rate of return is negative or seen as insufficient. If the rate of return (the real interest rate) is lower than the rate of time preference, then the marginal utility of present consumption is higher than that of future consumption (as it follows from the Euler equation), and households are more willing to spend at the current time. It means that even though precautionary savings react to the perception of risk (uncertainty raises expected marginal utility of savings), they still aim to accumulate wealth (Gourinchas and Parker, 2001), which is impossible if, at the minimum, the present value is not preserved.

Data shown in Figure 4 suggest that savings tend to be counter-cyclical: They drop during economic booms and rise in recessions.

Figure 5
Personal savings vs cumulative wage gap during the global financial crisis, US



Note: The cumulative wage gap is calculated as the cumulative difference between the current wage and the last peak wage in the past, adjusted for inflation. There is a new benchmark each time there is a fall in income after a period of positive cumulative wage gap. If the cumulative wage gap is negative, another income loss is part of the same episode, not a new benchmark.

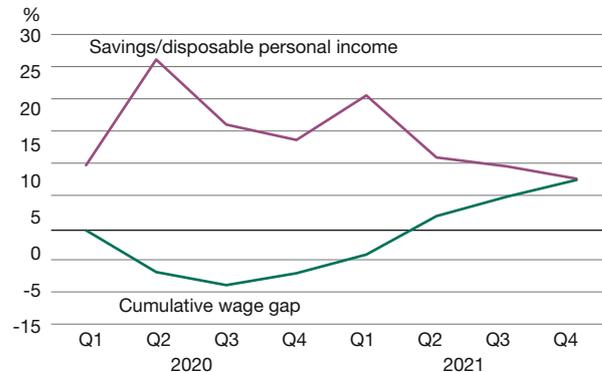
Source: Voinea (2021).

This observation is in line with some relatively recent empirical studies documenting the inverse relationship between savings and (some) recessions. Using a panel regression for 16 OECD countries, Adema and Pozzi (2015) report a similar result: When real GDP growth falls, households save a larger fraction of their disposable incomes and the opposite occurs when real GDP growth increases. Dynan (2009), Lee et al. (2010) and Mody et al. (2012) presented evidence of consumption falling and savings rising in the aftermath of the Great Recession in the US.

In Figure 4, two observations appear puzzling. First, the savings ratio has continued to rise after the GFC, as an exemption from the trend after the previous recessions. This could be explained by the impact of the quantitative easing on keeping the credit market going and supporting asset prices; in the same vein, the exceptionally high savings in the first quarters of the pandemic could have been fueled by the fact that direct transfers effectively waived off the liquidity constraints.

Second, the real interest rate is aligned with the personal savings rate in times of GDP growth, but it goes in the opposite direction during recessions (note that the FRED time series on the real interest rate only starts from 1982). Again, the exception is the post-GFC decade of the zero lower bound, when households behaved like in a recession: They continued to accumulate savings despite the low or even negative return.

Figure 6
Personal savings vs cumulative wage gap, during the COVID-19 pandemic, US



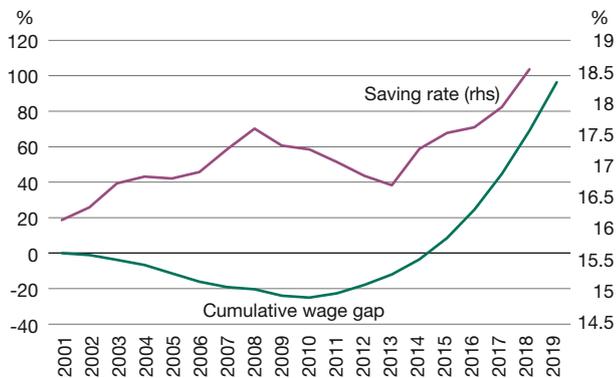
Note: The cumulative wage gap is calculated as the cumulative difference between the current wage and the last peak wage in the past, adjusted for inflation. There is a new benchmark each time there is a fall in income after a period of positive cumulative wage gap. If the cumulative wage gap is negative, another income loss is part of the same episode, not a new benchmark.

Source: Authors' calculations.

These excess savings might be compensatory savings, a term first coined by Voinea (2021), indicating that households save more to compensate for a loss of wealth that has already happened (as opposed to precautionary savings, where households save more for a future risk that has not yet materialised). The idea of compensatory savings could solve the conundrum between the expected rise in savings because of the income effect and the expected drop in savings because of the substitution effect. In fact, Dynan (2009) noted that savings increase as households try to make up for capital losses, while Mody et al. (2012) found that a cut in labour income leads to an increase in the savings rate, as people try to offset their lost wealth. They referred to a loss of wealth that has already taken place, not to an uncertainty regarding the future; therefore, they were actually referring to compensatory, rather than precautionary savings.

Compensatory savings are transitory savings: They rise as income falls and drop as households gradually recover the lost wealth. As compensatory savings have their reference in the past (which is the pre-recession wealth level), they are inelastic to the dropping real interest rates. Instead, they are inversely correlated with the cumulative wage gap, which is a novel measure of the lost wealth (Voinea, 2021; Voinea and Loungani, 2021). In all US recessions since 1960, savings have been consistently inversely related to the cumulative wage gap. Figures 5 and 6 show this relationship for the GFC and the

Figure 7
Personal savings vs cumulative wage gap, 2001-2019, Germany



Note: The cumulative wage gap is calculated as the cumulative difference between the current wage and the last peak wage in the past, adjusted for inflation. There is a new benchmark each time there is a fall in income after a period of positive cumulative wage gap. If the cumulative wage gap is negative, another income loss is part of the same episode, not a new benchmark.

Source: Voinea (2021).

pandemic; similar results are reported for the previous US recessions by Voinea (2021). Moreover, these results are not US-specific; rather, they are recession-specific: Figure 7 shows similar findings for Germany during the past two decades.

Once the cumulative wage gap closes, the compensatory savings are either transferred into precautionary savings or into consumption. For example, after the GFC, it took eight years for the cumulative wage gap to close in the US, but even when that happened, savings did not return to their previous level, which suggested that compensatory savings were transferred into precautionary savings – an explanation which is consistent with the persistent period of low inflation in the post-GFC decade. However, as the pandemic struck, the compensatory motive kicked in again, on top of the already existent precautionary savings. As the post-pandemic cumulative wage gap has been closed much faster (by the end of 2021), the important policy question is what happens to those excess savings accumulated during the pandemic. Our educated intuition is that after the pandemic most of the excess savings will be transferred into consumption, since keeping them as precautionary savings would severely erode their value, confronted with high inflationary pressures. A similar behavior was observed during the recessions of the 1970s and 1980s which were also associated with higher inflation. The jury is still out on this, however.

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Gross Fixed Capital Formation in the Euro Area During the COVID-19 Pandemic

This paper examines the impact of the COVID-19 pandemic on gross fixed capital formation across the euro area. The empirical analysis suggests that the intensity of the lockdown measures to contain the spread of the virus and the country-specific structure of the economy along with other traditional drivers, in particular falling output, can explain a large part of the contraction. The bold policy response at the national and EU level mitigated the impact of COVID-19 and supported the recovery. The faster-than-expected rebound in economic activity suggests that the negative economic impact of the pandemic will be more contained than initially feared. However, uncertainty over future health developments remains high, especially given the risks of new more transmissible variants.

Following the outbreak of the COVID-19 pandemic, gross fixed capital formation (GFCF) in the euro area fell very rapidly in the first and second quarter of 2020, much faster than at the height of the global financial crisis. The sharp contraction in GFCF prompted many commentators to highlight the risks that the pandemic could lead to another period of subdued investment growth similar to the one following the global financial crisis, when it took about ten years¹ to return to its pre-crisis level.²

However, GFCF recovered (although only partially) at a much faster pace than in the wake of the financial crisis (Figure 1). The multifaceted and sizable policy response at the national and EU level mitigated the impact of the

crisis and the plunge in GFCF at the onset turned out to be short-lived. Investment bounced back forcefully in the context of very strong (and temporarily held back) demand and favourable financing conditions (European Commission, 2021a, 2021c). Public investment also picked up considerably.

This paper examines how the COVID-19 pandemic affected investment across the euro area. First, unlike previous investigations that have tended to focus on the impact of the COVID-19 crisis on overall GDP, it assesses the impact of the crisis and lockdown measures on GFCF. Second, this paper estimates the sensitivity of GFCF to lockdown measures over time and across countries supporting the idea of ongoing learning from experiences and gradual adaptation, which includes greater digitalisation. Third, it provides an assessment of the upside and downside risks for GFCF from COVID-19.

Gross fixed capital formation during the COVID-19 pandemic

Following the COVID-19 shock, gross fixed capital formation contracted by around 23% between the fourth quarter of 2019 and the second quarter of 2020. Over the same period, GDP fell by 15% and the decline in investment was the second largest cause for this overall contraction (following the drop in consumption). This contraction was much larger than the one recorded following the outbreak of the global financial crisis (Figure 2).³ What was extraordinary about the decline in 2020 was that it all happened

1 In the national accounts (ESA, 2010), gross fixed capital formation covers machinery, equipment, buildings and structures, as well as cultivated biological resources and intellectual property products.

2 After the global financial crisis, the loss of capital stock was the main drag on potential output growth (ECB, 2020).

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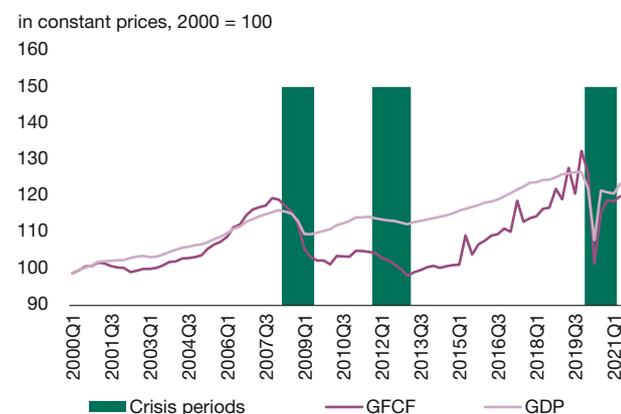
* This paper represents the authors' views and not necessarily those of the European Commission.

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3 GDP in the first quarter of 2009 declined by around 5.5% relative to the first quarter of 2008, whereas investment fell by around 11%.

Figure 1
Gross fixed capital formation and GDP in the euro area



Source: Eurostat.

in just two quarters – mainly due to the tightening of lockdown measures to contain the spread of the pandemic (see below).

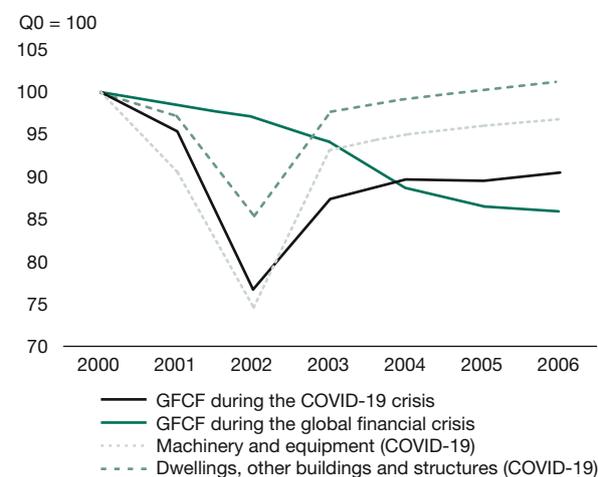
Lower investments in machinery and equipment (excluding the very volatile intellectual property products data) accounted for most of the fall in the second quarter of 2021 (Figure 2), but it rebounded strongly in the third quarter of 2020. By contrast, dwellings and other buildings and structures contributed less to the contraction and they had recovered their pre-crisis levels by the first quarter of 2021. Investment in intangibles, such as research and development,⁴ fell less than investment in machinery and equipment.

At the institutional sector level, the fall in private investment was partly compensated by a symmetric rise in public investment as euro area governments pledged substantial public investment to support the recovery from the pandemic. This was in stark contrast to the period following the global financial crisis (Figure 3), which saw euro area governments cutting back on public investment with the aim of hastening the consolidation of public finances.

The depth of the decline in GFCF between the fourth quarter of 2019 and the second quarter of 2020 varied widely within the euro area, ranging from just below 1% in Finland to 80% in Ireland (Figure 4). Intellectual property – one key and growing component of GFCF – has been particularly volatile in Ireland, Estonia, Cyprus and Luxembourg (see the right-hand side in Figure 4).

⁴ The volatile Ireland data are excluded.

Figure 2
Gross fixed capital formation in the euro area during COVID-19 and global financial crisis

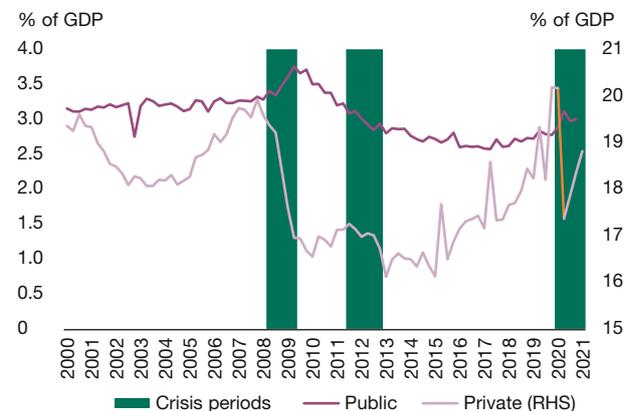


Note: Q0 = 0 is 2008Q1 = 100 for the global financial crisis and 2019Q4 = 100 for the COVID-19 crisis; Q6 = 2009Q3 for the GFC and 2021Q2 for the COVID-19 crisis. Real terms.

Source: Eurostat.

Part of these cross-country differences in investment growth can be attributed to differences in the intensity of the lockdown measures (the second quarter of 2020 in Figure 5). As restrictions on movement were lifted between the end of the second and the third quarter of 2020, GFCF rebounded in that third quarter. Lockdown measures were tightened again in the fourth quarter of 2020 on the back of renewed pressures on the member states' health systems; the economic impact of the sec-

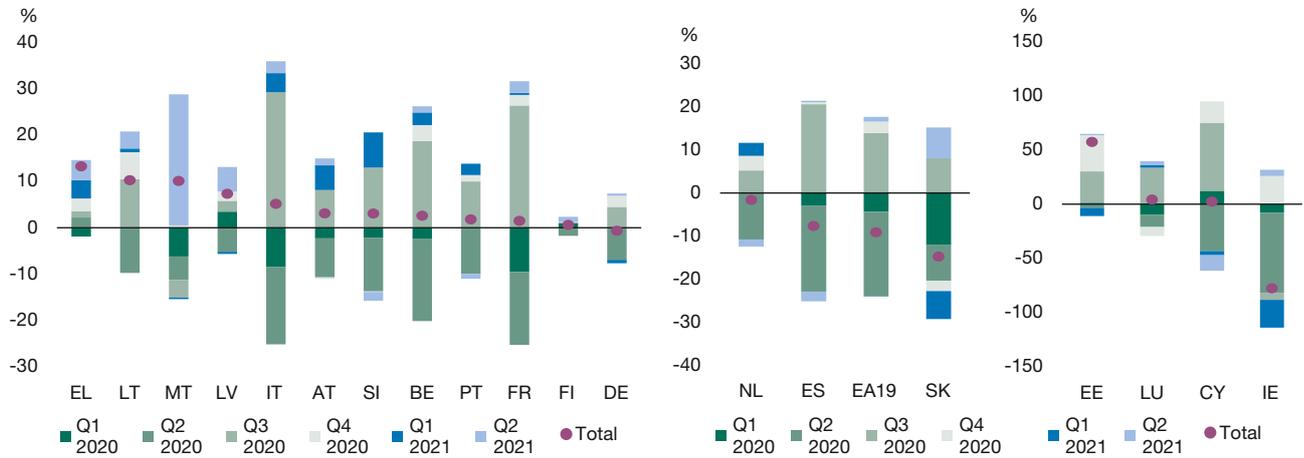
Figure 3
Public and private investment



Note: Q0 = 0 is 2008Q1 = 100 for the global financial crisis and 2019Q4 = 100 for the COVID-19 crisis; Q6 = 2009Q3 for the GFC and 2021Q2 for the COVID-19 crisis. Real terms.

Source: Eurostat, institutional sector accounts.

Figure 4
Changes in gross fixed capital formation since the onset of COVID-19



Notes: Data on GFCF for IE, CY, LU and EE show very strong volatility in the intellectual property investment component. Total growth (bullet) measures the compound growth rate (i.e. multiplicative). Given the large size of the growth rates, adding quarterly growth rates (coloured bars) is only a rough approximation of the total growth rate between the first quarter of 2020 and second quarter of 2021.

Source: Eurostat, national accounts.

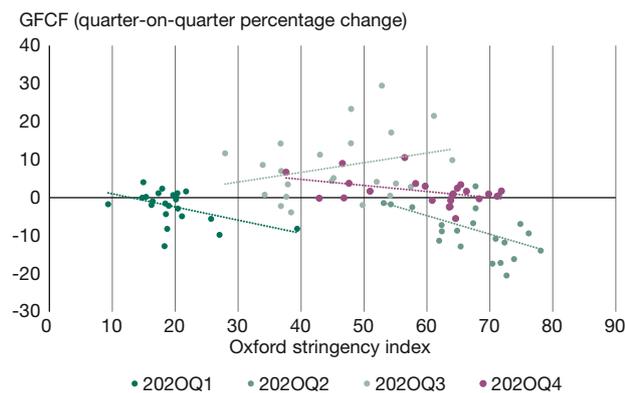
ond lockdown, however, was more contained than that of the first one.

COVID-19 related drivers of gross fixed capital formation

The literature suggests a strong negative relationship between governments’ lockdown measures and GDP (including its components). This negative impact increases with the intensity of measures (e.g. IMF, 2020; Niermann

and Pitterle, 2021), the importance of tourism in the economy and lower quality of governance (e.g. Sapir, 2020). However, over time, economic activity became less sensitive to lockdown measures as firms and households adapted to the new environment (see Figure 5 and the empirical result below).

Figure 5
Change in gross fixed capital formation and Oxford stringency index in 2020



Note: IE, EE, CY and LU excluded from the sample.

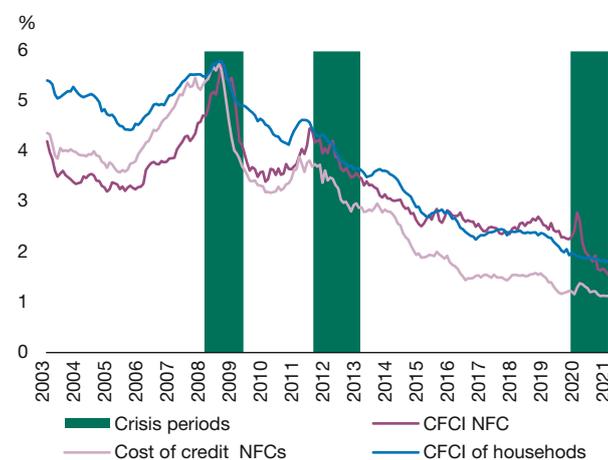
Source: Eurostat and Oxford stringency index.

Early evidence suggested that higher uncertainty in the initial phase of the COVID-19 crisis (European Commission, 2021d; Gayer et al., 2021) took a toll on business investment. For example, surveying about 13,500 firms across the EU in 2020, the EIB (2020) reports that about 80% of EU firms considered uncertainty to be an impediment, with some 50% of firms even considering it a major impediment.⁵ Gieseck and Rujin (2020) report that heightened uncertainty could have accounted for around one-fifth of the decline in activity by the first half of 2020, with a particularly strong impact on fixed capital formation.

At the beginning of the COVID-19 crisis, financing conditions tightened given the overall uncertainty of the scale and duration of the crisis. However, the increase was short-lived (see Figure 6), following a strong monetary policy response, which prevented financing conditions from tightening in a pro-cyclical way (Lane, 2020). Further financial relief was provided under various state credit guarantee

⁵ See EIB (2021). European Commission (2020a) reports that firms expected a contraction of 4.5% in capital expenditure in 2020 with more than 40% of participants indicating negative expectations.

Figure 6
Non-financial corporations cost of credit and composite financial condition indicator



Note: NFC: non-financial corporations; CFCI: composite financial condition indicator.

Source: European Commission.

programmes that supported solvable firms' access to finance for investment (European Commission, 2020b).

Monetary and supervisory authorities supported the financing of investments in several ways. The ECB's monetary policy response mainly consisted of additional asset purchases including via the pandemic emergency purchase programme, ample liquidity provision (mostly via targeted long-term refinancing operations), and easing of collateral standards, while maintaining the deposit facility rate at a record low of -0.5% (since September 2019). At the same time, several national macro-prudential authorities reduced countercyclical capital and systemic risk buffers, while the Single Supervisory Mechanism allowed banks to meet part of their core capital requirements with non-core capital instruments.

Finally, the policy responses at the EU level that supported investment included the mobilisation of all available cash reserves from the European Structural and Investment Funds, putting in place the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (McDonnell et al., 2021) and the creation of the recovery instrument NextGenerationEU (Alfman et al., 2021).⁶ At the national level, the fiscal authorities support-

6 The Recovery and Resilience Plan's total GDP impact generated during the 2021-2022 period is expected to be approximately 1.2% of the EU's 2019 real GDP, with a noticeable impact on the GFCF for a significant number of member states. See European Commission (2021b).

ed investments via several measures including following the activation of the general escape clause of the Stability and Growth Pact. These measures included emergency spending on health care, short-time work schemes, grants, loan guarantees, loan repayments moratoria, tax deferrals,⁷ liquidity support and the roll-out of a vaccination programme.

Empirical results

The impact of the COVID-19 pandemic on quarterly growth in gross fixed capital formation across the euro area is estimated via a panel error correction model. The model relates investment to output, the past change in capital stock that requires investment to offset capital depreciation,⁸ financing costs, a news-based measure of uncertainty⁹ and the equity-to-book ratio. To account for the impact of the pandemic, this base model is augmented to include lockdown measures using the Oxford stringency index,¹⁰ a pandemic dummy (equal to 1 for the length of the pandemic since the second quarter of 2020¹¹) that captures the net impact of other factors including fiscal and monetary policy responses.¹²

This section reports estimation results for a panel error correction model, covering 15 euro area member states¹³ from the first quarter of 2002 to the second quarter of 2021.¹⁴ First, the equilibrium relationship is estimated between the level of gross fixed capital formation (I) and the level of real GDP, the financing cost

7 And in some countries the introduction of temporary suspensions of bankruptcy proceedings.

8 Net capital stock data with quarterly frequency are interpolated from AMECO annual capital stock series OKND.

9 Uncertainty is measured by the Economic Policy Uncertainty index based on newspaper articles regarding policy uncertainty. However, part of the impact of rising uncertainty may also be captured by other explanatory variables such as the pandemic dummy and lockdown measures.

10 The Oxford COVID-19 stringency index varies between 1 (very loose) and 100 (very tight). It includes several dimensions: (i) lockdown and closure measures; (ii) economic response and (iii) health system measures (see Halle et al., 2020).

11 Complemented with a dummy for the first quarter of 2020 as the first weeks of this quarter were not yet affected by the pandemic.

12 A dummy equal to 1 for the length of the pandemic since the second quarter of 2020, complemented with a dummy equal to 1 for the first quarter of 2020.

13 IE, EE, CY and LU are not included as they show strong variability in the intellectual property products component.

14 The main data sources are Eurostat National Accounts and Sectoral Accounts, Oxford COVID-19 Government Response Tracker project and AMECO.

Table 1
Equilibrium (semi-)elasticities

	GDP	USER	PB_ratio	Lock-down	DUM_COVID	DUM_GFC
Equilibrium (semi-)elasticities	0.99	-0.56	0.14	-0.14	0.08	-0.02

Note: 2002Q1-2021Q2, including BE, DE, EL, ES, FR, IT, LV, LT, MT, NL, AT, PT, SI, SK and FI.

Source: Authors' calculations.

(USER),¹⁵ the equity to book value ratio (PB_ratio)¹⁶ and a global financial crisis dummy (DUM_GFC). To capture the specific impact of the pandemic, this equilibrium relationship is augmented with the Oxford stringency indicator (LOCKDOWN) and a dummy for the net impact of all other factors affecting investment during the pandemic including a proxy for the monetary and fiscal policy response to the crisis (DUM_COVID).¹⁷ The estimated equation is:

$$(1) \ln(I_{it}) = \beta_0 + \beta_1 \ln(GDP_{it}) + \beta_2 USER_{it} + \beta_3 PB_ratio_{it} + \beta_4 LOCKDOWN_{it} + \beta_5 DUM_COVID_t + \beta_6 DUM_GFC_t + ECT_{it}$$

with the subscripts *i* and *t* referring to the countries and quarters respectively, and whereby $\beta_1, \beta_3 > 0$ while $\beta_2, \beta_4, \beta_6 < 0$ and the sign of β_5 is ambiguous as it covers a whole range of transmission channels. ECT is the error correction term used in the second step of the regression analysis. Table 1 shows that the point estimates all have the expected sign. The Pedroni and Kao panel cointegration test suggests that the null hypothesis of no co-integration can be rejected at a high level of confidence.

15 The real user cost of capital is measured as

$$USER_{it} = \frac{IR_{it} + \tau - \left(\frac{PC_{it+1}}{PC_{it}} - 1 \right) (1 - \tau) PC_{it}}{1 + IR_{it}} \frac{PC_{it}}{P_{it}}$$

with *IR* measured as the bank lending rate, τ the rate of capital depreciation, *PC* the price of capital, and *P* the price of output. The expected price change is assumed to be equal to the observed past change.

16 The price/book ratio for the Europe STOXX 600 index is taken as a proxy for the Tobin *Q*.

17 A dummy equal to 1 from the first quarter of 2020 to the second quarter of 2021, and zero during other periods.

Next, the short- to medium-term dynamics are estimated with pooled generalised least squares,¹⁸ using instrumental variables,¹⁹ i.e.

$$(2) \Delta \ln(I_{it}) = \gamma_0 \sum_{j=1}^4 \gamma_{1j} \Delta \ln(GDP_{it-j}) + \gamma_2 \Delta \ln(Capital_{it-1}) + \gamma_3 \Delta USER_{it} + \gamma_4 \Delta PB_ratio_{it} + \gamma_5 \Delta LOCKDOWN_{it} + \gamma_6 DUM_COVID_t + \gamma_7 DUM_GFC_t + \gamma_8 ECT_{it-1} + u_{it}$$

with Δ the operator comparing one quarter to the previous quarter, and with $\sum_{j=1}^4 \gamma_{1j} > 1, \gamma_2, \gamma_4 > 0$.

Table 2 reports the main estimation results. Variant V1 is the baseline model capturing the dynamics towards equilibrium. Most point estimates have the expected sign and are statistically significant. Several robustness tests were performed, indicating that the qualitative nature of these results is broadly unchanged if (i) a stricter version of the Oxford indicator that focuses only on mobility restrictions is considered (V1-lockdown), (ii) investment in dwellings is excluded (V1-dwellings), (iii) the error correction term is estimated excluding pandemic related variables (V1-technical),²⁰ (iv) replacing the change in the lockdown measures by its level did not change the significance of the point estimates, (v) estimation period is limited to the pre-pandemic period (V1-pre 2020), (vi) not enough degrees of freedom are available to obtain stable estimates for some important COVID-19 related factors such as the vaccination rate that took off in the first quarter of 2021.

Lockdown measures

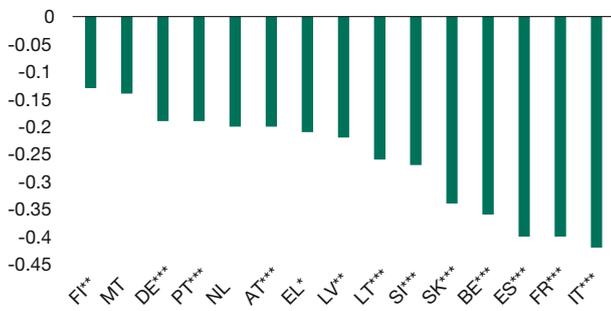
The econometric results suggest that quarterly growth in GFCF decreases with the tightening of lockdown measures. This statistically significant finding suggests that a ten-point tightening in the Oxford stringency index leads on average to a contraction of about 2.5 percentage points in GFCF quarter on quarter growth (V1 in Table 2).

18 Allowing for correlation between the random components across member states.

19 Including lagged explanatory variables and the policy variables excluding its cyclical component estimated via the Hodrick-Prescott filter.

20 In all variants, except V2-technical, the error correction term (ECT) for the entire sample is estimated based on an equilibrium equation (1) as reported in Table 1. For V2-technical, the error correction terms are obtained re-estimating equation (1) for a sample ending in the fourth quarter of 2019, and fitting the error correction term from the first quarter of 2020 to second quarter of 2021 using observed explanatory variables and point estimates of the re-estimated equation 1.

Figure 7
Responsiveness to a change in lockdown measures across the euro area



Note: Based on V4 in Table 2. Point estimate significance *** $p < 0.001$, ** $p < 0.05$ and * $p < 0$.

Source: Authors' estimates.

The sensitivity of GFCF to the lockdown measures (V2 in Table 2)²¹ decreases over time. This perhaps reflects learning from experiences and gradual adaptation, which includes greater digitalisation. Along these lines, earlier research demonstrates that the impact of the second and third wave on turnover in the various countries was substantially different from that of the first wave, as turnover reductions were relatively subdued in the member states that suffered most in the first wave.

The sensitivity of GFCF also differs across member states. It is the strongest in Italy and the weakest in Malta and Finland (V3 and Figure 7).²² Such cross-country differences in responsiveness to the lockdown measures might reflect differences in economic structure such as the share of tourism and contact-intensive sectors in the economy (Coutinho et al., 2021). Figure 8 confirms that the responsiveness to the lockdown measures increases with the size of contact-intensive sectors (as a share of total gross value added). In turn, these lockdown measures lowered private consumption and exports, thereby putting additional downward pressure on GDP and consequently also on investment.

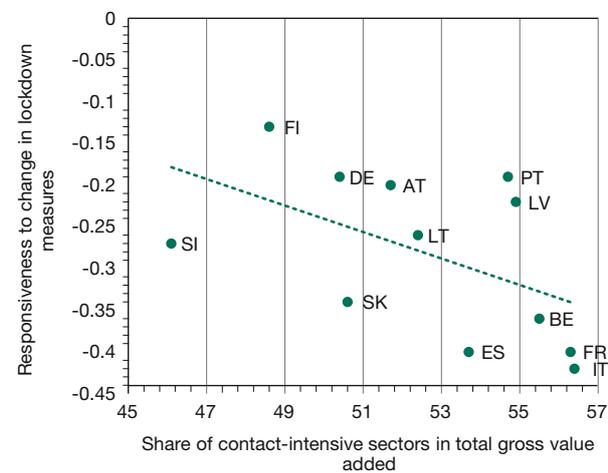
The policy response

The pandemic dummy is found statistically significant (see V1 in Table 2). As such, the dummy captures the role of various factors including the response of monetary and fiscal policy during the COVID-19 crisis. To disentangle GFCF's support of the policy response, the base model

21 V2 allows the point estimate of the lockdown measures to vary across the six quarters during which the pandemic was hitting the euro area.

22 V3 allows for the point estimate of the lockdown measures to vary across the 15 euro area member states in the sample.

Figure 8
Sensitivity to a change in lockdown measures and share of contact-intensive sectors in value added



Notes: Contact-intensive sectors refer to wholesale and retail trade, transport, accommodation and food service activities (NACE2 Rev2 classification: G-I); arts, entertainment and recreation (R-U); information and communication (J); financial and insurance activities (K); real estate (L); professional, scientific and technical activities (M); and administrative and support service activities (N). Only member states with 0.05 significance are shown.

Source: Authors' estimates and Eurostat national accounts.

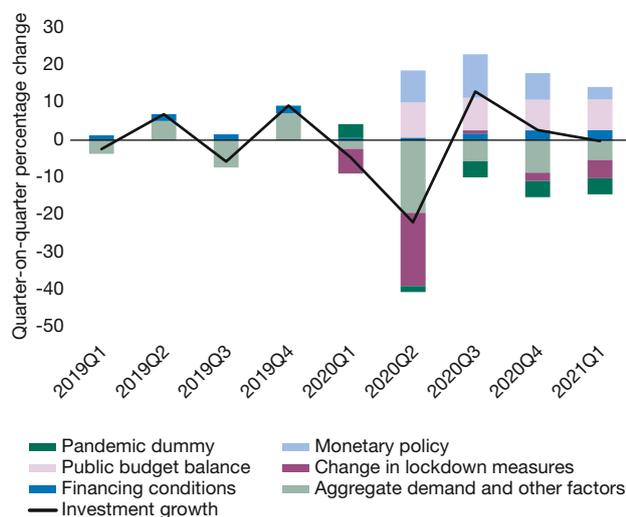
(V1) is augmented with a proxy for the monetary and fiscal policy interventions (see V4 in Table 2) while keeping the parameter of the confinement measures constant over time and across member states and keeping a dummy to capture all other COVID-19 related factors.

The change in the ECB balance sheet (as measured by the change in total liabilities during the pandemic) is used as a proxy for the monetary policy related intervention. As for the fiscal policy response, it is measured by general government net lending (as a share of GDP).

The significant positive point estimate for monetary policy suggests that it supported investment through the normalisation of financial market conditions and the provision of credit to the banking sector at favourable rates that helped banks to grant loans to solvable firms.²³ Interestingly, both the monetary policy and financing conditions positively affect GFCF. As the latter reflects mostly market risk premia, the effect of the ECB policy measures are already somehow captured by the financing condition

23 Caveat: keeping the coefficients fixed over time and per country may imply that the lower sensitivity of households and firms to lockdown measures during the second phase of the COVID-19 crisis is not captured. As a result, there is a risk of overestimating the impact of the policies.

Figure 9
Decomposition of the changes in gross fixed capital formation during COVID-19



Notes: Model estimation based on variant V4 in Table 2 evaluated for the explanatory variables at EA19 aggregate, i.e. the plotted value is equal to the corresponding point estimate multiplied with the observed change/level of the explanatory variable. Legend: Pandemic dummy refers to the variable DUM_COVID in equation 2; Change in lockdown measures refers to variable LOCKDOWN; Financing condition refers to the sum of variables USER, PB_ratio and UNCERTAINTY; Public budget balance refers to GGNB; Change in ECB liabilities refers to ECB_L.

Source: Authors' estimates.

variable. The presence of an additional, large and positive impact of ECB balance sheet policies on GFCF could reflect confidence-related effects (Schnabel, 2021).

The significant negative point estimate for the public budget balance suggests that the increase in headline deficit supported investment by countering the downward impact of the pandemic shock on aggregate demand (Bellia et al., 2021).²⁴ Figure 9 provides an overview of the contribution of the various drivers of GFCF during the COVID-19 crisis.

Long-term impacts of COVID-19

Upside risks

The pandemic accelerated investment in ICT infrastructure²⁵ to accommodate the rise in online work and digital sales. The McKinsey Global Institute Report (2021) expects such changes will have the potential to increase

²⁴ On the combined effect of monetary and fiscal policy following the outbreak of the pandemic.

²⁵ Bellmann et al. (2021) report that almost 30% of the surveyed German companies reported that the pandemic accelerated the introduction of digital technologies.

annual productivity growth by about one percentage point up to 2024. Also notable, investment in intellectual property products (e.g. investment in software and research and development) held up better than investment in machinery and equipment. This might be because the exchange of intellectual property products involves less physical interaction.

The pandemic also disrupted the functioning of global value chains (GVCs). The fear of a repeat of a pandemic may then strengthen the incentives to bring production closer to home,²⁶ thus requiring additional investment. But the available evidence on the impact of COVID-19 on GVCs is somewhat ambiguous.²⁷ At the same time, such reshoring may limit countries' opportunities to exploit their comparative advantages thereby lowering the return on capital and incentives to invest.

Downside risks

Available evidence suggests that much of the initially feared long-run COVID-19 crisis damage has been avoided thanks to the bold policy response at the national and EU level. However, there remain some risks that might dampen investment going forward, especially in case of a re-intensification of the pandemic (ECB, 2020; IMF, 2021).

If the emergency policy support measures for firms are lifted too abruptly, it might contribute to an increase in corporate distress. This in turn may intensify the financing constraints on investment. For example, OECD (2021) expects insolvencies to increase significantly in the next two years, particularly in high-contact services sectors, admittedly from artificially low levels.

At the same time, the continuation of support policies could carry the risk of locking capital and labour in unproductive sectors, hindering business dynamism over the medium to long term (Claeys et al., 2021; Ebeke et al., 2021). Nevertheless, preliminary evidence suggests that this effect remains modest (Helmerson et al., 2021; Cros et al., 2021), and that business creation has rebounded since the second quarter of 2021 (Eurostat, 2021).

Excessive corporate debt burden accumulated during the pandemic could also act as a drag on investment.²⁸ For

²⁶ Javorcik (2020) expects that primarily Eastern European and the Southern Mediterranean countries will benefit from "re-shoring" or "near-shoring".

²⁷ The pandemic limited the mobility of goods and persons including managers, but it gave a boost to digitalisation (Simola, 2021).

²⁸ On the accumulation of debt during the COVID-19 crisis in the non-financial corporations and related risks for investment decisions, see ECB (2021).

Table 2
Point estimates of the panel error correction model

Dependent variable: d ln of investment in constant prices

	V1	V1- lockdown	V1- dwellings	V1- technical	V1- pré2020	V2	V3	V4
First lag of real GDP growth	0.40***	0.29***	0.40***	0.55***	1.10***	0.55***	0.38***	0.68***
Second lag of real GDP growth	0.08	0.11	0.09	0.15	0.11	0.15	0.08	0.23**
Third lag of real GDP growth	0.17**	0.22**	0.19*	0.23**	0.39*	0.33**	0.16*	0.44***
Fourth lag of real GDP growth	0.24*	0.23*	0.21	0.33**	-0.28	-0.02	0.24*	-0.20
First lag of capital stock growth	0.03***	0.03***	0.04***	0.03***	0.03***	0.03***	0.03***	0.03***
Change in financing cost (USER)	-0.46**	-0.42**	-0.46**	-0.45**	-0.27	-0.41**	-0.42**	-0.35*
GFC dummy	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Newbased risk index (UNCER)	0.00**	0.00**	0.00**	-0.00***	0.00*	0.00*	0.00**	0.00*
Change in equity/book ratio (PB_ratio)	0.05***	0.05***	0.05***	0.03*	0.05***	0.05***	0.05***	0.05***
Change in ECB liabilities during pandemic (ECB_L)								0.55**
Public budget balance (% of GDP) during pandemic								-0.77*
Change in lockdown measures (all) (LOCKDOWN)	-0.27***		-0.26***	-0.25***				-0.34***
Change in lockdown measures 20Q1 (all)						-0.56***		
Change in lockdown measures 20Q2 (all)						-0.26***		
Change in lockdown measures 20Q3 (all)						-0.46***		
Change in lockdown measures 20Q4 (all)						-0.26**		
Change in lockdown measures 21Q1 (all)						-0.23		
Change in lockdown measures 21Q2 (all)						0.43**		
Change in lockdown measures (only mobility)		-0.32***						
Pandemic dummy (DUM_COVID)	0.04***	0.05***	0.05***	0.05***		0.04***	0.04***	-0.03
Pandemic dummy 2020Q1	0.02	0.02	0.02	0.02		0.08*	0.02	0.04*
Lagged error correction term (ECT)	-0.14***	-0.15***	-0.24***	-0.11***	-0.12***	-0.14***	-0.14***	-0.13***
Change in lockdown measures (all) - BE							-0.36***	
Change in lockdown measures (all) - DE							-0.19***	
Change in lockdown measures (all) - EL							-0.21*	
Change in lockdown measures (all) - ES							-0.40***	
Change in lockdown measures (all) - FR							-0.40***	
Change in lockdown measures (all) - IT							-0.42***	
Change in lockdown measures (all) - LV							-0.22**	
Change in lockdown measures (all) - LT							-0.26***	
Change in lockdown measures (all) - MT							-0.14	
Change in lockdown measures (all) - NL							-0.20	
Change in lockdown measures (all) - AT							-0.20***	
Change in lockdown measures (all) - PT							-0.19***	
Change in lockdown measures (all) - SI							-0.27***	
Change in lockdown measures (all) - SK							-0.34***	
Change in lockdown measures (all) - FI							-0.13**	
Autocorrection of error term	-0.37***	-0.36***	-0.35***	-0.37***	-0.41***	-0.39***	-0.37***	-0.40***
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.29	0.30	0.30	0.27	0.31	0.32	0.30	0.33
Number of observations	1.082	1.082	1.010	1.082	992	1.082	1.082	1.059
Number of explanatory variables	29	29	28	29	26	34	43	31

Note: 2002Q1-2021Q2, including BE, DE, EL, ES, FR, IT, LV, LT, MT, NL, AT, PT, SI, SK and FI. Natural logarithm changes of one quarter compared to the previous quarter. Net capital stock data with quarterly frequency are interpolated from AMECO annual capital stock series OKND. Pooled generalised least squares; lagged and Hodrick-Prescott filtered series as instrumental variables. Country fixed effects included. *** p<0.001, ** p<0.05 and * p<0.1.

Source: Authors' estimation.

example, non-financial corporations debt-to-GDP ratio (consolidated measure) rose from 77.2% in the first quarter of 2020 to 84.7% in the first quarter of 2021 – of which the largest part seems to be concentrated in a subset of already highly leveraged companies. Such increases in debt might strengthen deleveraging needs thereby discouraging investment.²⁹

Conclusion

This paper suggests that lockdown measures to limit the spread of the virus had a strong adverse impact on gross fixed capital formation across the euro area. The impact varied across countries and over time reflecting partly cross-country differences in economic structure and gradual learning and adaptation by economic agents.

The strong rebound in investment in a context of very strong (and temporarily held back) demand, favourable financing conditions and supportive public investments (European Commission, 2021c) provides reasons for optimism. However, it is still too early to assess the long-term impact of the COVID-19 crisis on GFCF. Available evidence suggests that much of the long-run damage initially feared might have been avoided thanks to the bold policy response at the height of the pandemic and the comprehensive recovery strategy that has ensued.

²⁹ Microsimulations by Bénassy-Quéré et al. (2021) suggest that in France the debt overhang caused by the crisis could reduce corporate investment by almost 2% during the recovery phase. However, the authors do not take into account the impact of the French recovery plan.

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Klaas Lenaerts and Simone Tagliapietra

A Transatlantic Energy and Climate Pact Is Now More Necessary Than Ever

The Russian invasion of Ukraine has pushed Europe to re-design its energy map at speed. Amid this unprecedented energy overhaul, the EU and the United States have flagged their commitment to reinforce their bilateral energy partnership, starting with short-term measures to boost US liquefied natural gas supplies to Europe to promptly replace part of Russian gas imports. This article develops five issues around which a stronger transatlantic energy and climate pact might be built.

The Russian invasion of Ukraine marks a historical turning point for the European Union's security and energy policy. Long-held policy tenets are quickly being reversed, and a new European energy map is being redesigned at speed. Amid this unprecedented energy overhaul, the EU and the United States have flagged their commitment to reinforce their bilateral energy partnership, starting with short-term measures to boost US liquefied natural gas (LNG) supplies to Europe to promptly replace part of Russian gas imports.

With its new energy REPowerEU strategy, Europe intends to rapidly cut its reliance on Russian fossil energy not only by fostering substitution with alternative supplies, but also by accelerating its green transition to reduce its overall dependence on fossil fuels by 2030. This opens new possibilities for collaboration with the US on green tech cooperation, as well as on joint efforts to make global green energy and tech supply chains more resilient against potential disruptions and geopolitical weaponisation by Russia and especially China.

The Biden administration's willingness to engage with the EU, and its acknowledgement of climate change as an ur-

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gent matter, are most helpful in managing this watershed moment in international relations. It is now high time to think further and adapt to the post-crisis reality of high geopolitical tensions and the green transition by developing a durable transatlantic energy and climate pact for the long term.

Expectations in Brussels for stronger cooperation in these fields were high at the start of the Biden presidency, and there have indeed been some promising results concerning trade and global climate diplomacy, such as the announcement of cooperation for the decarbonisation of steel and aluminum and the EU-US-led global methane pledge in Glasgow. However, progress regarding some of the joint initiatives announced at the EU-US summit in June 2021 (European Council, 2021), such as the Transatlantic Green Technology Alliance and the Trade and Technology Council (which features a working group on climate and green tech), has been modest up til now.

Priorities for a transatlantic energy and climate pact

A transatlantic energy and climate pact should structure the broad agenda in the field around five main objectives and inject it with renewed vigor. It should place cooperation on a more solid footing to make it last beyond the current crisis and should enhance visibility and global credibility.

Get rid of Russian energy imports

For reasons of security and of depriving the Kremlin of financial resources, the first priority for the EU-US pact must be to rapidly replace Russian fossil fuel imports into Europe, which account for a substantial share of inland consumption (Eurostat, 2022). The EU first moved to ban

Russian coal, which is the easiest given the flexible and ample global supply (Zachmann et al. 2022). On 31 May, it then decided to ban seaborne Russian oil, a measure that will cut EU imports of Russian oil by 90% starting in January 2023. Given Russia's difficulties in completely re-routing these volumes to other areas, its oil production and total export will be reduced. To compensate for this loss of Russian oil in the global market, together with the US, Europe must engage with other oil producing countries to ensure adequate supply. The recent willingness that Saudi Arabia has shown to increase its oil production (Sheppard et al., 2022) illustrates how US-led diplomatic efforts can yield results at an important moment, as the EU just agreed on the embargo on Russian oil. If alternative global oil supplies are not enough to fully replace Russian oil, then obviously part of the solution must come from cutting demand for oil (IEA, 2022a), which also applies to other fossil fuels.

The biggest challenge is presented by natural gas. EU imports of Russian natural gas amounted to 155 billion cubic metres (bcm) in 2021. The European Commission has committed to rapidly phasing down these imports, and a Joint Taskforce on Energy Security was set up together with the White House to support this move (European Commission, 2022c). We see this as the first essential pillar of the transatlantic pact. The US is instrumental in cutting energy ties with Russia since it has become the largest global exporter of LNG, the most obvious short-term substitute for Russian gas imports (Disavino, 2021). EU imports of US LNG have seen a remarkable evolution, as they only started in 2016 but have surged to 44% of total European LNG imports in January 2022 (European Commission, 2022a).

Officials agreed to further boost LNG flows from the US to Europe by 15 bcm this year (Dalton, 2022). To address capacity constraints in the industry on both sides of the Atlantic, the Biden administration and the Commission have committed to accelerating permitting procedures for new LNG facilities, but to unlock the needed final investments decisions, these must pay off. The Commission therefore promised a stable demand for additional US LNG of 50bcm per year until at least 2030 (European Commission, 2022c). This political agreement must be further substantiated with real contracts between firms, which is best coordinated through the new EU Energy Platform to get better prices on the international market and with US counterparts to provide investors with an overview of who will actually buy what.

The first new actual LNG contract was signed in May by Engie from France and a Texan producer for 2.4 bcm per year for the next 15 years (Jacobs and White, 2022). Still, there might be worries among industry participants, espe-

cially importers in Europe, that their investments are not viable because the EU intends to reduce the use of LNG after 2030, for the sake of its greenhouse gas emission targets (US exporters could redirect flows to Asia after that, where LNG demand is expected to continue to increase as coal is being phased out). Part of the answer for investors could be to make newly built European gas pipelines heading inland ready to transport hydrogen in the future, which would make current investments worthwhile (Wang et al., 2020). However, "hydrogen-proofing" might be technically less feasible for import and regasification infrastructure. If this is the case, public resources will unavoidably be needed to make the necessary investments.

For this element of the transatlantic energy and climate pact, it is especially important to look beyond the EU and the US. This is because, on the one hand, LNG will also have to be imported from other places like Qatar in order to fully replace Russian gas in Europe. On the other hand, strategic independence from Russia must also be achieved by those countries that are immediately threatened by it (Ukraine, Moldova, Georgia) as well as by countries in the Western Balkans that seek to join the EU or have joined NATO. The Partnership for Transatlantic Energy and Climate Cooperation is likely the most suitable forum to extend cooperation to these countries.

Avoid new dependencies and vulnerabilities

Faced with the double urgency of war and climate change, the European Commission has launched a new package of proposals, dubbed "REPowerEU", which would further raise the EU's ambitions in renewable energy and energy efficiency (European Commission, 2022e). In the US, President Biden has also considerably increased his country's climate ambitions. The problem is that China, another systemic rival and potential security threat to both transatlantic partners, has become increasingly dominant in green tech over the past decade (Grünberg, 2022; Ladislav and Tsafos, 2020), notably in the manufacturing of wind turbines, solar photovoltaics (PV) and electric vehicles but also in requesting new patents and setting standards (IEA, 2022b). Moreover, critical raw resources needed for these technologies are in short supply in Europe, and even in the US (IEA, 2021). In contrast, Russia and China have large reserves of lithium, silicon, nickel, graphite, zinc and copper (ESGS, 2022).

In order to avoid creating new vulnerability to geopolitical blackmailing, as well as to reap the economic benefits of the green transition, the EU and the US must work together and with mutual partners to set up more diversified global green tech value chains. This is the second objective of our pact.

Securing green tech value chains involves, on the one hand, ensuring global access to critical raw resources from as many different players as possible (such as Australia, Chile and the Democratic Republic of the Congo) as well as recycling to retain raw materials (Rizos and Righetti, 2022). It also means creating infrastructure in partner countries for the production, distribution and export of renewable energy, for example through “green hydrogen corridors” advanced in the REPowerEU proposals. Coordination between the EU’s Global Gateway initiative and similar US infrastructure financing initiatives can be most useful in this regard.

On the other hand, the transatlantic economies must also regain a firmer foothold in the final production of green technologies. This does not mean that we should start clawing back market share in solar PV manufacturing by subsidising uncompetitive firms. It does mean that western countries must reflect on how to build stronger positions for their industries in newly diversified green tech value chains and to maximally exploit comparative advantages.

Accelerate development and deployment of new technologies

Regaining a foothold in today’s green tech value chains requires gaining a competitive edge through innovation. Moreover, reaching net zero greenhouse gas emissions by 2050 demands that we further develop and quickly deploy technologies that are only just emerging, such as green hydrogen systems, sustainable aviation fuels, floating offshore wind turbines, next generation electricity storage and carbon capture methods (IEA, n.d.).

Both matters require an industrial policy response. This has the potential to create friction between trading partners, particularly since in some areas economic competition between Europe and the US will prevail (e.g. solar panels and wind turbines). Some realism could help when there is competition: It is arguably preferable if either Europe or the US becomes a dominant player in a certain technology rather than China. In other areas, such as disruptive technologies, there might be mutual benefits in cooperation.

One point where cooperation could be mutually beneficial is the definition of common technical guidelines, for example for electric vehicle charging infrastructure, because it would allow the industry to scale up and reduce costs faster on both sides of the Atlantic without necessarily handing either side an edge. This specific example is already being addressed by the Trade and Technology Council (European Commission, 2022b).

The transatlantic pact should identify those areas where cooperation is possible and facilitate the creation of mar-

kets for new technologies once they leave the development stage, among others by supporting business-to-business contacts, as is currently being done directly in the margins of EU-US Energy Council meetings. Support could also come through initiatives such as the First Movers Coalition (US Department of State, 2021). The currently dormant Green Technology Alliance could become a forum for accelerating the development of technologies that are not yet ready to be scaled up, such as carbon capture.

Avoid new trade frictions between EU and US

When large economies like the US and the EU decide to pursue deep decarbonisation, it is bound to have significant extraterritorial implications for trade partners. To avoid unnecessary trade barriers and irritations that could hinder bilateral cooperation in other fields, it is imperative that a number of items are addressed *ex ante*, such as the use of subsidies and rules on green public procurement. The most important issue is the proposed carbon border taxes on both sides.

The EU is currently debating a proposal for a Carbon Border Adjustment Mechanism (CBAM), which would levy a tax on certain imported goods based on the amount of GHG emissions caused by their production (European Commission, 2021a). The aim is to create a “level playing field” for EU sectors subject to domestic carbon prices by de facto subjecting imports to the same carbon prices, if no such price is paid in the country of origin (mandatory CBAM certificates would cost the same as EU Emissions Trading System permits, any carbon prices paid in the country of origin would be deducted). This should also create incentives for partner countries and foreign firms to decarbonise their production. While this system covers only a limited range of carbon-intensive goods (i.e. cement, aluminum, fertilisers, electricity, iron and steel), it could serve as a blueprint for further developments.

In the US, which does not have a federal carbon price and would therefore be subject to the CBAM, this proposal has been met with reservation. A similar proposal has been launched by Democrats (Coons, 2021), which would tax imports depending on whether or not their origin country has climate policies that are deemed “at least as ambitious” as those of the US. The required tax amount depends on an artificial carbon price that reflects the costs of compliance to relevant US regulation. There are, however, important questions about the methodological and legal feasibility of these proposals, suggesting that a system based on explicit carbon prices is a better way forward (Leonelli, 2022).

Suspicion in Washington about the EU CBAM’s impact on bilateral trade is not entirely warranted. While it is true that

a focus on carbon prices alone would ignore the fact that emission abatement can also be achieved through other means such as regulation, the use of “embedded emissions” in the calculation of the CBAM amount should acknowledge that US industries have also made progress in reducing their carbon footprints. Article 7 of the current EU proposal says that embedded emissions in goods other than electricity shall be determined based either on the actual emissions – to be calculated in accordance with methods set out in the text itself – or, when that is impossible, by reference to default values also specified in the text. Consequently, goods with low or zero carbon content will pay low or zero CBAM.

Still, close cooperation with the US and other partners is needed, firstly because embedded emissions should be calculated in an internationally agreed manner to avoid disputes. The work on carbon footprinting in the Trade and Technology Council is a welcome start. More importantly, the EU and the US might want to cooperate to create an international climate club, an idea recently backed by Germany in the context of the G7. Such a club of countries would commit to stronger climate ambition and agree to coordinate policies, while taking some comparable measures such as similar explicit carbon prices and jointly introducing carbon border taxes on imports from third countries. The larger such a club would be, the greater the incentive for other countries to decarbonise and join it. A limited version of this has already been proposed under the Global Arrangement on Sustainable Steel and Aluminium (European Commission, 2021b).

Quickly setting up such a club and allowing for membership of countries that take serious climate action without the use of explicit carbon prices, like the US, would require a flexible approach, for example in the form of green certificates. These would testify that a certain firm’s products satisfy the standards of the club (for instance thanks to offsetting actions) and grant exemption from the carbon border tariff.

Act as tandem in international climate diplomacy

Finally, even the joint efforts of the EU and the US cannot achieve a global transition without calling on the international community to do its part too, since both economies together only account for about one-fifth of global greenhouse gas emissions. This will require more than confronting third countries with a joint carbon border tax.

Washington and Brussels agreed at the 2021 bilateral summit to set up a bilateral High-Level Climate Action Group (European Commission, 2022d), which has developed into a forum to coordinate global climate diploma-

cy. Discussions are ongoing in preparation for COP27 in Egypt later this year, where both partners will seek to advance implementation of the promises made in Glasgow, such as the Global Methane Pledge. They should further join forces to make countries that failed to increase their climate ambitions last time come forward with new proposals, especially wealthy countries like Australia.

Convincing emerging and developing countries to wean themselves off coal will be more challenging but must also be a priority. Coordinating activities under the Global Gateway and similar initiatives is a way to allow such countries to benefit economically from the global green transition while providing an alternative for China’s Belt and Road Initiative. It is, however, not enough to set them firmly on the track towards climate neutrality, or to finally fulfil the promise of \$100 billion of annual climate financing by developed countries. Triangular partnerships such as the \$8.5 billion Just Transition Partnership concluded between transatlantic partners and South Africa should therefore serve as a template for direct financial and technical assistance and be extended to other partners like India, Indonesia, Vietnam, etc.

Concluding remarks

The five objectives listed in this article are all highly relevant for transatlantic security and prosperity and grounded in healthy self-interest. Despite the political divisions around climate change that exist in a number of countries, we are optimistic that a pact built on these elements, especially the first four, can lead to a long-term and fruitful cooperation. Still, the past few years have shown that serious economic disruptions and security threats can materialise very quickly, and that our climates are changing faster than expected. Progress on all fronts should therefore be made as quickly as possible.

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Volker Brühl

Green Financial Products in the EU – A Critical Review of the Status Quo

The financial sector plays an important role in supporting the green transformation of the European economy. A critical assessment of the current regulatory framework for sustainable finance in Europe leads to ambiguous results. Although the level of transparency on environmental, social and governance aspects of financial products has improved significantly, it is questionable whether the complex, mainly disclosure-oriented architecture is sufficient to mobilise more private capital into sustainable investments. It should be discussed whether a minimum taxonomy ratio or Green Asset Ratio has to be fulfilled to market a financial product as “green”. Furthermore, because of the high complexity of the regulation, it could be helpful for private investors to establish a simplified green rating, based on the taxonomy ratio, to facilitate the selection of green financial products.

The EU has developed a Sustainable Finance Strategy to enhance transparency for investors, avoid greenwashing and channel more capital into sustainable economic activities. The European Action Plan on Sustainable Finance (European Commission, 2018), which has been refined through the Renewed Sustainable Finance Strategy (European Commission, 2021a) and amended by the “April package” in 2021 (European Commission, 2021b), provides the regulatory framework for sustainable finance in the EU.

This paper provides a detailed analysis on the conditions financial products have to meet in order to be classified as sustainable as well as the disclosure requirements for such products. It is suggested that a simplified “green rating” based on the taxonomy ratio could be useful in terms of avoiding greenwashing and fostering additional capital flows into green investments.

Economic rationale for sustainable corporate finance

In general, sustainable finance refers to the process of taking environmental, social and governance (ESG) considerations into account when making investment decisions in

the financial sector. This paper defines green finance as a subset of sustainable finance, i.e. the financing of investments that contribute to the attainment of one or more environmental objectives, which include climate change mitigation and adaptation (Berrou et al., 2019; Brühl, 2021; Brühl, 2020; Hong et al., 2020; European Commission, 2017).

Initiatives to generate more capital for ESG investments implicitly rest upon the assumption that investors prefer financial products with a given financial risk-return profile that perform better on ESG criteria. Financial products could directly finance specific investment projects to achieve certain sustainability objectives, or they could provide general financing to companies whose business profile meets certain sustainability characteristics. In either case, it is essential for investors that financial market participants disclose reliable and transparent information about the sustainability characteristics and impacts of financial products they offer. This will improve both the comparability of investment products and the information basis for portfolio decisions. Moreover, information asymmetries among financial market participants, advisors and investors will be reduced.

ESG investment products have been marketed for many years by large asset managers and investment firms, as demand for ESG products is on the rise. Several institutional investors have excluded problematic sectors from their investment universe if they are associated with major environmental hazards or if they do not comply with fundamental principles of good corporate governance (e.g. anti-corruption, anti-money laundering). The same applies to important social aspects such as the respect

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for human rights and the assurance of fair labour conditions. Overall, investment firms today are tending to put more pressure on the firms they invest in to actively address ESG risks due to the increased sensitivity of end investors. Rating agencies specialising in developing ESG risk scores and profiles already play an important role in marketing financial products that claim to be sustainable. Based on complex scoring methods, they include many different ESG factors and condense them into an ESG rating. If ESG ratings reach a level of market relevance and acceptance comparable to credit ratings, such scores could become a key performance indicator (KPI) for capital market-oriented companies. Hence, financing costs for sustainable investments may decrease if investors are willing to pay a premium for green securities (e.g. green bonds) with a given risk-return profile. However, there is so far no clear empirical evidence as to whether such a “greenium” can be observed (Deutsche Bundesbank, 2021).

Companies operating in a business with a high ESG risk score may have to pay a higher spread in financing transactions or – in extreme cases – might find it very difficult or even impossible to finance their business at all. Furthermore, companies with a poor ESG rating could face negative impacts on their company valuations due to higher costs of capital. Such impacts could create incentives for the management team to adjust their business model and incorporate ESG aspects into their corporate strategy. Whether such an effect materialises depends, inter alia, on investor preferences, i.e. whether investors are willing to sacrifice financial return for improved ESG compliance or vice versa. Clearly, there is not always a trade-off between the ESG score and the financial performance. This could be the case in industries where heavy investments in new technologies are needed to transform greenhouse gas (GHG) intensive industries such as steel, aluminium or cement production. On the other hand, there are several examples in sectors such as renewable energy or green tech where a high degree of sustainability can go along with strong financial performance.

However, due to the lack of a consistent regulatory framework ensuring a high level of transparency and data quality, cases of “greenwashing” have been detected in the recent past. For instance, financial products have been positioned as sustainable, yet a closer inspection of the investment portfolio revealed that they fulfil only some sustainability criteria, while they simultaneously cause negative impacts on other sustainability objectives. Transparency of the sustainability of economic activities is an essential precondition for equity and debt investors as well as investors in portfolio-based financial products such as mutual funds or exchange-traded funds (ETFs) to make informed investment decisions. Conversely, a lack of transparency, com-

parability and data reliability may lead to unintended consequences of investor decisions, potentially even harming sustainability objectives. The meaningfulness of ESG ratings may also be negatively affected.

In order to mobilise the capital necessary for the green transformation, sustainability objectives must be clearly formulated. Furthermore, detailed ESG criteria need to be established according to which economic activities to be financed through the financial product can be classified as sustainable. Such a classification system (taxonomy), including science-based indicators and metrics, provides the basis for characterising financial products as being more or less sustainable with regard to one or more ESG criteria.

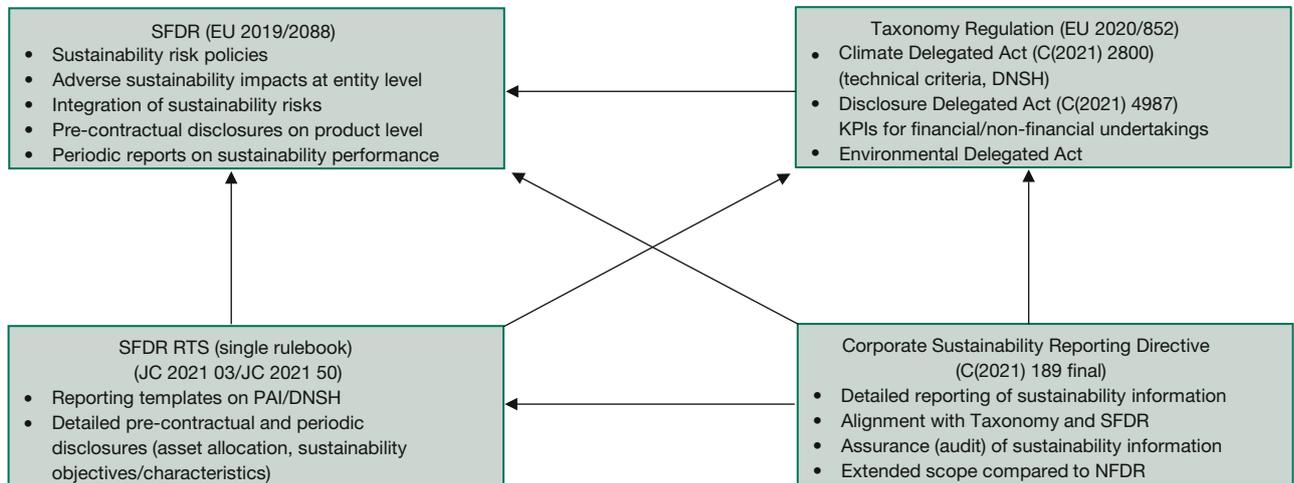
However, there is usually no direct relationship between the sources of capital and the business activities for which the financing is used. A direct link between sources and uses of funds can only be identified in certain cases. In project finance, for instance, the dedicated financing of e.g. a wind park or a solar park must be repaid based on the cash flow of the respective project. Another example could be a green bond issued under the European Green Bond Standard, which requires that funds raised be fully allocated to economic activities that are sustainable according to the Taxonomy Regulation. On the other hand, investment funds or ETFs investing in a diversified portfolio of stocks and bonds usually have neither an influence on the governance of the companies nor a direct link to investment or operational activities conducted by the investee companies. Besides, these funds normally do not inject new cash into those companies; they usually buy the securities on the secondary market.

Green (sustainable) financial products in the EU

In the EU, the regulatory framework for sustainable financial products consists of different legislative components that are closely interconnected (Figure 1). Firstly, the Sustainable Finance Disclosure Regulation (SFDR) provides the disclosure framework for sustainability information to be reported by financial market participants and financial advisors. The SFDR itself is closely related to the Taxonomy Regulation (TR), which has established a classification scheme allowing economic activities to be categorised in terms of their environmental sustainability. The TR is so far supplemented by the Climate Delegated Act, specifying the technical screening criteria of taxonomy-aligned activities, and the Disclosure Regulation, which defines the KPIs for non-financial and financial undertakings. The corresponding Regulatory Technical Standards (RTS) provide the detailed requirements in terms of methodology, indicators, metrics and reporting templates. Due to the close link between the SFDR and the TR, a “single rulebook”, i.e. a

Figure 1

Sustainability reporting for corporates and financial institutions in the EU



Notes: DNSH: do no significant harm; KPIs: key performance indicators; NFRD: Non-Financial Reporting Directive; PAI: Principal Adverse Impacts; RTS: Regulatory Technical Standards; SFDR: Sustainable Finance Disclosure Regulation.

Source: Own illustration.

set of RTS for both regulations is envisaged (SFDR RTS). Finally, it must be ensured that the required sustainability information is generated by the non-financial reporting standards for corporates. The Corporate Sustainability Reporting Directive (CSRD) is currently in the legislative process and is intended to broaden the scope and the level of detail of sustainability information disclosed so that the reporting needs – according to SFDR, TR and SFDR RTS – are taken into account.

The role of the Taxonomy Regulation

The TR has been adopted to establish a comprehensive, transparent and consistent framework that allows for a classification of economic activities as to their environmental sustainability. The taxonomy distinguishes between six environmental objectives. An economic activity has to contribute substantially to at least one of them in order to be categorised as sustainable. These sustainability objectives comprise “climate change mitigation” (e.g. investments in renewable energies) and “climate change adaptation” (e.g. flood protection). Other objectives include the protection of water and maritime resources, the transition to a circular economy, the prevention of pollution and the protection of biodiversity and ecosystems. An economic activity can only be classified as sustainable according to the Taxonomy Regulation, if

- it contributes substantially to one or more environmentally sustainable objectives (Article 9 TR) and

- at the same time the activity does not cause a significant negative impact on the other sustainability objectives (do no significant harm (DNSH) principle) (Article 17 TR) and
- it is carried out in compliance with the minimum safeguards laid down in Article 18 TR and
- it complies with the technical screening criteria applicable to the respective activity.

In addition, the TR distinguishes between economic activities that directly contribute to one of the defined objectives, activities that serve as an “enabler” (Article 16 TR) for such direct contributions, and activities that are needed as “transitional” technologies (Article 10(2) TR) as long as a sustainable alternative is not available. Moreover, the TR, together with the corresponding delegated acts and the RTS, define exactly the scope of the respective environmental objectives as well as the definition of “substantial” in that regard.

For instance, “climate change mitigation” (Article 2(5) TR) refers to the process of limiting the increase in the global average temperature to well below 2°C and pursuing efforts to limit it to 1.5°C above pre-industrial levels, as laid down in the Paris Agreement. The TR covers all activities that substantially contribute to the stabilisation or reduction of GHG emissions through avoidance, reduction or removal of GHG (Article 10(1) TR). In par-

Table 1
Examples of taxonomy classification

Activity	NACE code	Type	Technical criteria	Climate change mitigation	Climate change adaptation	Do no significant harm			Biodiversity/Ecosystems
						Water and marine resources	Circular economy	Pollution	
Electricity generation using concentrated solar power technology	D35.11 and F42.22	Taxonomy-aligned	N/A	✓	Appendix A	N/A	C(2021) 2800 final (Annex I, 4.1)*	N/A	Appendix D
Iron/Steel	C24.10, C24.20, C24.31, C24.32, C24.33, C24.34, C24.51 and C24.53	Transitional	(i) hot metal = 1,331112 tCO ₂ e/t product; (ii) sintered ore = 0,163113 tCO ₂ e/t product; (iii) coke (excluding lignite coke) = 0,144114 tCO ₂ e/t product	N/A	Appendix A	Appendix B	N/A	Appendix C	Appendix D
Coal mining	B5.1 and B5.2	Not taxonomy-eligible	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: *The activity assesses availability and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish. Appendix A = Performance of climate risk assessment. Appendix B = Risk assessment regarding protection of water and marine resources. Appendix C = Risk assessment regarding pollution and use of chemicals. Appendix D = Risk assessment regarding biodiversity and ecosystems. C(2021) 2800 final (Annex I).

Source: Own illustration.

ticular, it is considered that the following activities fulfil these requirements:

- generating, transmitting, storing, distributing or using renewable energy
- improving energy efficiency
- increasing clean or climate-neutral mobility
- switching to the use of sustainably sourced renewable materials
- increasing the use of environmentally safe carbon capture and utilisation and carbon capture and storage technologies
- strengthening land carbon sinks, including through avoiding deforestation and forest degradation, restoration of forests, sustainable management and restoration of croplands, grasslands and wetlands, afforestation, and regenerative agriculture
- establishing energy infrastructure required for enabling the decarbonisation of energy systems
- producing clean and efficient fuels from renewable or carbon-neutral sources.

The definition of “significant harm” is laid out in Article 17 TR. For instance, all activities that lead to significant GHG emissions are detrimental to the objective “climate change mitigation”. The TR has been amended by three delegated

acts so far. Apart from the Climate Delegated Act establishing the technical screening criteria for the environmental objectives “climate change mitigation” and “climate change adaptation”, the corresponding technical criteria for the remaining environmental objectives will be set forth in the upcoming Environmental Delegated Act. In addition, the Disclosure Delegated Act concretises the disclosure obligations according to Article 8 TR, which requires increased transparency in non-financial statements on how and to what extent the undertaking’s activities are associated with economic activities that qualify as environmentally sustainable under the TR. In particular, non-financial undertakings shall disclose the proportion of their turnover derived from products or services associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9 TR. The proportion of their capital expenditures and of their operating expenditures related to assets or processes associated with sustainable economic activities need to be reported accordingly.

How the taxonomy works in practice is illustrated by way of three examples, the first of which is electricity generation using concentrated solar power (CSP) technology. The second is the manufacturing of iron or steel and the third is coal mining as a typical example of a non-sustainable activity (Table 1). The sector categorisation is achieved

by using the NACE codes, which is the statistical classification system of economic activities in the EU. While the economic activity CSP is taxonomy-aligned by definition, as it contributes to climate change mitigation by using carbon-neutral technologies, manufacturing of iron and steel is categorised as transitional technology as long as an alternative carbon-neutral technology is not available. In order to qualify nevertheless as a taxonomy-aligned activity, certain technological criteria defined as upper limits of CO₂ emissions have to be met. These criteria reflect the average emission intensity of the top 10% most efficient installations of the existing steel manufacturing operations, depending on the value chain. Hence, other steel operations exceeding these emission criteria are taxonomy-eligible, as they are covered by the taxonomy, but not taxonomy-aligned. Other activities, such as coal mining, are excluded from the taxonomy by definition.

Table 1 also shows that, for both activities, it must be proven that the DNSH criteria have been fulfilled. For each environmental objective, specific compliance tests have to be conducted, which are prescribed in detail in the respective annexes A to E of the Climate Delegated Act (C(2021) 2800 (Annex I)).

In order to consider the potential adverse impacts of the economic activities financed by the respective financial product, financial market participants need to publish, for each product, a Principal Adverse Impacts (PAI) statement. With regard to taxonomy-aligned activities, the strict criteria of DNSH have to be applied. Adverse sustainability indicators associated with climate change mitigation could be the level of GHG emissions, the carbon footprint and the GHG intensity of investee companies. The supplier of a financial product promoting ESG criteria (Article 8 SFDR products) or even pursuing specific investment objectives (Article 9 SFDR products) therefore needs to disclose potential negative impacts on GHG emissions using these indicators.

The GHG emissions of a financial product (GHG_{FP}) are calculated as the total GHG emissions of the investee companies weighted by the relative value of the investments compared to the enterprise value of the investee company. The resulting figure is the GHG emission volume attributable to the investment portfolio measured in tonnes of CO₂ equivalent (tCO₂e).

$$GHG_{FP} = \sum \frac{\text{current value of investment}_i}{\text{investee company's EV}_i} \times \text{investee company's scope}(x) \text{ GHG}_i$$

Another adverse sustainability indicator for climate change mitigation is the carbon footprint (CFP) of the fi-

ancial product, which measures the GHG emissions in tCO₂e per million euro of investment value.

$$CFP = \frac{\sum \frac{\text{current value of investment}_i}{\text{investee company's EV}_i} \times \text{investee company's scope}(1+2+3) \text{ GHG}_i}{\sum \text{current value of investment}_i (\text{million euros})}$$

The GHG intensity (GHGI) of the financial product refers to the GHG emissions in tCO₂e per million euro of revenues.

$$GHGI = \sum \frac{\text{current value of investment}_i}{\sum \text{current value of investment}_i} \times \frac{\text{investee company's scope}(1+2+3) \text{ GHG}_i}{\text{revenue of investee company} (\text{million euros})}$$

After a controversial political discussion, the Climate Delegated Act and the Disclosure Delegated Act of the TR will possibly be amended by a Complementary Climate Delegated Act (C(2022) 631/3), which classifies certain gas and nuclear energy activities as transitional activities that could contribute to a faster transition to a climate-neutral energy sector. It is argued that nuclear energy is a low-carbon technology and that best-available existing technologies (“Generation III+” nuclear plants) will be used. However, it is possible that the DNSH principle of the taxonomy will be violated, as the final disposal of high-level radioactive waste has yet to be resolved. Gas-based energy activities are also viewed as transitional technology if they meet the strict technical screening criteria. Highly efficient gas-fired power plants can be temporarily helpful to decarbonise the energy sector by replacing coal-fired plants, for example, which have higher carbon emissions. Furthermore, specific disclosure requirements apply to nuclear- and gas-related activities, e.g. the amount and proportion of activities linked to natural gas and nuclear energy.

Although the basic approach of the taxonomy is understandable and reasonable, the currently envisaged implementation is rather complex, requires large amounts of granular data and the technical screening criteria have to be regularly updated due to technological advances. It is questionable whether the required data can be collected in a reliable way, especially with regard to the value chain of manufacturing industries. Furthermore, ways to simplify compliance for smaller and medium-sized companies should be considered.

The role of the Sustainable Finance Disclosure Regulation

The SFDR covers financial market participants (FMP) such as investment firms, alternative investment funds,

venture capital funds, insurance companies, security brokers, pension funds as well as insurance firms and banks offering portfolio management services. The regulated financial products are investment funds (e.g. UCITS, ETF), alternative funds, insurance-based investment products (IBIP), pension funds as well as pan-European personal pension products (PEPP). Detailed and harmonised disclosure obligations regarding the integration of ESG aspects in the investment process, the characteristics of the financial product and pursued ESG objectives shall improve transparency and comparability for investors.

FMP have to publish information about their general policies on the integration of sustainability risks into their investment decision-making process. They have to disclose how they consider PAI of investment decisions on sustainability factors including their due diligence policies and any actions taken to mitigate them. In order to facilitate sustainable investment decisions, FMP have to comply with extensive pre-contractual and periodic disclosure requirements for each financial product they make available by 30 December 2022.

The SFDR distinguishes between “light green” financial products (Article 8 SFDR, “Article 8 products”) that just promote environmental or social characteristics and “dark green” financial products (Article 9 SFDR, “Article 9 products”) that pursue specific sustainable investment objectives. The Taxonomy Regulation (Article 5 TR) has amended the disclosure obligations for Article 9 products by requiring information about the environmental objective(s) to which the investments underlying the financial product contribute. Furthermore, it has to be described how and to what extent these investments are in economic activities that qualify as environmentally sustainable in line with the strict criteria of the TR. Similarly, the disclosure requirements of Article 8 products that are promoting environmental characteristics have been amended by Article 6 TR.

It should be noted that the defined scope of sustainable activities pursuant to §2(17) SFDR is broader than the precise definition of environmentally sustainable activities according to the TR. For instance, the SFDR also covers activities contributing to a social objective, e.g. by addressing equal access to healthcare and education systems or by fostering social integration of economically or socially disadvantaged communities. The TR is also more restrictive in terms of environmental sustainability. If all TR-related criteria are met, the respective activity is said to be taxonomy-aligned; if the activity per se could be eligible under the TR but violates e.g. the technical screening criteria, the activity may be called taxonomy-eligible but not taxonomy-aligned.

As the SFDR and TR regulations are closely interlinked, they have been combined in the amending RTS in a “single rulebook” (SFDR RTS) for sustainability-related disclosures in order to avoid inconsistencies or duplications. Therefore, the European Supervisory Authorities (ESA) have developed draft SFDR RTS that establish detailed requirements regarding the content, methodologies, metrics, indicators and reporting templates for both regulations. There are many communalities in terms of disclosure requirements between the two different types of sustainable financial products (Article 8, Article 9 SFDR), including information on the investment strategy, integration of ESG criteria, the planned asset allocation including the selection criteria applied and the consideration of principal adverse impacts of investment decisions on sustainability objectives.

Figure 2 illustrates the pre-contractual disclosure requirements for Article 9 SFDR (“dark green”) products in more detail. Information about the respective investment objectives, the indicators used to measure the attainment of such targets and information about the avoidance of significant harm to other sustainability objectives (DNSH) needs to be disclosed. Furthermore, the planned minimum investments in sustainable activities and certain KPIs such as the minimum ratio of taxonomy-aligned investments (including and excluding investments in sovereign issuers) have to be published. If a financial product pursues the reduction of CO₂ emissions, it has to be disclosed whether and how such emissions will be reduced in alignment with the Paris Agreement.

For both types of sustainable financial products, periodic reporting of ESG performance parameters is mandatory (§11 SFDR) and is closely aligned with the pre-contractual disclosure obligations. Periodic reporting is an important prerequisite for a fair pricing of ESG financial products. This provides incentives to financial market participants to deal with unintended impacts and gives investors the chance to dispose of financial products that are underperforming in terms of ESG. Therefore, it has to be reported if and to what extent the objectives (Article 9 products) or characteristics (Article 8 products) have been attained. Possible deviations and their major drivers have to be addressed. Furthermore, the performance of the financial products compared to the selected reference index has to be explained. A core element of the periodic reporting is the actual versus the planned asset allocation, which includes, inter alia, a list of the 15 largest investments as well as information about the actual ESG performance indicators (taxonomy ratio, Green Asset Ratio). Other periodic reporting obligations for Article 9 SFDR products concern the contribution to taxonomy-based environmental ob-

Figure 2

Pre-contractual disclosure for financial products referred to in Article 9 SFDR and Article 5 TR

- Information on investment strategy and the sustainability objectives of the financial product including information on environmental objectives according to TR (EU 2020/852) and the measurement of attaining these objectives
- Information on indicators used to measure the attainment of sustainability objectives
- Consideration of principal adverse impacts of investment decisions on sustainability objectives
- Information on planned asset allocation and the selection criteria applied
 - Minimum investments with sustainability objectives
 - Minimum investments in economic activities with an environmental objective that are taxonomy-aligned
 - Explanation of sustainable investments that are not taxonomy-aligned
 - Other investments (compliance with minimum environmental and social safeguards)
 - Explanation of taxonomy-aligned investments and calculation of taxonomy ratio based on relevant shares of turnover, capital expenditures and operating expenditures or corresponding KPIs for financial undertakings (e.g. Green Asset Ratio)
 - Calculation of KPIs with and without sovereign exposures
 - Information on minimum investments in “enabling” or “transitional” activities
- Information on index as reference benchmark including methodology and alignment with the sustainability objectives; explanation of the difference to a broad market index
- Information on the attainment of sustainability objectives, information on DNSH and consideration of indicators according to tables 1, 2 and 3 in Annex I of SFDR RTS
- If a reduction of CO₂ emissions is intended, information on whether and how these reductions contribute to the long-term reduction target of the Paris Agreement
- Declaration whether the applied benchmarks fulfill the conditions of EU Climate Transition Benchmark or an EU Paris-aligned Benchmark under Chapter 3a of Title III of Regulation (EU) 2016/1011
- Information on external review/audit of compliance with taxonomy
- Compliance with OECD Guidelines for Multinational Enterprises, UN Guiding Principles on Business and Human Rights

Notes: DNSH: do no significant harm; KPIs: key performance indicators.

Source: Own illustration based on the Sustainable Finance Disclosure Regulation (SFDR), the Taxonomy Regulation (TR), the draft SFDR Regulatory Technical Standards (SFDR RTS).

jectives and the achievement of CO₂ reduction targets. Information about the purpose and proportion of investments with a social objective and the proportion of investments in enabling/transitional activities needs to be provided as well.

Key performance indicators and Green Asset Ratio

In order to enable investors to evaluate the degree of sustainability of economic activities of large undertakings, the proportion of turnover, capital expenditures and operating expenditures have to be disclosed that are taxonomy-aligned, only taxonomy-eligible or not taxonomy-eligible (Article 8 TR, C(2021)4987). However, companies are expected to disclose not only the overall ratios, but also the allocation to the different sustainability objectives and the compliance with the DNSH criteria.

The calculation of corresponding KPIs for financial undertakings measuring the degree of taxonomy alignment of their activities depends on the respective business model

(e.g. asset managers, investment firms, credit institutions or insurance companies).

For credit institutions, the Green Asset Ratio (GAR) plays an important role, which reflects the proportion of taxonomy-aligned assets compared to the total assets covered. The GAR has to be calculated both using the proportion of taxonomy-aligned turnover and taxonomy-aligned capital expenditures of the underlying assets. The financial instruments considered include loans, advances, debt securities, equity instruments and certain off-balance sheet instruments.

Credit institutions are expected to periodically report not only the aggregated GAR, but also disaggregated figures differentiating between environmental objectives and types of counterparty. Similar KPIs have been established for asset management companies and other financial institutions. Due to the complexity of the data generation and technical requirements for the reporting, the Disclosure Delegated Act applies with a limited scope as of 1 January 2022, the remaining obligations

Table 2
Example of “green rating” of financial products

Rating score	A	B	C	D	E
Taxonomy ratio	100% - 80%	79.9% - 60%	59.9% - 40%	39.9% - 20%	19.9% - 0%

Source: Own illustration.

for non-financial and financial undertakings will have to be applied successively until 1 January 2024.

The detailed disclosure obligations introduced by the SFDR in connection with the TR, the delegated acts and the RTS are certainly useful for supporting investment decisions of institutional investors. However, it is questionable whether retail investors being addressed by ETFs or UCITS are able to fully understand the ESG information provided by suppliers of financial products. Therefore, it could make sense to introduce a kind of mandatory “green rating”, especially for financial products supporting environmental objectives such as climate change mitigation and climate change adaptation. The metric applied to such a rating could be the taxonomy ratio based on the proportion of taxonomy-aligned turnover. Consequently, the “green rating” of financial products would improve with a higher taxonomy ratio and vice versa. Table 2 illustrates a simplified example with rating intervals of 20% mapped to five green scores from A to E.

Conclusions

The European regulatory framework for Sustainable Finance consisting mainly of the SFRD, TR and CSRD, including the corresponding delegated acts, ensures a much higher level of transparency on ESG aspects of financial products and thus improves the information basis for investor decisions. The complex design of the disclosure obligations will create significant additional costs of collecting, evaluating and reporting sustainability data for both financial and non-financial undertakings, including for financial market participants. A taxonomy precisely defining sustainability objectives, the categories and technical criteria for sustainable activities is essential to raise more capital for sustainable investments. However, what the current architecture of the regulatory framework for sustainable finance lacks are minimum quantitative criteria measuring the degree of sustainability of financial products. For instance, the taxonomy ratio or the GAR are per se meaningful indicators, but so far financial market participants are only obliged to report these figures within the planned and realised asset allo-

cation. In order to provide stronger incentives to achieve a high taxonomy ratio, it should be discussed whether a minimum taxonomy ratio (e.g. 25% or even 50%) has to be achieved to market a financial product as “green”. A similar approach to “social” financial products could be taken as soon as a “social taxonomy” is in place. Based on such green and social ratings of financial products, a combined ESG rating could be established that also requires compliance with good corporate governance practices. Furthermore, it is questionable whether the complex reporting requirements will really impact the investment decisions of end investors. Especially for retail investors, a simplified “green rating” based on the taxonomy ratio could facilitate a target-oriented selection of sustainable financial products.

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André Wolf

Sustainable Carbon Cycles: A Framework for the Ramp-up of Carbon Capture?

With its communication “Sustainable Carbon Cycles”, the European Commission has opened a new chapter in European climate policy. For the first time, natural and artificial CO₂ capture and storage technologies are to be covered jointly in an overarching regulatory approach. This article reviews the techno-economic potentials of the application fields envisaged by the Commission’s strategy, and defines central requirements for a future funding framework. The establishment of markets for carbon credits is identified as a basis for commercialising storage solutions. However, a prerequisite for efficient trading is to create transparency about the climate impact of the technology alternatives. Efforts to improve existing measurement concepts and test procedures as well as the development of certified standards are decisive steps on this path. The time horizon of carbon sequestration should be a crucial aspect in certification and monitoring. Double funding and unnecessary subsidisation of activities that are already profitable today need to be avoided.

With the communication “Sustainable Carbon Cycles” published in December 2021, the European Commission has opened a new chapter in EU climate policy (European Commission, 2021). For the first time, the promotion of both natural and artificial technologies for CO₂ storage is addressed in a comprehensive strategy and thus placed in the spotlight of the European climate debate. The Commission believes that Negative Emission Technologies (NETs) could play a key role in reaching the goal of climate neutrality by 2050. Since upscaling takes a long time, the necessary steps to build up capacities and subsequent value chains must be taken today. At the same time, given the wide range of available technologies, the individual potentials and risks must be assessed. This raises many questions: What potential do CO₂ storage technologies offer against the background of the EU climate targets? Which instruments are necessary to create sufficient economic incentives for their development? What are requirements for the support framework to be developed by the Commission? This article addresses these questions based on findings from the current literature. It analyses the characteristics and economic incentive problems of the various technologies and derives recommendations for a future funding framework.

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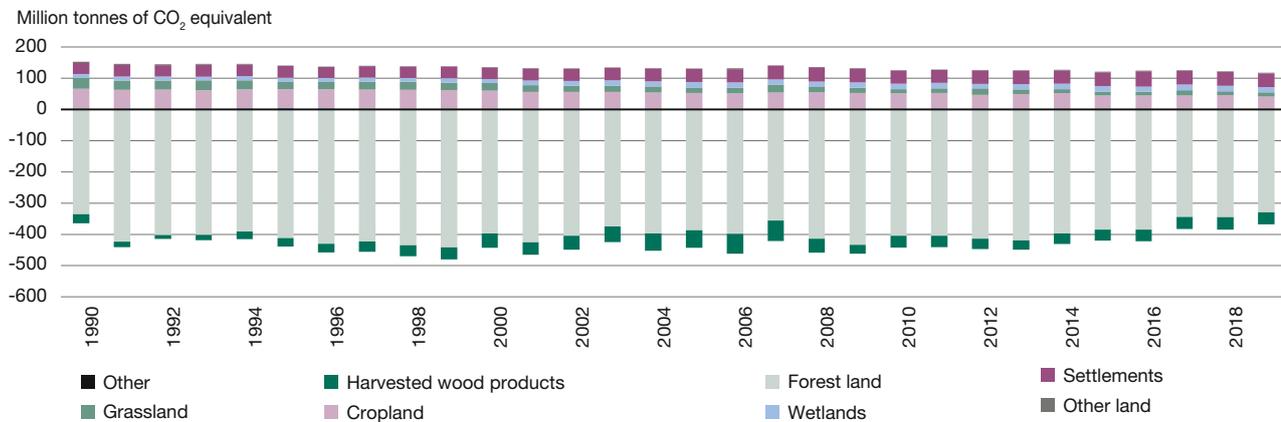
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The role of CO₂ storage in climate mitigation policies

A major focus of the debate on CO₂ storage is on NETs, i.e. approaches that aim to remove greenhouse gases (GHG) from the atmosphere. This involves established techniques of sustainable land management as well as more recently explored technologies such as ocean fertilisation, biochar production, enhanced weathering or Direct Air Capture (Minx et al., 2018). This is to be distinguished from CO₂ storage processes that absorb emissions from the combustion of fossil or mineral resources. In the latter case, storage does not cause a reduction in the GHG content of the atmosphere.

CO₂ storage processes play an important role within climate projections, especially when considering the long term. Simulations by the UN Intergovernmental Panel on Climate Change (IPCC) identify comprehensive storage capacities after 2030 as a prerequisite for a realistic chance of achieving the 1.5 degree Celsius target (IPCC, 2018). The International Energy Agency (IEA) also identifies a critical role for storage technologies in its Sustainable Development Scenario, which envisages climate neutrality of industrialised countries by 2050 (IEA, 2021). At the same time, the IPCC warns against naïve confidence in these technologies. Knowledge about their long-term effectiveness and possible climatic and ecological side effects is still insufficient in many fields. In addition, processes for storing other important greenhouse gases besides CO₂ are currently still considered purely speculative (IPCC, 2018). Against this background, the EU Commission is focusing on two categories of measures: carbon farming and industrial carbon capture.

Figure 1
Land use, land-use change and forestry sector emissions and removals in the EU, by main land use category



Source: European Environmental Agency (2022).

Economics of carbon farming

Carbon farming can be broadly defined as all land management practices that aim to reduce GHG emissions and/or increase carbon storage in organic material. A study commissioned by the EU Parliament distinguishes between five areas of carbon farming measures: the management of peatlands, agroforestry measures, measures to increase carbon sequestration in soils, measures in the field of livestock farming, improved soil nutrient management (McDonald et al., 2021). This diversity of measures makes it difficult to compare their climate-related effectiveness. Significant differences can occur not only in the average duration of carbon storage achieved, but also in their vulnerability to external disturbances. In the case of carbon sequestration in soils, additional capacity limits must be considered. Moreover, maintaining the desired effect usually requires a long-term commitment (Thamo et al., 2016). This is an essential difference to climate protection measures in other sectors: A one-time avoidance of emissions in energy transformation or industrial production permanently improves the greenhouse gas balance.

In the EU, the land use, land-use change and forestry (LU-LUCF) sector is already a regular contributor to net CO₂ emission removals (-249 million tonnes of CO₂ equivalents in 2019), however, with a declining trend. The annual absorption of CO₂ by forests has decreased noticeably over the past decade, while gross emissions from land management have hardly decreased (see Figure 1).

Economically, carbon farming represents a form of service provided by agriculture and forestry to the climate system. Since the benefits of this service are not immediately visible, there are additional costs associated

with verifying and reporting its results. On the revenue side, the problem arises that no immediate market for the provision of such a climate service exists. An alternative mechanism may be provided by supply chains. If consumers show a preference for food with a low carbon footprint, there is an incentive for companies in the food industry to reward their suppliers for climate-friendly agricultural practices in the form of higher purchase prices. Moreover, this mechanism can also work beyond the own supply chain if proof of the climate service is declared a tradable product. In this way, external companies get the opportunity to achieve compensation for their own emissions activities through the purchase of carbon credits.

A prerequisite is a high degree of credibility and transparency regarding the climate impact of the carbon farming activities. The resulting information costs should typically be higher for anonymous trading of carbon credits via markets than for supply chain-internal monitoring. However, a restriction to offsetting via the supply chains would miss efficiency potentials. The production techniques of different agricultural products are not equally suitable for the implementation of carbon farming activities; there are significant differences in the cost estimates per tonne of CO₂ stored. Tang et al. (2016) identify a range of \$5 to over \$100 cost per tonne of CO₂ in their literature review. Carbon credit trading could leverage these efficiency potentials by creating a steering effect towards the carbon farming methods with the lowest abatement costs.

In order to reduce the monitoring effort, the instrument of certification is central. A certificate can be used to set clear requirements for the quality of carbon farming practices and the associated documentation obligations, compliance with which is checked by an independent certification body. The

resulting certainty reduces costs on both sides of the market. Farmers can adapt to clear standards and draw on related experience, while buyers of carbon credits can better assess their quality and document it to the outside world.

However, the development of a suitable certification system in this case represents a particularly great challenge. It should consider both the diversity of carbon farming methods and the complexity of agricultural systems and related difficulties in measuring climate impacts. Potential impacts on non-climate related parameters such as soil quality should also be included in the formulation of standards.

Australia is a frontrunner in the establishment of carbon credit markets. As early as 2011, the country introduced a system of tradable carbon credits for the land use sector as part of a carbon farming initiative. The operators of carbon farming projects receive carbon credit units for the avoidance or storage of carbon emissions, depending on the number of metric tonnes of CO₂ that are avoided/stored. These can be sold either to a public regulatory body or to private players on the open market. The sale to the regulatory authority is organised via a reverse auctioning process. The projects place bids in the form of the amount of monetary compensation they expect to receive for storing one tonne of CO₂. The projects with the lowest bids are selected by the regulator (Clean Energy Regulator, 2022). In this way, the societal costs for achieving a given storage capacity are supposed to be minimised.

However, research on the Australian system casts doubt on the practical incentive effects of such a mechanism. For example, participation rates among farmers have remained relatively low (Kragt et al., 2017). Surveys identify regulatory and pricing uncertainty associated with participation as the primary barriers. On the other hand, the reasons for implementing carbon farming measures are not so much the prospect of carbon credits but more the individually achieved additional benefits, especially in the form of improved soil quality and yield (Dumbrell et al., 2016).

In general, the economic analysis of carbon credit markets must take into account the significant differences to the established system of emission allowance trading. Participation in the market is not mandatory but is based on a voluntary initiative. Moreover, there is no regulatory cap. Price expectations can also play a different role than in emissions trading. For example, the expectation of rising prices on carbon credit markets tends to have a counterproductive effect on the climate economy: Actors would have an incentive to delay the implementation of carbon farming measures. Also, unlike in emissions trading, the homogeneity of the traded good is not obvious: Carbon farming measures designed to store carbon may

differ significantly in the expected storage period and nature of the associated risks. Such differentiation places high demands not only on the certification process, but also on the design of carbon credit markets.

Economics of industrial carbon capture

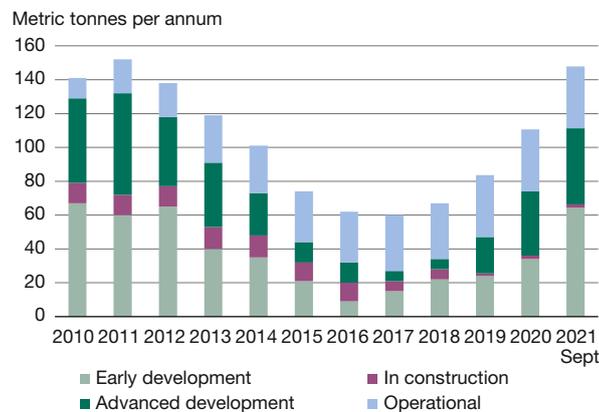
Industrial carbon capture can be defined as practices of CO₂ separation by means of engineering methods. On the one hand, these can be differentiated according to the origin of the captured CO₂. The CO₂ can be of fossil, mineral or biogenic origin, or taken directly from the atmosphere (direct air capture). A further distinction concerns the destination. The traditional option is to feed the captured CO₂ into air-sealed reservoirs for long-term storage (carbon capture and storage, CCS).

The suitability of CCS as an instrument of climate policy has been the subject of controversial debate for some time. Foremost, the risk of CO₂ leakage cannot be ruled out for the longer term, as studies of existing storage facilities have shown (Jones et al., 2015). Possible side effects of storage, such as acidification of groundwater resources or geological instability, must also be monitored, depending on the location (Gaurina-Medimurec and Marvar, 2019). Moreover, the net contribution of a CCS system to the greenhouse gas balance depends on the source of the carbon. While a combination of fossil fuels and CCS is almost climate neutral at best, a combination of biogenic energy sources and CCS has potential to effectively reduce greenhouse gas concentration in the atmosphere.

Despite extensive support measures, the global capacity development of CCS has fallen short of expectations in recent years. The Global CCS Institute reports a total capacity of about 36.6 million metric tonnes of CO₂ per annum for plants in operation (September 2021). Although the number of planned projects has increased significantly again recently, the expected total capacity of all active and planned plants is also only 149.3 million metric tonnes of CO₂ per annum (see Figure 2). To achieve the climate neutrality targeted in the IEA's Sustainable Development Scenario, storage capacity would have to increase to 7.6 billion tonnes of CO₂ per annum by 2050 (Martin-Roberts et al., 2021). Among the currently operating CCS plants, there are only two significant commercial facilities on European soil, both of which are outside the EU (Norway).

The central economic challenge is the long-term nature of the investment in such a CCS plant. Not only is there a high initial outlay for building the necessary infrastructure, but there are also persistently high operating costs associated with maintenance and energy consumption

Figure 2
Global capacities of carbon capture and storage facilities



Source: Global CCS Institute (2022).

(Boot-Handford et al., 2014). This results in a long pay-back period. Against this background, regulatory uncertainty represents a major obstacle. Strategic changes in climate policy threaten to produce lock-in effects. In addition, there is uncertainty about the long-term reliability of storage and the resulting cost risks. On the revenue side, there is also uncertainty about the long-term development of the CO₂ price.

At the same time, studies point to significant cost differences between CCS deployment in different industrial processes. Production processes in which the capture of concentrated CO₂ streams is integrated from the outset exhibit a cost advantage. This applies, for example, to natural gas processing, ammonia production and bio-ethanol production. Other emission-intensive industries, such as cement and steel production face significantly higher conversion costs (Irlam, 2017). The Global CCS Institute's most recent estimates of capture costs range from about \$10 per tonne of CO₂ for natural gas processing, fertiliser and bio-ethanol production to over \$100 for iron and steel and aluminium production (Global CCS Institute, 2021).

For an economic assessment of CCS, such estimates must be weighed against the abatement costs of technological alternatives with comparable climate impact. Decarbonisation, i.e. switching to carbon-free energy sources and raw materials, is superior to investing in CSS technologies in some fields, not only in terms of independence from fossil sources, but also from an efficiency perspective (Sgouridis et al., 2019). However, not all sectors of the economy with high CO₂ emissions can be decarbonised in a timely manner at a reasonable cost.

Against this background, the use of biogenic carbon and subsequent CO₂ storage (BECCS) appears to be a promising variant. Since such a system implies a net withdrawal of CO₂ from the atmosphere, operators of BECCS projects could expect higher remuneration in a funding system based on climate impact. Since the bioenergy sector itself does not participate in the EU Emissions Trading Scheme (EU-ETS), such a remuneration system has yet to be developed. However, there are caveats against the origin of the required biomass. First, this concerns the capacity of suitable land area. Second, when bioenergy is produced from food and feed crops, there is competition for land with the food sector. Currently, about 20% of bioenergy in Europe (in energy units) is produced from agricultural sources. In the future, the industry association expects this share to increase significantly (Bioenergy Europe, 2021). This may result in new economic dependencies. Simulations show that a significant build-up of BECCS capacity can induce strong price correlations between carbon and agricultural markets. Thus, a long-term increase in CO₂ prices may also be reflected in rising food prices (Muratoro et al., 2016).

Direct air capture as a third capture technology can lead to real negative emissions just like BECCS, while avoiding the problems associated with biomass cultivation. However, the lower degree of maturity compared to the other technologies still stands in the way of a rapid roll-out. This applies first and foremost to high energy consumption. This not only affects the economic viability of the technology, but can also, depending on the electricity mix, have a massive impact on its climate footprint (Terlouw et al., 2021). At the same time, the comparatively early development stage offers the prospect of particularly significant learning effects in the future.

On the use side, carbon capture and utilisation (CCU) as an alternative to storing the captured CO₂ has gained relevance in the climate policy discussion. Using CO₂ as a raw material not only avoids the long-term risks associated with storage but can also save resources by replacing the use of fossil or mineral raw materials in production. However, the evaluation is highly process dependent. The IEA (2019) identifies four product categories with future potential: fuels, chemicals, construction materials and fertilisers. To produce CO₂-based fuels, the complementary use of hydrogen is usually necessary. At current process costs, this is the reason for the lack of price competitiveness compared to fossil alternatives in these fields. If the hydrogen is not produced via electrolysis using green electricity, the CO₂ balance of the CCU system is worsened. In the chemical industry, in addition to the established urea produc-

tion, the use of CO₂ in plastics production is also an option (Muthuraj and Mekonnen, 2018). The use of CO₂ in the production of building materials is particularly attractive from a climate perspective in light of the long life cycle of the products. Technologies currently being researched for this purpose do not require the use of hydrogen as a cost driver. At the same time, they provide the sectors that are particularly difficult to decarbonise with an opportunity to recycle captured CO₂ using their own waste products. For instance, intensive research is being conducted into the mineralisation of CO₂ emissions in the steel industry using steel slag as a basis to produce construction materials. This technology is already considered marketable and climate-friendly (de Kleijne et al., 2022). In the cement and concrete industry, the use of CO₂ in the curing of concrete is being tested, offering the potential for particularly long-term storage (Liang et al., 2020).

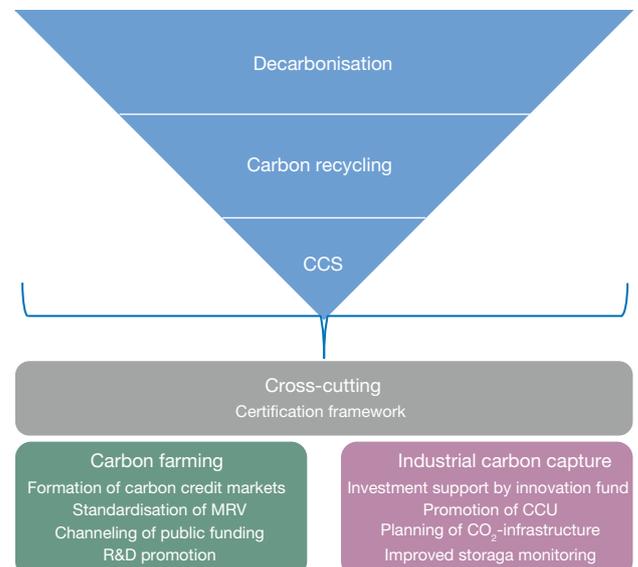
The sustainable carbon cycles strategy

With its Communication “Sustainable Carbon Cycles” published in December 2021, the EU Commission has for the first time outlined an overarching plan for the development of a common regulatory framework for CO₂ capture (European Commission, 2021). The Commission divides its strategy into three fields of action that affect carbon cycles in different ways (see Figure 3).

The first field of action comprises all measures aimed at decarbonisation, i.e. reducing gross emissions by switching to carbon free products and energy sources. This field of action enjoys absolute priority: All potential for decarbonisation must first be exploited before measures to offset gross emissions come into play. The second field involves measures in the area of carbon recycling. The Commission understands these as activities aimed at replacing the use of carbon from fossil resources with alternative processes that remove carbon directly or indirectly from the atmosphere. The Commission emphasises that these activities must be limited to those economic sectors for which decarbonisation is not an option. The third field is the upscaling of solutions for the capture and permanent storage of CO₂ from the atmosphere. In this way, the remaining potential for reducing greenhouse gas concentrations after decarbonisation and carbon recycling is to be exploited.

Carbon capture is thus part of the second and third fields of action of the EU strategy. While the second field aims at the (re)utilisation of the captured carbon, the third field refers to a permanent storage and thus a permanent removal of carbon from its cycle. In both cases, the Commission distinguishes between two basic forms: carbon

Figure 3
Elements of the sustainable carbon cycles strategy



Source: Own representation.

farming and industrial carbon capture technologies. The strategy paper proposes a variety of instruments for promoting these technologies.

Instruments for carbon farming

Promotion of tradable carbon credits in land use: The creation of markets for trading carbon credits is seen by the Commission as a way to ensure direct remuneration for activities to reduce net land-related emissions. At the same time, the market mechanism is expected to ensure that activities are focused on those areas of land use where they can be implemented at reasonable economic cost.

Standardisation of MRV procedures: The Commission will set up a group of experts to develop appropriate standards for monitoring, reporting and verification (MRV) of net emissions. In this way, it is also hoped to standardise the recording approaches that currently exist at the national level.

Channelling of support from public funds: Since the returns from carbon farming are delayed, the Commission sees a need for additional government support in the initial phase. The channels of support available to the sector are to be specifically adapted to this purpose. These include Common Agricultural Policy (CAP) funds,

Cohesion Policy funds, support for pilot projects under the LIFE program, and additional aid at the member state level.

Support for research and development: In the new EU Horizon Europe framework research program, research into innovative approaches in the field of carbon farming occupies significant space. The Commission first plans to support the establishment of a demonstration network. Later, the use of digital technologies for emission control will be a focal point of research.

Instruments for industrial carbon capture

Expansion of investment support via the EU Innovation Fund: The EU Innovation Fund for commercial testing of emission-reducing technologies, with an expected total volume of around €25 billion for the period 2020-30, also serves to finance CCS projects. The focus here is on funding large-scale lighthouse projects.

Promotion of products: The production of industrial products and energy sources manufactured using captured carbon is to be promoted. This includes, for example, the promotion of synthetic fuels for maritime transport (Commission proposal for the EU Maritime Directive) and air transport (Commission proposal for the ReFuelEU Aviation Directive).

Planning of a cross-border CO₂ infrastructure: The necessary transport and storage infrastructure is to be planned on a cross-border basis in order to give countries the opportunity to participate, regardless of whether they have their own suitable storage sites. In the interest of competition between suppliers and CCS technologies, the open access principle should also prevail.

Improving the implementation of the monitoring system: The EU-wide implementation of the framework for monitoring and risk management of storage sites developed in the CCS Directive is to be improved. To this end, the guidelines for implementation are to be updated against the background of the new objectives.

Cross-cutting instruments

Regulatory framework for the certification of carbon removals: In the long term, NETs should be fully integrated into the existing framework of EU climate policy. As in other cases, the Commission would like to use the instrument of taxonomy and certification to ensure reliability and create trust. This is seen as a precondition for the availability of private funding and subsequent market penetration.

Requirements for a future support framework

From the economic analysis, concrete requirements for a future funding framework for CO₂ storage in the EU can be formulated. Foremost, against the background of existing measurement and monitoring uncertainties, the introduction of a public certification system represents an important step towards creating confidence in the climate effectiveness of CO₂ storage technologies and reducing related monitoring costs. In areas such as carbon farming and artificial storage from biogenic sources, certification will provide a boost to the development of carbon credit markets. Crucial to its impact is the definition of clear and reliable criteria for determining the carbon footprint of technologies and their practical measurement. On this basis, a segmentation of carbon credit markets could be introduced, depending on the respective scope of the climate service provided.

With regard to carbon farming, targeted funding requires that the climate balance of the many, very heterogeneous methods in the field can be reliably weighed against each other. Support for the development of improved measurement methods that sufficiently reflect the complexity of the interrelationships in ecosystems should therefore be given priority in the allocation of funding. An important criterion in the selection of projects to be funded should be, first and foremost, the expected permanence of carbon storage in biomass in the case of land-use storage projects. A further criterion is the additionality of the measures to be promoted, with a view to existing voluntary initiatives and the existing CAP subsidies. In the support mechanism, carbon farming practices should be clearly separated from industrial carbon capture technologies. While the latter in principle offer the prospect of a permanent removal of CO₂ from the carbon cycle, natural carbon sinks are always limited in time. For this reason, carbon credits from land use should not be applicable to offset industrial greenhouse gas emissions.

In industrial carbon capture, the combination of currently still high abatement costs and promising learning potentials justify the envisaged expansion of government support. To overcome CO₂ price uncertainty as an investment barrier, carbon contracts for difference should be introduced as a complementary instrument. When allocating subsidies, it is advisable to bundle them in a targeted manner in key sectors. Today's abatement costs should not be the sole yardstick for this. Instead, differences in expected future cost degression and alternative decarbonisation costs should also serve as criteria. In particular, the steel and cement industries should be classified as potential sectors in this regard. Regarding the use of

captured CO₂, priority should be given to projects for productive use over underground storage. Uncertainty about the costs of long-term storage is thus avoided, and raw materials are saved in production. In this way, negative emissions are integrated into the overarching principle of a circular economy. Here, too, support should be targeted: The focus should be on products with a good climate balance from a life cycle perspective. In view of the long-term nature of carbon sequestration, the use of CO₂ in the production of durable goods is a particularly promising area of application.

Conclusion

With the “Sustainable Carbon Cycles” communication, the EU Commission has added a further field of application to its extensive range of climate policy instruments. Under the umbrella of a sustainable carbon cycle, different technologies of CO₂ capture and storage are united for the first time in a common regulatory approach.

Our analysis of the sustainable carbon cycles strategy shows the potential of these technologies, but also the economic obstacles that currently stand in the way of their widespread implementation. To realise their potential for climate protection, government support is currently still indispensable. However, this should not be limited to investment support, but should above all promote the development of new markets for carbon capture. Two factors are crucial for this: reliable monitoring of the climate balance of the technologies and their transparent verification via an EU-wide certification system. At the same time, the variety of technically feasible alternatives makes prioritisation indispensable. The promotion of carbon capture in the land-use sector should depend on the permanence of storage and possible ecological side effects of measures. Industrial carbon capture should focus on economic sectors in which the abatement costs of storage solutions are low compared to alternatives and which are as complementary as possible to the goals of decarbonisation and circular economy in the other sectors. This is an argument for prioritising solutions of using CO₂ as a feedstock over long-term underground storage. In order to account for differences in the amount of climate service provided, the segmentation of future carbon credit markets is recommended.

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Inflation Fears and Strong Labor Markets

The United States economy is in uncharted territory. On the one hand, many measures look very strong. The economy created 377,000 jobs in June 2022, bringing the total for the first half of the year to 2,740,000. The private sector has now gained back all the jobs lost in the pandemic. The unemployment rate stands at 3.6%, just 0.1 percentage point higher than its low point over the last half century. And, people are quitting jobs in numbers far higher than before the pandemic. This means that workers stuck in jobs with low pay and bad bosses now feel they have the freedom to leave.

At the same time, we see inflation hitting a 40-year high. The year-over-year rate reported in June was 9.1%. Measures of consumer confidence have sunk through the floor and many economists are now predicting a recession, while most people tell pollsters we are already in one. Also, our GDP data showed the economy shrank in the first quarter, with the data available to date indicating a decline in the second quarter is also likely. There is much to sort out here.

The first issue to deal with is the GDP data. It is absurd to imagine that the U.S. economy is currently in a recession, even if the second quarter data again show GDP is dropping. We do not have recessions when the economy is creating more than 400,000 jobs a month.

The issue here seems to be largely accounting. The negative growth in the first quarter was due to a big rise in net exports and a smaller rise in inventories than in the fourth quarter, both of which are negative entries for GDP. Final sales of domestic product, which excludes inventory accumulation and net exports, increased at a healthy 2% rate in the quarter. This is almost the same as the 1.8% growth reported for real domestic income, which in principle is just GDP added up on the income side.

GDP reportedly grew at a 6.9% rate in the fourth quarter, with inventories contributing 5.3 percentage points of this growth. It is likely that this number will be lowered in revisions and the first quarter number raised. Similarly, both consumption and investment look to be growing at a respectable pace in the second quarter, meaning that a negative number for this quarter will again be driven by inventories and/or net exports.

In short, the economy is not currently in a recession, but if the crew demanding big rate hikes from the Fed has its way, it could be soon. The claim of the recession lobby is that we are in the middle of a wage-price spiral like we saw in the 1970s. If the Fed does not raise rates aggressively, inflation will keep getting worse. Eventually, we will be faced with a choice of double-digit inflation or a deep recession, like the one engineered by Paul Volcker as Fed chair in 1981-82.

The problem with this story is that it does not fit the data. First, the labor market is hugely different in 2022 than in the 1970s. Most importantly, unions are far weaker today, with just over 6% of the private sector workforce now being unionized, compared to more than 20% in the 1970s.

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Dean Baker, Center for Economic and Policy Research, Washington DC, USA.

We also have a far more internationalized economy. This limits the ability of domestic companies to raise prices in response to cost-pressures.

This is not just speculation. While the inflation rate has been rising through the first half of 2022, wage growth has actually slowed sharply. The annualized rate of wage growth at the end of 2021 was over 6.0%. In the most recent data, it was just 4.4% using three-month averages. If we just annualized the rate from June alone, it was 3.8%. This is only slightly higher than the 3.4% rate in 2019, when inflation was comfortably below the Fed's 2% target.

The wage data are erratic, so we have to view the exact numbers with some caution, but the direction of change is clear. Wage growth is slowing, not speeding up. We cannot have a wage-price spiral like in the 1970s if wage growth is getting slower, not faster. This is not a good story for real wages (more in a moment), but it means that we are not on the cusp of double-digit inflation.

We can also say that inflationary expectations do not seem to be getting embedded in the economy. The breakeven rate of inflation between inflation indexed Treasury bonds and regular Treasury bonds has been falling in recent months. It is now just over 2.3% for 10-year Treasury bonds. Similarly, consumer surveys show expectations of inflation are falling.

The wage-price spiral story clearly does not fit the data. Instead, the United States is seeing inflation driven by the same factors as the European Union and the rest of the world. Soaring prices for oil and gas, due to concerns about supply following Russia's invasion of Ukraine, is a huge part of the story. Similarly, the price of wheat and other agricultural commodities jumped after the invasion. We have also seen shortages of a wide range of products, from apparel to household furnishings and appliances, as a result of supply-chain problems caused by the COVID-19 pandemic.

However, we are finally working through many of these problems. Non-car inventories are more than 25% above their pre-pandemic level. The price of wheat has fallen back to its pre-invasion level and oil prices are now back below \$100 a barrel, sending gas prices tumbling in the last month. Even used car prices, which had risen by almost 50% since the start of the pandemic, are now headed downward.

For these reasons, it is virtually certain that inflation will be much slower in the second half of 2022 and 2023 than it has been over the last year. This means that even if wages increase in a 3% to 4% range, workers will be able to see a healthy pace of real wage growth.

The big risk in this story is the actions of the Fed. The overnight interest rate directly under its control is still at a low level. Its hikes to date have been successful in heading off a bubble in the housing market and seem to have curbed inflation in rents as well.

However, if the Fed responds to pressure from inflation hawks, and continues to hike interest rates at a rapid pace, it will slow the economy and quite possibly throw us into a recession. Furthermore, if we do go into a recession, and the Republicans take control of at least one house of Congress, it could end up being a long one. The Republicans view a recession as their best hope of beating Biden in 2024 and will do nothing to try to boost the economy before the election.

For this reason, the biggest threat to the economy today comes from the recession lobby. If they can force the Fed to boost rates enough to have a recession, we could have a very difficult road ahead.

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