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CHRISTINE LAGARDE
EXAMINES THE PATH AHEAD
FOR THE EUROPEAN
ECONOMY

**DEVELOPING THE EU'S
POLICY TOWARDS CHINA
IS A PRIORITY FOR URSULA
VON DER LEYEN**

PATRICK VAN SCHIE
DISCUSSES CITIZEN PROTESTS
AGAINST COMPULSION AND
COERCION

THE EUROPEAN TRADE AND FINANCE PLATFORM

CONTENTS

Navigating uncertainty

Petros Fassoulas and Aimée Duprat-Macabies stress the importance of social and green policies to build a just and resilient European economy

Citizens protest against compulsion and coercion

Patrick van Schie discusses the provincial elections in the Netherlands, and examines whether this might be part of a broader trend among voters in Western democracies

Bringing EPGs to the centre of the policy debate

Marco Buti, Alessandro Colocchia and Marcello Messori argue that a well-functioning economic union needs a permanent central fiscal capacity

Sanctions against Russia will worsen its economic prospects

Sanctions, coming on top of longstanding domestic shortcomings, are gradually weakening Russia. Elina Ribakova argues countries opposing Russia's war on Ukraine should keep up the pressure

EU's digital competition law can give users more control

Christophe Carugati believes that the EU's DMA gives regulatory authorities another chance to tackle the difficult issue of user consent for data processing

CONTENTS

How will higher carbon prices affect growth and inflation?

Carbon pricing is a central instrument in the EU's fight against climate change. Brand *et al* use macroeconomic models examine what higher prices for carbon emissions will do to growth and inflation

Improving banking resolution in the EU

The Commission's Crisis Management and Deposit Insurance proposal has the potential to improve bank resolution in the European Union, Mathias Dewatripont, Peter Praet and André Sapir suggest

EU moving towards better international bank capital standards compliance

The US and Swiss bank collapses show the importance of strong capital and liquidity positions and should signal to the EU the benefits of closer adherence to Basel III, Nicolas Véron believes

The value added of CBDCs: a view from the euro area

Maria Demertzis and Catarina Martins argue that the ECB is uniquely positioned to help create the global standard, and in the process to help protect the EU's global strategic interests

CONTENTS

A digital euro: widely available and easy to use

Fabio Panetta argues that making a digital euro both available to everyone and easy to use requires a good design and an adequate regulatory framework

Holdings limit will prove central to the digital euro's future

The European Central Bank says its digital currency will not be a store of value, in contrast to global counterparts. Rebecca Christie discusses the ECB's digital euro strategy

Economic uncertainty creating difficulty for central banks

Francesco Papadia says regaining price stability is difficult but doable, but the bigger problem facing central banks is economic uncertainty, not managing the trilemma

The path ahead

Christine Lagarde says dynamic between profits and wages risks continuing to drive up prices, and warns of danger of 'tit-for-tat' inflation

Developing Europe's policy towards China

Ursula von der Leyen wants to de-risk, not de-couple trade with China, arguing that trade can remain strong as long as the EU can increase its resilience in some strategic sectors

The EU's strategic dependencies unveiled

Román Arjona, William Connell Garcia and Cristina Herghelegiu find that the EU benefits greatly from its wide participation in international value chains

Navigating uncertainty



Petros Fassoulas and Aimée Duprat-Macabies stress the importance of social and green policies to build a just and resilient European economy

The pandemic health crisis, coupled with Russia's invasion of Ukraine, has cast a long shadow over European societies and economies. As the digital and green transitions reshape everything around us, it is imperative for the European Union to support its citizens in adapting to this changing reality.

This article emphasises the need for social and green policies that prioritise the wellbeing of individuals, address inequalities, and promote sustainable development. These recommendations align with the outcomes of the Conference on the Future of Europe, reflecting the collective voice of EU citizens, civil society, and social partners.

Economic challenges and labour market transformation

The EU is facing an uncertain economic outlook due to the side effects of the COVID-19 pandemic, the conflict in Ukraine, rising inflation, and a looming debt crisis. These crises have resulted in job losses, increased youth unemployment, and job insecurity. Despite positive productivity growth, real wages have stagnated or even declined in recent years.

To prevent this situation from leading to structural unemployment, it is crucial for the EU and national governments to provide short-term incentives that prevent long-lasting negative economic effects.

The EU must seize this opportunity to transition to a new model of growth that prioritises environmental sustainability and climate action. Redistributive measures, quality employment, robust social protection systems, and accessible quality services for all are vital components of this transition.

Replacing GDP as the sole indicator of prosperity with comprehensive metrics that encompass wellbeing, human rights, gender equality, and environmental protection is a crucial step in this direction.

The concept of the just transition should extend beyond specific regions and sectors, addressing the root causes of complex inequalities in Europe. Sectors most affected by the transition, such as mobility, transport, and construction, have predominantly male workforces, while sectors with predominantly female workforces are often overlooked.

The European Union stands at a critical juncture, grappling with the aftermaths of the health crisis, geopolitical tensions, and economic uncertainties. Urgent action is required to navigate these challenges and ensure a just and sustainable future

The EU should conduct a detailed analysis to identify other sectors that can contribute to a just transition, such as health, care, and education, which are already low-carbon and beneficial to society and nature.

Education and skills at the heart of the new model

The economic downturn has coincided with a growing number of unfilled job vacancies, potentially hindering key EU strategic priorities such as the European Green Deal. Reskilling programs and further education initiatives are essential for equipping workers, particularly those from vulnerable groups, with the necessary skills to adapt to the evolving labour market.

It is imperative to broaden the definition of 'frontline workers' to include sectors beyond the traditional ones and ensure their inclusion in relevant employment protections.

Education plays a vital role in fighting inequalities, promoting social mobility, and unlocking human potential. The EU should ensure that education aligns with the needs of the economy, facilitating job matching through adequate training programs.

Continued vocational education and training (VET) are essential in responding to structural changes in the labour market. Strengthening multistakeholder platforms like the European Alliance for Apprenticeship (EAfA) and increasing investments in vocational education will contribute to upskilling the workforce and fostering inclusivity.

To adapt to emerging opportunities in an evolving landscape, individuals need technical and transversal skills and the ability to continue learning throughout their careers. Dedicated funding should prioritise disadvantaged young people and ensure ongoing skills relevance and upskilling throughout their lifecycles.

Access to digital education programs, the teaching of digital skills, and awareness campaigns on the consequences of digitalisation and social media for democracy should also be enhanced.

The digital world must align with offline regulations

The shift to remote work during the pandemic has been significant and is likely to persist in the future. Consequently, we should adapt existing working rules and safeguards to encompass remote work conditions. This includes transposing non-remote working regulations into remote working frameworks to ensure equal protection for workers.

It is essential to consider the potential consequences of increased digitalisation, such as the deepening of the digital divide, invasion of privacy, and the blurring of work-life boundaries. In that regard, social partners are very important in shaping and implementing key digital rights, such as the right to disconnect, through collective bargaining.

Platform work has also rapidly gained prominence in recent years, particularly among younger workers, but often lacks adequate protection and rights compared to traditional employment.

We need clear criteria to differentiate between self-employment and false self-employment because all platform workers should have access to social rights and protection, while minimum standards should be set for those who may not qualify as employees.

Transparent algorithms, fair working conditions, and accessible redress mechanisms are essential components to safeguard the rights of platform workers.

Civil society and social partners have a key role to play

Ensuring robust social and civil dialogues at all levels of governance remains pivotal in shaping decisions related to employment, industrial relations, and social standards across industries and sectors within the European Union. The principle of non-discrimination and the universal right of association for workers, irrespective of their sector, must be upheld.

Key principles such as subsidiarity, proportionality, and the autonomy of social dialogue should be respected to protect EU social standards and workers' rights. Employers and trade unions, being intimately acquainted with labour market needs, should be equipped with the necessary means and tools to proactively anticipate changes and ensure the EU's central economic role while upholding the social acquis.

It is vital to safeguard fundamental rights and avoid any erosion of workplace standards or protections during emergency situations such as the COVID-19 pandemic and conflicts like the one in Ukraine.

While acknowledging the progress made in EU social and labour policies, it is crucial to extend support to vulnerable populations, including the long-term unemployed, Roma people, and migrants, who face multiple barriers to employment.

Civil dialogue, along with consistent consultation of civil society organisations representing marginalised groups, must be a core component of policy implementation. Efforts should focus on combatting discrimination in European labour markets, with labour and social legal instruments incorporating anti-discriminatory measures and affirmative actions.

Labour market policies should adopt a comprehensive, human rights-based, and person-centred approach. Commitment to the principle of co-determination in labour relations, facilitating collaboration between employers and employees in shaping working conditions, is essential.

Protecting and supporting the youth

The COVID-19 crisis has disproportionately affected young people, negatively impacting their employment prospects, income, educational outcomes, and mental health. Disturbingly, two-thirds of Europe's youth may now experience depression or anxiety, with marginalised youth facing the harshest consequences.

Policymakers must prioritise developing recovery plans that address the long-term impacts on young people, ensuring an intersectional approach to tackle the specific challenges faced by various youth groups.

Meaningful participation of young people and youth organisations is critical in shaping these plans. Enhancing the successful transition from education to employment, particularly for those graduating in the upcoming years, is imperative.

In addition, access to mental health and wellbeing support for young people should be expanded, recognising the relationship between socio-economic factors and mental health outcomes.

The EU should strengthen job creation schemes that offer quality employment opportunities for young people and contribute to their overall wellbeing.

Implementing dedicated quality standards at the European level will be instrumental in ensuring the success of programs such as the EU Youth Guarantee, while advocating for a ban on unpaid internships should be pursued.

Conclusion

The European Union stands at a critical juncture, grappling with the aftermaths of the health crisis, geopolitical tensions, and economic uncertainties. Urgent action is required to navigate these challenges and ensure a just and sustainable future.

It is imperative for the EU to prioritise the wellbeing of its citizens and the planet through the implementation of social and green policies.


Moreover, the EU must recognise the crucial role of civil society, social partners, and youth organisations in shaping policies and decisions. Genuine dialogue and collaboration are essential to build consensus and ensure that recovery measures leave no one behind.

EU policymakers, senior executives, and policy players should heed these recommendations and make the necessary commitments to drive transformative change.

Together, let us forge a path towards a fair and inclusive Europe, where prosperity, sustainability, and social justice go hand in hand. Only by working together can we build a resilient future for all. ■

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This article is based on a policy position of the European Movement International, published in May 2023.



Citizens protest against compulsion and coercion

Patrick van Schie discusses the provincial elections in the Netherlands, and examines whether this might be part of a broader trend among voters in Western democracies

Provincial elections in a relatively small country are not particularly likely to draw international attention, and so a large part of the world undoubtedly failed to notice that, on the 15th of March, elections were held in the Netherlands – a medium-sized country even from the perspective of its own inhabitants – for the Provincial Councils, the people’s representatives for the country’s 12 provinces.

Insofar as the foreign press covered the event at all, they reported the rise of yet another new right-wing ‘populist’ party, the Farmer-Citizen Movement (BBB). Whether it was the *BBC* or *The Guardian*, *The Washington Post* or *Die Zeit*, the international media seemed to agree that the Netherlands had become more firmly gripped by populism.

Populism is, however, a dubious concept in itself. The word is often used, especially by opponents of a party thus dubbed, with the intention of dismissing it, rather than gaining insight into its ideas, and I have argued this before (together with Fleur de Beaufort) in *World Commerce Review* (Summer 2021).

But the BBB, the party which from a national perspective became the largest in the Netherlands by polling 1.7 times the number of voters of the runner-up VVD of prime minister Mark Rutte, the largest party in government, has a profile which, on a number of counts, does not match that of the parties typically denoted as ‘populist’.

The importance of provincial elections in the Netherlands

Most of the Dutch population are not at all clear about the business of provincial governance, which is why they have little affinity with the Provincial Councils, which are, as it were, parliaments at a provincial level.

Throughout recent decades, the turnout rate for provincial elections has often remained below 50%. By way of comparison, the turnout for the election of the House of Representatives, the most important constituent of the national parliament, is generally between 75 and 85% of eligible voters.

Insofar as the provincial elections could be considered to be a benchmark, it was a poor one; the turnout of supporters for some parties was more reliable than that of others. The Christian democrats, for example, traditionally score better in provincial than in national elections.

It is now up to the old, established parties to show that the protest vote has indeed been heard, and that the casting of it has been meaningful. If voters are able to see this, democracy will have worked and faith in the democratic system will continue to be high

The turnout on the 15th of March, however, was 57.5%. Although this remains significantly below that of parliamentary elections, a rising trend has been observed for some 15 years now for the provincial elections. This is directly related to the fact that in the Netherlands, the members of the Provincial Councils elect the members of the First Chamber – the Senate – according to an indirect system.

Thus, Dutch citizens can indirectly determine the composition of the national Senate for the next four years by means of the provincial elections, a fact which, for the majority of the voters, is almost certainly the most decisive factor in determining their choice.

Admittedly, at a national level political primacy lies with the House of Representatives, but the First Chamber (hereinafter referred to as Senate) must approve all laws and treaty adjustments, so it is able to obstruct the legislative work of a cabinet when it sees fit.

Since those parties which were traditionally the largest have diminished significantly, and parliament now comprises more parties than before, the formation of a new cabinet following elections for the House of Representatives has become an increasingly cumbersome process.

Whereas two parties from the former big three (the Christian Democrats, the Social Democrats and the Liberals) used to suffice to ensure an ample majority for a coalition in the House of Representatives, it now takes more parties, which then have to rely on a scantier majority.

The current Rutte IV cabinet is a 4-party coalition, supported by only 77 of the 150 members of the House of Representatives. As it was, the coalition didn't have a majority in the Senate before the 15th of March and could count on only 32 out of the Senate's 75 members. The most recent provincial elections are likely to lead to a loss of

10 of these 32 seats, meaning that more parties that do not form part of the coalition will be required to ensure a majority for legislative proposals.

Unless, that is, the coalition manages to secure the support of the new BBB. With 17 seats in the new Senate, this party has only 5 fewer seats in that chamber than the combined coalition parties and could ensure – on its own – that the legislative proposals of the cabinet are determined by the Senate.

The comet-like rise of the BBB

The winner on March 15th is a very young party, only founded on the 1st of November 2019, yet in the elections for the House of Representatives in 2021, barely 18 months later, the BBB secured 1.0% of all votes. The March 2023 provincial elections saw an abrupt increase to 19.2%, and in three rural provinces in the north-eastern part of the country, the party secured roughly a third of all votes.

Considering the demographic makeup of the electorate, it is highly improbable that all of these votes were cast by farmers and their families, and indeed, the BBB appeared to be popular among other citizens as well.

In Leeuwarden, the largest city in the northern rural province of Friesland for instance, the BBB polled 17.4%. The BBB's broad power of attraction is clearly evinced by the fact that the party even drew quite a few voters in the three largest cities in the West of the country: in Amsterdam, for example, they achieved 5.0%, in Rotterdam (with its international port) 8.2% and in The Hague (the seat of Dutch government) 8.7%.

Furthermore, the gains of the BBB come at the expense of a wide range of parties: traditional centre-right parties such as the liberal VVD and the Christian democratic CDA, as well as the right-wing nationalist parties like the PVV led by Geert Wilders, but a quarter also came from parties on the left of the political spectrum.

In addition, the BBB has been successful in drawing citizens who have not turned out for previous elections to the ballot box; about a quarter of the electorate stayed at home when the provincial elections were last held.

A similar picture emerges from the self-classification of voters. Of those voters who position themselves in the centre, 24% voted for the BBB. The percentage is 26 for voters who consider themselves to be moderately right, and 20 for those who see themselves as firmly on the right (among the latter, the liberal VVD did slightly better with 22%).

However, as many as 8% of moderately left-wing voters also opted for the BBB, and even 4% of firmly left-wing voters. This suggests that the BBB is actually more of a centre-right party capable of drawing in voters from the left of the political spectrum.

In terms of its political programme, the BBB cannot per se be classified as a right-wing party. Its manifesto is not complete (yet). For instance, it is not clear where the party stands with regard to foreign policy or defence, although the BBB's sole member in the House of Representatives, popular front woman Caroline van der Plas, did condemn the Russian invasion of Ukraine.

When it comes to subjects touching on social legislation and healthcare, Van der Plas has so far voted more often with the left-wing opposition than with the centre-right parties. On the other hand, the BBB is in favour of a more stringent migration policy and stepping-up the investment in motorways.

Several politicians and media commentators have suggested that most BBB voters are older, less-educated people. Admittedly, the BBB is less popular among young voters, but the level of education is a fairly good reflection of the levels among the age groups from which the BBB draws most of its voters.

In this respect, too, the caricature of populism does not really fit. Furthermore, in contrast to other so-called 'populist' parties (such as Wilders' PVV and the extreme-socialist SP on the left wing) the BBB does not wage opposition at any price. Van der Plas and her party members have intimated, also since their March election victory, that they want to bear the responsibility of governance in the provinces and use the clout of their seats in the Senate to deflect cabinet policy.

Nitrogen and the farming businesses under threat

The BBB's main policy is its aspiration to put an end to the uncertainty that cabinet policy has introduced for farmers, and cattle farmers in particular. The issue is that, inspired by the political party D66, the second largest party in the present House of Representatives, a very substantial reduction of nitrogen emissions was incorporated into the coalition agreement of the Rutte IV cabinet.

D66 is the most left-wing of the coalition partners, and calls itself 'social liberal' (but it has been adopting an increasingly collectivist attitude). This reduction in emissions should theoretically prevent the further erosion of flora in numerous (often small) areas to which a protected-nature status has been attributed, because it is from agriculture in particular that a huge contribution to the nitrogen deposition in these protected areas is expected. The cabinet wants to achieve this chiefly by reducing overall livestock numbers, or even by the compulsory purchase of complete farming operations.

Although the agricultural sector has already realised a substantial reduction in nitrogen emissions by means of innovations, and also by decreasing livestock numbers, a methodical approach has been agreed at the instigation of left-wing coalition partner D66 which includes considerable reduction objectives that were to have been realised in 2030.

In the process, D66 is even demanding that livestock numbers be halved. Furthermore, the cabinet has not ruled out the instrument of the compulsory purchase of farms.

Such a policy might be able to count on the support of left-wing urban voters but, in more rural regions in particular, much resistance has been caused by the cabinet's rigid adherence to the methodical objectives and the imminent violation of property rights.

The BBB has indicated that two elements must be removed from the agenda without fail: firstly, that the proposed nitrogen reduction must have been fully realised in 2030 and, secondly that farmers may be subjected to compulsory purchase orders.

This may seem to be restricted to the interests of farmers, but the broad support of the BBB by wider society is indicative of a more fundamental aversion to the passion of politicians, civil servants and environmental organisations (often funded by taxpayers) in general for more and more regulation.

To many people, it seems that a reality exists in the governmental centre of The Hague which is expressed in the form of rules on paper – or worse, in computer systems – in which abstract goals are laid down and, quite frequently, stepped up. This bureaucratic reality clashes with the materially visible reality inhabited by farmers and citizens which lies beyond the realm of governance. This phenomenon is not typically Dutch.

Centre of power versus periphery and a culture war

Outside the Netherlands, the country is often referred to as Holland. Holland is not, however, the same thing as the Netherlands. Holland, which is situated in the west of the country, consists of 2 of the 12 Dutch provinces.

If you add to Holland the most centrally-situated province of Utrecht, you have the 3 provinces in which 'the Randstad' is situated (a group of major cities including Amsterdam, Rotterdam, The Hague, Utrecht, Haarlem, Leiden, Delft and Dordrecht).

Even within these three provinces though, there are areas with a rather more rural or semi-rural character, such as a large area directly north of Amsterdam. In addition, the Netherlands includes 9 other provinces situated outside of this centre, and home to some 54.5% of the population.

Many of those living in the so-called peripheral provinces harbour a latent suspicion that they are being slighted.

Added to this is the feeling which has existed for some years now that their areas are being overlooked when it comes to investment in infrastructure or culture and other amenities, while at the same time being expected to accommodate a disproportionately large number of asylum-seekers and install windmills – not the charming touristic versions but rather the tall, modern, horizon-polluting noisy ones – in their landscape.

Many people in these peripheral provinces have the feeling that a small group of left-wing voters – cosmopolitan and progressive – in the Randstad and the university cities are in favour of migrants and modern windmills, as long as these are accommodated in the outer provinces, as far from their own surroundings as possible.

In addition, the feeling of many ordinary Dutch people is that an attack is being carried out on their traditional way of life under the dubious flag of diversity.

This is affecting traditions that are cherished throughout the Netherlands, but above all in the outer provinces, ranging from village entertainments like 'road bowling' – popular in the eastern part of the country – to the

national celebration of Sinterklaas festivities, when the eponymous Christmas saint is accompanied by his highly contentious black helper, Zwarte Piet.

There also appears to be a gradual undermining of regional dialects and of the Dutch language itself. Many higher-education establishments conduct a policy of internationalisation, not least because it yields financial benefits. This implies that many students must be attracted from abroad, and is why many lectures are now delivered in (often very poor) English instead of Dutch.

International students are also prioritised in the allocation of the scarce accommodation in the cities where education is provided, with the result that Dutch students are often compelled to remain living at home with their parents for the period of their study and beyond.

Discontent and democracy

One common denominator behind this dissatisfaction which causes it to pervade the big cities as well, is the fact that voters have noticed that the government no longer delivers what they expect, and that traditional politicians orient themselves to a policy reality rather than to the reality inhabited by ordinary citizens.

To an increasing degree, this policy reality is determined by verdicts from unelected judges, who allow their own political bias to resonate in the interpretation of laws and treaties (judicial activism).

These judicial verdicts are then presented – in combination with EU directives from Brussels – as adamantine (or TINA; ‘there is no alternative’).

Dutch people are definitely not inclined to rise up against judicial power as such, or even against EU membership, but increasingly often they are noticing that political decisions are no longer being made by democratic process but are rather being determined by untouchable institutions.

For the greater part, these phenomena are not unique to the Netherlands; similar growing dissatisfaction exists in many countries.

To a degree, the Netherlands distinguishes itself from quite a few other countries in that, thanks to its electoral system, such dissatisfaction can easily be translated into seats in parliament. The Netherlands has a system of proportional representation, with an electoral threshold that is not higher than the number of votes required for one full seat.

This means that, for the House of Representatives, this threshold consists of a 150th part of the electorate, and that dissatisfaction can be channelled along democratic lines.

This happened in the recent provincial elections through a massive vote for a moderate party, which has been unjustly depicted as a sign of extremist populism.

It is now up to the old, established parties to show that the protest vote has indeed been heard, and that the casting of it has been meaningful. If voters are able to see this, democracy will have worked and faith in the democratic system will continue to be high. ■

Patrick van Schie is a historian and Director of the TeldersStichting, the liberal think tank of the Netherlands

Bringing EPGs to the centre of the policy debate

Marco Buti, Alessandro Coloccia and Marcello Messori
argue that a well-functioning economic union needs a
permanent central fiscal capacity

A well-functioning economic union needs a permanent central fiscal capacity. This column argues that European public goods are a promising way for the EU to pursue projects implemented at a centralised level by means of common financing. The authors devise an operational definition of European public goods and lay out ways to fund and deliver them.

Acknowledging that issues remain before such public goods could be launched at scale, the authors propose the upcoming review of the EU Multiannual Financial Framework as an opportunity to place them at the centre of policy debate.

European public goods (EPGs) allow the EU to pursue projects implemented at a centralised level by means of common financing. EPGs have been revived recently in the context of the green and digital transition (Fuest and Pisani-Ferry 2019).

This renewed attention was prompted by the pandemic shock, which convinced the EU member states of the need to create a central fiscal tool, albeit of a temporary nature, in the form of NextGenerationEU (NGEU) and its main component, the Recovery and Resilience Facility (RRF). Many observers believe that the RRF should be transformed into a permanent instrument, thereby creating a European central fiscal capacity.

However, despite its innovative scope, the RRF is characterised mainly by national use of EU financial resources (transfers and loans), as the European Council negotiations led to a reduction in the share of EPGs (Papaconstantinou 2020).

Therefore, making it permanent would be politically controversial, as it could raise concerns that the EU is turning into a 'transfers union'. This risk would be mitigated by focusing on the production of EPGs (Buti and Papacostantinou 2022, D'Apice and Pasimeni 2020).

EPGs are less politically contentious compared to other forms of central fiscal capacity for at least two reasons. First, EPGs weaken the juste retour (or net balance) narrative, according to which each EU country tends to subtract how much it contributed to the EU budget from how much it received back directly.

Second, the production of EPGs would lessen the tensions between alleged 'creditors' and 'debtors' and the consequent risks of opportunistic behaviours linked to transfers to national budgets. From a policy perspective,

To finance and deliver EPGs, it is necessary to put in place a permanent central fiscal capacity because the common EU projects [...] have a medium to long-term dimension

EPGs could help deliver the 'triple transition' (green, digital, social) and promote the role of the EU in international markets, thus helping to reconcile European domestic and global agendas.

Furthermore, EPGs can play an important role in tackling the economic and political fallout from the Russian invasion of Ukraine.

This column is part of a long-standing research stream on EPGs that has addressed their implications for the euro area policy mix (Buti and Messori 2021a, 2022a), the role of the EU in global governance (Buti and Messori 2021b, 2022b), and the future of NGEU (Buti and Messori 2023).

Against this background, in the next two sections, we put forward an operational definition of EPGs and outline a preliminary classification of these goods. We then explain how EPGs could be delivered and financed. The final section concludes.

Key features of EPGs

The EPGs can be interpreted as a specific application of the concept of global public goods utilised by Kindleberger (1973) and many others (Buchholz and Sandler 2021) to extend the theoretical concept of pure public goods (Samuelson 1954 and 1955, Buchanan 1968) to the activities involved in the integration of international markets.

This extension implies that the classical analysis of public goods has been grafted onto other strands of economic literature, namely, the theory of fiscal federalism. It has also weakened some of the original features of the public goods concept.

Being a specific version of global public goods, EPGs require a further operational definition. We thus define three broad rationales for that definition: economic, institutional, and political¹.

According to the economic rationale, a 'pure' public good is characterised by two main features: first, its utilisation by an additional beneficiary has a marginal cost approaching zero (non-rivalrous); and second, the exclusion of a potential beneficiary is either impossible or very inefficient (non-excludable).

These two features have an important implication: market mechanisms tend to supply an insufficient amount of 'pure' public goods because a profit-maximising producer of this type of goods would bear the full costs but could internalise only a portion of the benefits (eg. Stiglitz 1986). Hence, the creation of an efficient amount of public goods requires a direct or indirect public intervention.

At the global level, an undersupply applies not only to 'pure' public goods, but also to goods that satisfy only one of the two criteria above or even just a weak formulation of (one of) these same criteria. In the former case, the economic literature refers to 'mixed' public goods; in the latter, to 'impure' public goods.

Hence, the three types of public goods share the crucial feature mentioned above: that of giving rise to market failures. This feature is strengthened by two related and key characteristics of public goods: their ability to generate economies of scale and spillovers (positive externalities).

Being a specific version of global public goods, EPGs incorporate all these features. Hence, for the purposes of this column, we define EPGs as 'pure', 'mixed', and 'impure' public goods producing positive externalities thanks mainly to centralised public interventions.

As to the institutional rationale for identifying EPGs, two additional specificities emerge. First, the production and financing of a given good or service take place optimally at the EU level, as the added value of this same good or service increases when it is the outcome of a joint design and a common effort of the EU members.

This feature leads to the second institutional aspect of the EPGs: it is in the mutual interest of the member states to exploit the crossborder dimension to prepare, support, and implement the production of these goods and services.

Finally, according to the political rationale, EPGs should benefit the EU as a political entity and not only as the sum of its individual member states. EPGs should strengthen the cohesion across countries and buttress citizens' support of European cooperation.

We label these features as 'beyond subsidiarity' to emphasise their multiplicative effects. Finally, EPGs should be 'mission oriented' by supporting the EU's strategic domestic and international political priorities.

The economic, institutional, and political rationales for EPGs analysed above are 'translated' in the seven features illustrated in Table 1².

Identifying EPGs

Based on the analysis in the previous section, in Table 2 we identify six priority areas: the digital transition, the 'green' transition and energy, the social transition, raw materials, security and defence, and health³.

For each area, we provide a subjective assessment of compliance with the three rationales mentioned above, and we indicate some non-exhaustive examples of specific EPGs that meet their corresponding objectives.

Table 1. Main features of EPGs

Rationale	Feature	Explanation
Economic	Non rivalry and/or non excludability	The existence of these two qualities - or even of one of them, also in a weak form - imply that an EPG would be either a 'pure', 'mixed', or 'impure' public good.
	Economies of scale and scope	Beyond a minimal level, the production costs of additional units of EPGs decreases (economies of scale); the same applies to the joint financing and production of EPGs (economies of scope).
	Positive externalities	The production and utilisation of the EPGs in a given sector or by a given number of EU member states create positive spillovers to other sectors and other member states. Combined with economies of scale and scope, these externalities entail positive multiple effects at the EU level.
Institutional	Mutual interest	EU member states have a mutual interest in jointly designing, financing, and producing EPGs because the availability of these goods is beneficial to each of the participating countries, and the production of these same goods at the national level would be too costly or unfeasible.
	Crossborder dimension	The effective acquisition of EPGs requires the involvement of financial resources from several or all EU member states. Nevertheless, any good financed by EU resources but nationally produced is not included in our definition of EPGs.
Political	Mission oriented	EPGs are key to pursuing the EU's strategic priorities in economic or non-economic areas.
	Beyond subsidiarity	EPGs produce externalities that improve efficiency and effectiveness not only at the national level, but also for the EU as a whole. Hence, the impact of the EPGs cannot be reduced to an assessment of subsidiarity.

Source: Authors' elaboration.

Table 2. A classification of EPGs

Areas	Objective	Rationale			Examples
		Economic	Institutional	Political	
Digital transition	Boosting innovation and reconciling EU domestic and global agendas	XX	XX	XX	Crossborder digital connectivity infrastructure (eg. 5G, backbone networks, and quantum communication infrastructures), R&D
Green transition and energy	Decreasing EU energy dependence and safeguarding the EU's leading role with regard to climate change	XX	XX	XX	Crossborder energy projects (eg. electricity, smart grids, and CO ₂ networks)
Social transition	Rebalancing welfare states towards the re-skilling of human resources	X	X	X	EU platform for skills acquisition and exchanges
Raw materials	Reducing competitiveness gaps increasing strategic autonomy	X	XX	X	Common purchase of critical raw materials
Security & defence	Overcoming different strategic perspectives to ensure protection	X	XX	XX	Borders management, and handling of migration flows
Health	Protection against health catastrophes	X	X	XX	Procurement of vaccines, near-shoring of basic medical facilities, R&D

Source: Authors' elaboration.

The first four challenges pertain to the economic field:

- (1) reaching climate neutrality to preserve the EU's international leadership in terms of low environmental impact and 'circular economy';
- (2) reducing the EU's technological gaps towards the US and China and innovating the EU production model by means of a centralised industrial policy (Buti and Messori 2023);
- (3) improving education and re-skilling as necessary conditions to successfully pursue the double transition without weakening European social protection; and
- (4) buttressing the EU's open strategic autonomy as part of a renewed system of multilateral governance.

These four challenges call for the supply of EPGs in areas such as digital transition (crossborder digital connectivity infrastructure), 'green' transition and renewable energy (crossborder energy projects), labour market and social transition (platforms for skills acquisitions), and the strategic raw materials required for innovative productions.

Additionally, the experience with COVID-19 calls for EU interventions in health, from the centralisation in the purchase of vaccines to the near-shoring of basic medical facilities and the centralisation of innovative medical research.

Finally, the war at the EU's eastern borders and the human drama affecting large parts of Africa and the Middle East point to the need for EPGs in the areas of defence and security. Examples are the inclusive management of migration flows and the protection of the EU's external borders.

In Table 2, we provide a subjective assessment of the compliance of the six areas with the economic, institutional, and political criteria identified in Table 1. A double cross (XX) denotes high potential; a single cross (X) denotes satisfactory potential.

Whilst most projects listed in this Table would qualify as EPGs according to our definition based on the number of crosses, the three areas which emerge as critical for the supply of EPGs are the digital transition, 'green' transition and energy, and security and defence.

Financing and delivering EPGs

To finance and deliver EPGs, it is necessary to put in place a permanent central fiscal capacity because the common EU projects discussed above have a medium to long-term dimension. The creation of a permanent central fiscal capacity raises difficult legal and institutional questions that go beyond the scope of this paper.

According to Tosato (2021), the EU treaties are sufficiently flexible to include a 'recurrent' central fiscal capacity as a tool of managing repeated external shocks. We therefore focus on questions of how to finance and deliver these goods.

NGEU and the SURE programmes offer two different options for the financing of a temporary central fiscal capacity. The former allows the European Commission to issue European bonds in the financial markets on behalf of the EU thanks to the guarantees offered by the headroom of the 'own resources' ceiling.

The latter entitles the European Commission to issue bonds backed by national guarantees that are offered by the euro area member states. However, these direct or indirect guarantees cannot work in the case of a permanent or recurrent central fiscal capacity, as required by the production of EPGs.

The extension of these guarantees to a very long (or even infinite) horizon would imply implicit and growing liabilities for national budgets that would impose binding constraints on national fiscal policies. Hence, the financing of EPGs requires that the central level be endowed with specific tax bases or, in the EU's terminology, new 'own resources'.

This task is fraught with difficulties, as the modest progress in the enlargement of European taxation since the publication of the Monti report shows (Monti et al 2016). The forthcoming proposals by the European Commission on a new corporate taxation basis (BEFIT) offers an opportunity to define more robust new 'own resources'⁴.

Even if it were possible to solve the problem of centralised financing for the EPGs, there would remain the issue of their effective delivery. A pragmatic idea would be to rely on the vehicles offered by EU programmes – either new versions or those already in place.

In this respect, while the RRF and SURE cannot play a role as EPG vehicles – because their projects are implemented at the national level even when centrally financed – there are other EU programmes that can serve the purpose of delivering EPGs.

Some parts of the RePower-EU support common initiatives at the EU level; the same applies to a few programmes of NGEU such as Connecting Europe Facility, InvestEU, and Horizon. European initiatives are also the core of the Innovation Fund and the Hydrogen Bank.

Moreover, if reformed to allow financing via EU resources and devoted to genuinely EU-wide projects, the Important Projects of Common European Interest (IPCEI) would offer a very useful tool.

Finally, it may be necessary to create other EU vehicles, such as the EU Sovereignty Fund put forward by the President of the European Commission in the State of the Union speech in September 2022. This would also serve as a way to bring together the various separate vehicles mentioned above under a unified and visible policy instrument.

Conclusion

A well-functioning economic union needs a permanent central fiscal capacity. Amongst the various options, stepping up the supply of EPGs delivered and financed at the EU level appears the most promising avenue to create a central fiscal capacity in the EU.

We have argued that EPGs should meet a number of criteria at the intersection of the economic theory of public goods, the theory of fiscal federalism, and the specific institutional and political features of the EU.

We have provided a preliminary conceptual framework that helps define and select EPGs. In particular, we have listed a number of characteristics under three main rationales: economic, institutional, and political.

Against this background, we have identified six policy areas (digital transition, green transition and energy, social transition, raw materials, security and defence, and health) that respond to the main challenges the EU is facing. We have listed a number of specific projects and suggested how they could be financed and delivered at the EU level.

Creating EPGs in these areas would help the EU economy tackle the growing innovation gap vis-à-vis the US and China in digital activities and artificial intelligence, buttress its energy autonomy, and hence shift the EU economy onto a more sustainable 'business model'.

In our view, the case for increasing the supply of EPGs is strong. However, the debate on EPGs so far –and, more generally, on a central fiscal capacity – has not taken centre stage for at least two reasons.

First, a large amount of resources remains to be spent following the successful implementation of the national recovery and resilience plans. It is hard to conceive of creating a permanent or recurrent central fiscal capacity without the clear success of the RRF.

Second, the European Commission has decided to strategically decouple the discussion on the reforms of the fiscal rules from the discussion of a central fiscal capacity because it might be easier to agree on new fiscal rules without overburdening an already difficult conversation with further controversial elements.

In the short term, this decoupling is understandable, but in the longer run the credibility and success of a rules-based fiscal framework depends on nesting a central fiscal capacity into the new economic governance model.

The conditions for supplying an adequate amount of EPGs are not yet fulfilled. However, this does not mean that the debate on EPGs should be postponed to an indefinite future. The upcoming review of the Multiannual Financial Framework provides an opportunity for bringing the EPGs to the centre of the policy debate.

The adaptation of a number of EU ‘vehicles’ and the proposal to create an EU Sovereignty Fund should be framed as the initial steps in rebalancing the EU budget from transfers to the supply of EPGs. ■

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Endnotes

1. For a similar attempt to specify EPGs criteria, see Thöne and Kreuter (2020).
2. It should be noted that our analysis of EPGs is focused on ‘material’ public goods (and services), ie. on those EPGs based on investment and production processes. Hence, we leave the crucial issue of the allocation of knowledge as a global public good (Stiglitz 1999) in the background, and we neglect the EPGs mainly due to reforms and ‘immaterial’ outcomes (eg. a positive externality such as financial stability).
3. A partly similar classification was elaborated, before the pandemic, by Fuest and Pisani-Ferry (2019).
4. The lack of an independent source of EU revenue to back the issuance of European bonds to finance NGEU may partly explain the recent underperformance of such bonds in financial markets.

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Sanctions against Russia will worsen its economic prospects

Sanctions, coming on top of longstanding domestic shortcomings, are gradually weakening Russia. Elina Ribakova argues countries opposing Russia's war on Ukraine should keep up the pressure

The sanctions imposed on Russia by the United States, the European Union and other countries that are against Russia's war on Ukraine have started damaging its economy and will erode it further in the long term. But Russia is the world's ninth-largest economy and a critical supplier of energy and other raw materials, so any belief that sanctions alone would immediately bring Russia down and stop the war was misplaced.

Russia's economy has done better than expected relative to spring 2022 expectations. Russia's GDP has contracted by about 2 percent¹ compared to an expected 8.5 percent². This is mainly due to the strong post-COVID-19 recovery, outsized export earnings as Europe's dependence on Russian energy declined only slowly and oil and commodity prices soared, and Russia's ability to partially rebuild value chains (Free Russia Foundation, 2023).

However, over the medium-term, Russia will continue to suffer from weak potential growth. Sanctions alone might not defeat Russia, but they have targeted high-tech inputs, including for the military, and seek to erode Russia's potential growth.

Sanctions will deepen the pre-existing fault lines in Russia's outlook of chronic underinvestment, poor productivity growth and labour shortages. Countries opposing Russia's war on Ukraine should keep up the pressure.

The Russian economy entered 2022 on the back of strong post-COVID recovery and high commodity prices, but it contracted later because of sanctions

Russia's economy contracted by 2.1 percent in 2022³. Before the full-scale invasion of Ukraine, Russia had been expected to grow by 2.5 percent to 3.5 percent in 2022⁴. Government spending and, to an extent, publicly supported fixed investment (albeit likely somewhat overstated by official statistics⁵) played a crucial role in supporting the Russian economy in 2022. Private sector investment growth in 2022 was also strong, despite rising economic uncertainty and falling corporate profits⁶.

In the face of sanctions, Russia's economy held up initially because of: (1) an extraordinary windfall from rising oil and commodity prices, (2) the Fortress Russia strategy – the policy of excessive reserve accumulation to insulate Russia's economy from external shocks – following the 2014 sanctions (Ribakova *et al* 2020), (3) the skillful policy response (Lowery *et al* 2022), and (4) Russia's ability to partially rebuild its supply chains (Free Russia Foundation, 2023).

Sanctions will deepen the pre-existing fault lines in Russia's outlook of chronic underinvestment, poor productivity growth and labour shortages

Russia experienced a significant positive terms-of-trade shock in 2022 (Figure 1). As a result, its current account surplus was in excess of \$230 billion in 2022, an all-time high, and almost double the 2021 record (\$122 billion). Furthermore, capital outflows did not contribute to pressure on the rouble and the economy because Russia imposed capital controls in response to sanctions.

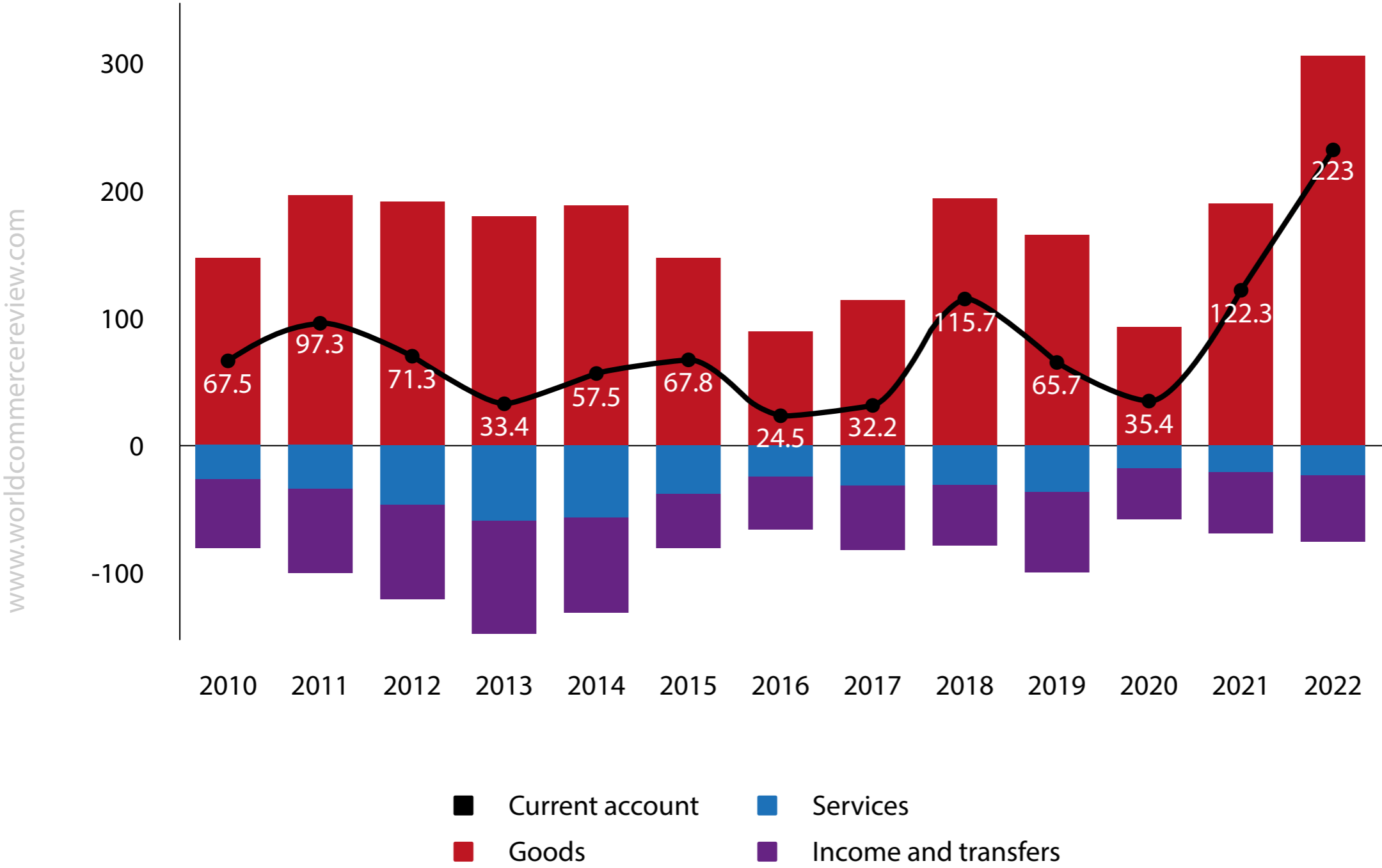
As a result of higher oil prices, Russia's oil exports (redirected to China, India, Turkey and other friendly countries) increased by \$35 billion in March-December 2022 compared to the same period in 2021 (Babina *et al* 2023). While export volumes contracted immediately post-invasion, they recovered by the summer. For the year as a whole, the volume of oil and oil product exports reduced only marginally.

Russia experienced an extraordinary energy windfall as oil and gas revenues increased 28 percent from 2021 (Demertzis *et al* 2022)⁷. Even so, the non-oil and gas deficit – total deficit minus oil and gas revenues, a measure of fiscal stance for commodity exporters – increased by nearly 3 percentage points of GDP to 8.9 percent, as oil and gas revenues were insufficient to cover the 26 percent spending increase⁸, including military, defence and anti-sanctions measures, and a 10 percent indexation of pensions and social spending.

Russia used nearly \$50 billion from its sovereign wealth fund, the National Wealth Fund (NWF), to cover the budget deficit and support struggling companies as domestic and external debt markets shut down in the post-invasion period⁹. Of the remaining \$150 billion in the NWF, about 45 percent is not liquid and cannot be easily used for the budget.

In addition to using NWF funds, the Ministry of Finance issued a record 3 trillion roubles (\$44 billion) in domestic debt, mainly at floating interest rates. Russian banks are essentially the only remaining buyers and now hold about 10 percent of their assets in Russian government paper (KSE, 2023).

Figure 1. Russia's current account surplus reached an all-time high in 2022 after oil prices spiked



The Fortress Russia strategy and the skilful policy response also helped to protect the economy initially in 2022. Russia's economy has faced repeated balance-of-payments shocks since 2008.

In response, President Vladimir Putin has increasingly demanded greater professionalism¹⁰ and a crisis-ready attitude from his government technocrats and corporates. After losing over \$200 billion in reserves¹¹ on an ultimately futile attempt to defend the rouble in 2008, Russia decided to move toward a more flexible exchange rate and inflation targeting, starting in 2012.

Following the oil price collapse and financial sanctions in 2014-15, Russia accelerated the move toward inflation targeting and cleaned up its banking system. Meanwhile, following draconian spending cuts, the finance ministry implemented in 2016 a fiscal rule setting aside in a special reserve fund energy revenues generated from oil prices above \$40 per barrel.

Despite the success of the Fortress Russia strategy, excessive focus on reserve accumulation and, correspondingly, an overly tight macroeconomic policy mix also caused economic growth to decelerate to a potential of only 1.5 percent to 2 percent by 2022.

Russia's export windfalls allowed its companies to rebuild their value chains severed by sanctions, export controls and self-sanctioning (Free Russia Foundation, 2023)¹². China, Hong Kong, Turkey and selected countries in the Commonwealth of Independent States (CIS) and Middle East and North Africa regions have stepped in to provide Russia with goods it could no longer acquire from the coalition of countries against the war.

The outlook for 2023 is more challenging

Export earnings are expected to fade in 2023 and dwindling revenues will likely be directed toward the war effort and suppression of domestic opposition (Prokopenko, 2023), reducing resources to support its economy.

Some growth may occur in the first quarter of 2023¹³, because of increased fiscal spending starting in late 2022. In addition, according to Rosstat data, private investment has slowed, consumer spending has recovered somewhat, but consumers are cautiously moving more of their savings into short-term deposits and cash, following the autumn mobilisation of Russians to fight in Ukraine¹⁴.

Current account inflows will likely decline further, mainly because of the EU embargo and G7 oil price cap on purchases of crude oil and petroleum products. Europe is now also moving away from Russian natural gas faster than most had anticipated (Fries, 2022).

Though Russia's overall current account surplus reached an all-time high in 2022, it fell from \$77.2 billion in the second quarter of 2022 to \$37.5 billion in the fourth quarter of 2022, and further to \$18.6 billion in the first quarter of 2023¹⁵.

The Ministry of Finance reported a fiscal deficit of 2.4 trillion roubles (about \$30 billion) in the first quarter of 2023, which is 80 percent above the 2023 target, as oil and gas revenues fell by 45 percent year-over-year, while war-related spending increased sharply.

This is following the historically high deficit of 4 trillion roubles (about \$57 billion) in December 2022. The Ministry of Finance said that some of the 2023Q1 deficit was incurred in order to reduce the typical backloading of expenditures. Still, it is hard to believe that Russia will reach in 2023 the budget deficit target of only 2 percent of GDP.

Russia's long-term potential growth, already poor, will be further undermined by sanctions

Sanctions are no doubt aggravating Russia's existing chronic underinvestment, demographic challenges and low

productivity, going back well before 2022. The outlook for Russia's potential growth has been gloomy since well before the war started and sanctions were imposed (Prokopenko, 2022).

Figure 2 shows a continuous decline in potential growth, to around 1 percent before 2022. From 2000 to 2010, Russia integrated rapidly into global markets amid increased commodity prices. But growth failed to recover in the years following the global financial crisis. It fell by half after the 2014 sanctions imposed when Russia seized control of Crimea.

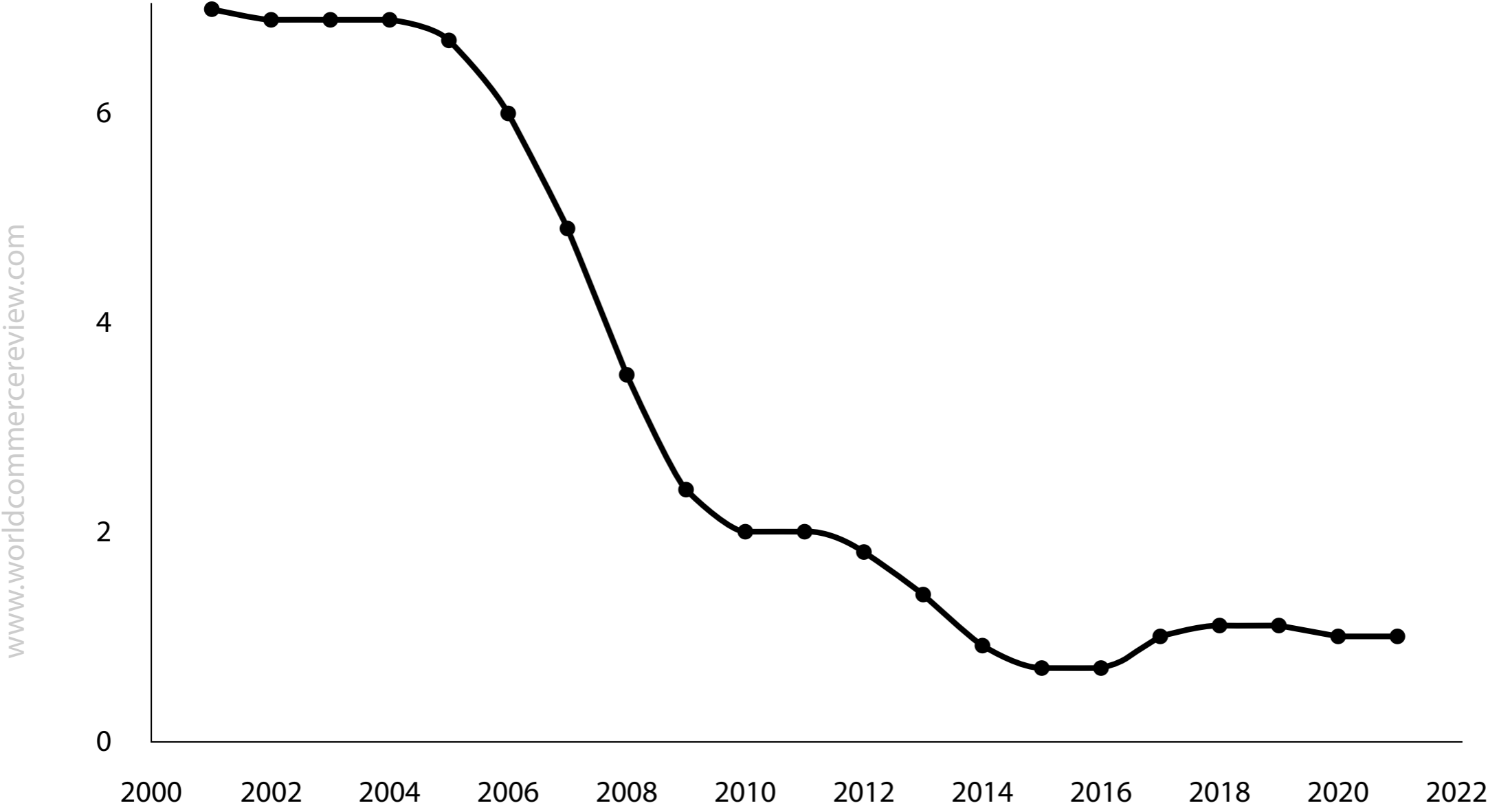
Except for oil and gas extraction, services and agricultural and chemical production, Russia has been suffering from chronic underinvestment, particularly over the last decade (see red bars in Figure 3).

Little progress has been made in modernising and diversifying industries as the reach of the state has extended further into economic sectors considered strategic. Russia's bias toward government programmes supporting state champions has led to dominance in every sector by state-owned enterprises and further dependence on energy exports.

The COVID-19 pandemic highlighted Russia's most recent failed government-managed reform in healthcare. Export controls will continue, undermining the ability to diversify, particularly in non-energy export-oriented industries¹⁶.

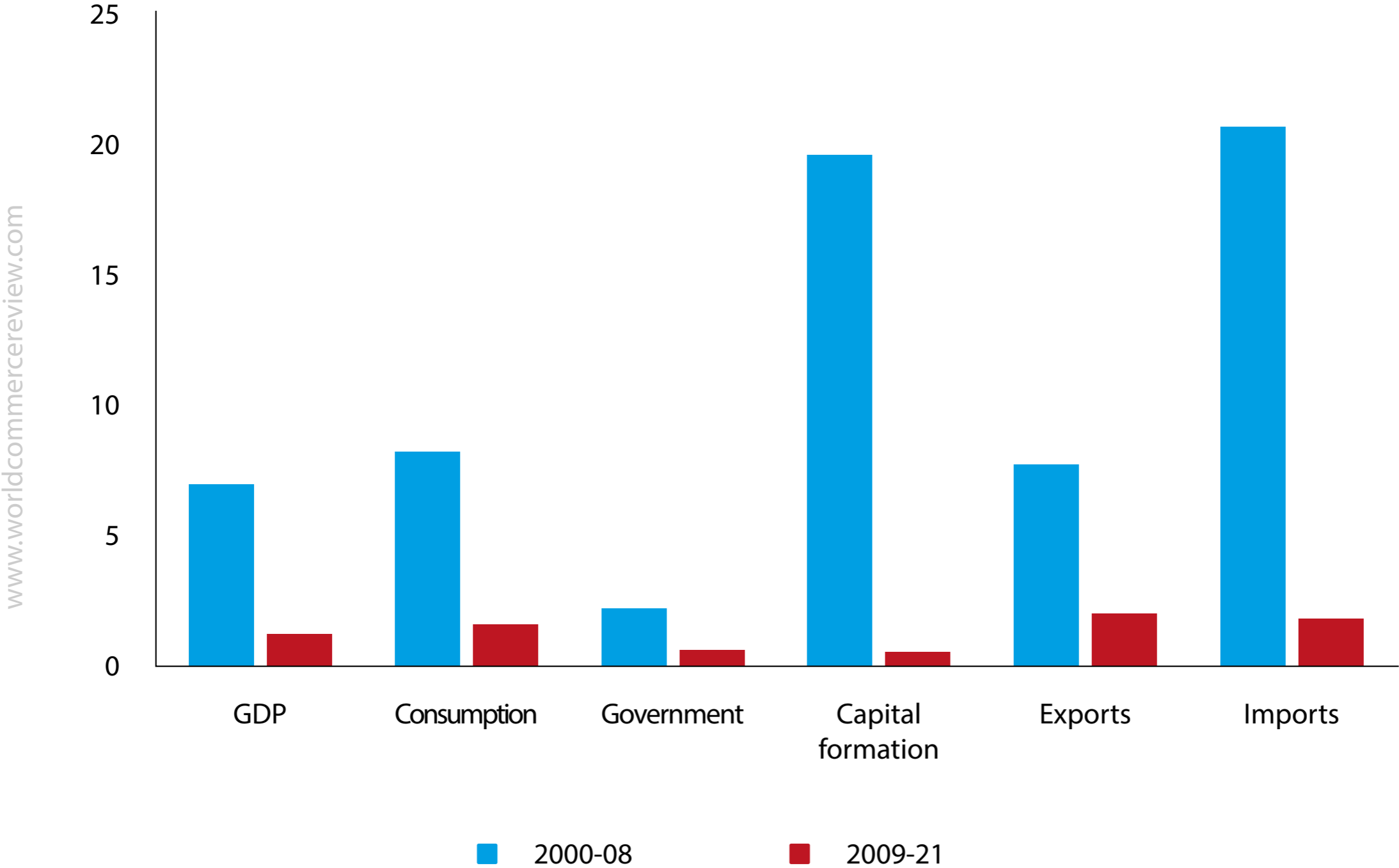
While only around 6 percent of foreign companies have left Russia, and roughly 40 percent are in the process of leaving in response to the war and Russia's crackdown on dissent¹⁷, most have scaled back operations and will continue to come under pressure to disengage from Russia¹⁸. All these factors will weigh further on already poor productivity growth.

Figure 2. Russia's economy was already in decline before the Ukraine invasion and Western sanctions



www.worldcommercereview.com

Figure 3. Russia has suffered from chronic underinvestment since the global financial crisis



www.worldcommercereview.com

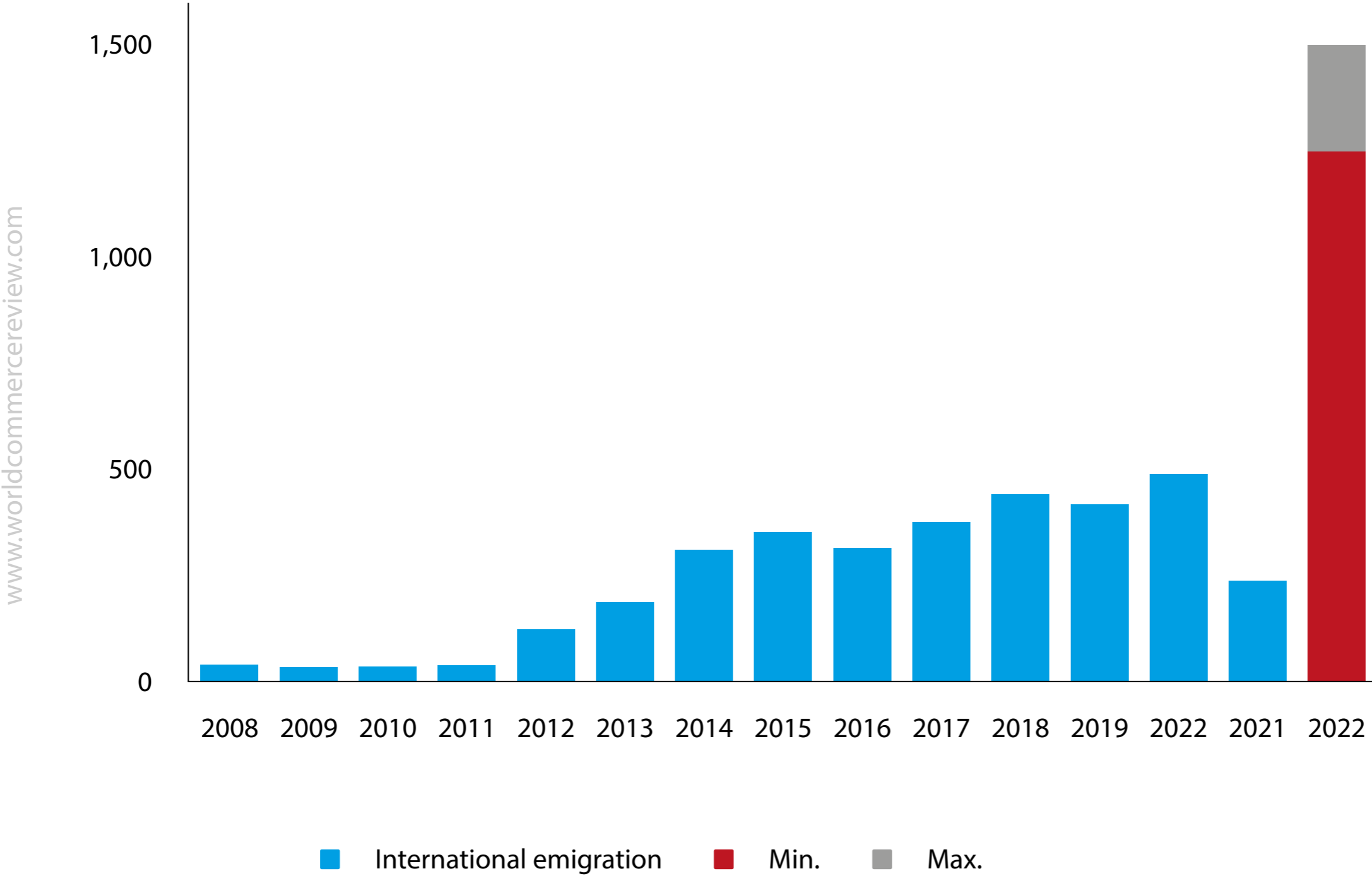
The massive mobilisation for the war effort is limiting labour supply, generating concerns about inflation at the Bank of Russia. Unemployment was down to 3.7 percent by end-2022 (4.3 percent in end-2021). Emigration has reached a historic high, with about 1.3 million persons leaving in 2022 alone (Figure 4).

Even before Russia's invasion of Ukraine, younger and higher-educated people in Russia were looking for opportunities abroad; with the war and mobilisation, the trend has accelerated. The situation is particularly dire among information technology specialists, forcing Russia's government to move from pleading and threatening to providing subsidised mortgages to get them to stay¹⁹.

In conclusion, Russia's economic challenges will only worsen as the war continues with no end in sight. But the countries against the war cannot afford to ease up on their pressure. ■

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Figure 4. The war has sent Russian emigration to historic highs



Endnotes

1. Though GDP estimates do not tell the whole story. High-frequency indicators point to inconsistencies in the national accounts; see Schmith and Sakhno (2023).
2. The IMF in April 2022 forecasted an 8.5 percent contraction.
3. See https://rosstat.gov.ru/storage/mediabank/55_07-04-2023.html
4. See <https://www.bofit.fi/en/monitoring/forecasts-for-Russia-and-China/latest-forecast-for-russia/>
5. Imports of equipment and machinery relative to investment spending appear to have diverged from their typical correlation, possibly because of difficulties in rebuilding value chains, but nevertheless casting doubt on the magnitude of the investment growth.
6. See https://rosstat.gov.ru/storage/mediabank/34_10-03-2023.html
7. Including a one-off tax on Gazprom of 1.2 trillion roubles in the last quarter of 2022.
8. See <https://www.cbr.ru/eng/press/event/?id=14670>
9. See https://minfin.gov.ru/ru/document?id_4=301689-informatsionnoe_soobshchenie_o_rezultatakh_razmeshcheniya_sredstv_fonda_natsionalnogo_blagosostoyaniya
10. See <https://www.youtube.com/watch?v=zgoZMsWQ69o&t=768s>
11. Between July 2008 and end of January 2009.
12. In the Russian sanctions context, self-sanctioning refers to companies choosing, though not being forced legally, to curb their operations in/with Russia.
13. The International Monetary Fund's 2023 World Economic Outlook forecasts +0.7 percent growth for 2023.
14. See https://www.cbr.ru/eng/press/pr/?file=17032023_133000Key_Eng.htm
15. See https://www.cbr.ru/eng/statistics/macro_itm/svs/bop-eval/
16. See http://www.cbr.ru/Content/Document/File/144420/analytic_note_20230130_dip.pdf
17. See <https://leave-russia.org/uk>
18. See for example, Marton Eder, 'Raiffeisen Eyes Russia Unit Sale or Spinoff Amid Pressure', Bloomberg, 30 March 2023, <https://www.bloomberg.com/news/articles/2023-03-30/raiffeisen-eyes-russia-unit-sale-or-spinoff-amid-pressure-to-act>

19. See <http://government.ru/news/47650/>

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EU's digital competition law can give users more control

Christophe Carugati believes that the EU's DMA gives regulatory authorities another chance to tackle the difficult issue of user consent for data processing

In exchange for the services they provide, large online platforms including Google and Meta collect user data, which is used to offer tailored services, such as personalised advertising. The European Union's Digital Markets Act (DMA Regulation (EU) 2022/1925) contains provisions limiting how these services can collect and use personal data.

The DMA complements existing laws, such as the EU general data protection regulation (GDPR), which have so far not been implemented as thoroughly as they could have in relation to misleading practices relating to the obtaining of user consent for use of their data.

There is also a growing perception that EU rules on collecting digital data have generated repetitive burdensome requests to users that can lead to 'consent fatigue', and there is a risk that the DMA will make the problem even worse.

Implementation of the DMA should therefore ensure that users can consent to the use of their data without being subject to repeated requests and misleading practices.

The DMA effective consumer consent obligation

The DMA only applies to large online platforms acting as 'gatekeepers' in some core platform services, for example social networking services like Meta-owned Facebook (Carugati, 2023). The DMA requires them to comply with a list of positive and negative obligations.

In particular, the law restricts how they collect and use personal data, defined as any information relating to an identified or identifiable natural person (Articles 5(2) and 2(25) DMA). The restrictions prevent gatekeepers from

performing certain practices unless users consent pursuant to the GDPR. Consent must be freely given, specific, informed and unambiguous (Article (5)(2) and recital 37 DMA).

The DMA does not make the GDPR redundant. On the contrary, the DMA specifies how gatekeeper firms can collect and use personal data in connection with the above-listed practices

In particular, under the DMA, without user consent, gatekeepers cannot:

1. Process personal data obtained from third-party services that use the gatekeepers' services to provide online advertising. For instance, a gatekeeper cannot process data from match-owned Tinder to provide personalised advertising.
2. Combine personal data collected for one service with data from other services, including its own and those of third parties. For example, a gatekeeper cannot combine data from a search engine service with another service.
3. Use personal data collected for one service for other services they provide. For instance, a gatekeeper cannot use data from an intermediation service like a marketplace within another service.
4. Sign in users of one service into another service that it provides to combine personal data. For example, a gatekeeper cannot use data from a user who is signed into a search engine and a map application to combine data.

The DMA applies without prejudice to the GDPR, which applies to all firms and not only gatekeepers, and which also governs how firms can collect and use personal data.

However, the DMA imposes stricter obligations on gatekeepers to ease market entry (contestability) and to redress the advantage gatekeepers have over small and medium-sized firms (fairness) thanks to access to vast amounts of data collected by gatekeepers. EU legislators wanted to impose these stricter restrictions to prevent certain practices from happening in the first place.

The DMA does not make the GDPR redundant. On the contrary, the DMA specifies how gatekeeper firms can collect and use personal data in connection with the above-listed practices. Its specifications go beyond the GDPR in two ways:

First, the DMA specifies the legal bases gatekeepers can rely on to collect and process personal data. Under the GDPR, firms can process data under six legal bases, including consent, contract, to fulfil legal obligations, the vital interest of the user, public interest and the firm's legitimate interest (Article 6 GDPR)¹.

In practice, firms rely mainly on consent, contract and legitimate interest. The DMA mandates that gatekeepers use consent. They can use, where applicable, all other permitted legal bases except legitimate interest and contract to circumvent consent.

Second, the DMA specifies how gatekeepers should request user consent. In line with the GDPR, it should be done in a user-friendly way, and should be explicit, clear and straightforward. Consent should be an affirmative action and not be more difficult than not giving consent.

Similarly, withdrawing consent should be as easy as giving consent. The DMA offers three additional specifications that go beyond these GDPR requirements (Recitals 36 and 37 and Article 13 DMA):

- Gatekeepers should not use an interface design that deceives or manipulates users into giving consent.
- Gatekeepers should not re-request consent for the same purpose more than once a year when the user has not consented or has withdrawn her consent.

- If users do not consent, gatekeepers should propose an equivalent, less-personalised alternative of the same quality (a lower level of service is possible if it is a direct consequence of the inability to process data), without making functionalities conditional on the user's consent.

With these specifications, EU legislators seek to prevent gatekeepers from steering users to consent using so-called dark patterns. These are manipulative techniques, such as deceptive button contrast, to push users in directions that are in the firms' best interest (OECD, 2022).

Dark patterns are common and take various forms in the digital economy. Firms of all sizes use them, including large platforms (Forbrukerrådet, 2018). The most notorious example is when users are asked to consent to cookies, which allow websites to track users' online activities. Studies have shown that firms make it easier for users to accept consent than to decline by, for instance, not offering a reject button in the first layer (Nouwens *et al* 2020).

The failure to ensure effective consumer consent

The GDPR has been in force since 2018, but many data protection authorities have arguably been slow to use it to ensure effective consumer consent by tackling dark patterns. For example, France's data protection authority, the *Commission Nationale Information et Libertés* (CNIL), published guidance in 2020 on cookie banners (CNIL, 2020). CNIL issued several formal notices to firms about cookie banners only in 2021 (CNIL, 2021).

It named and shamed some of them, including Google and Facebook, in 2022, for not allowing users to decline cookies as easily as accepting them (CNIL, 2022)². Moreover, it was only in January 2023 that data protection authorities at EU level provided guidance on how firms can seek consent via cookie banners that avoid dark patterns (EDPB, 2023). While enforcement is improving, cookie banners with dark patterns are still ubiquitous.

Figure 1. An example of a consent banner that offers both an 'accept all' and 'reject all' button (accessed 26 April 2023)

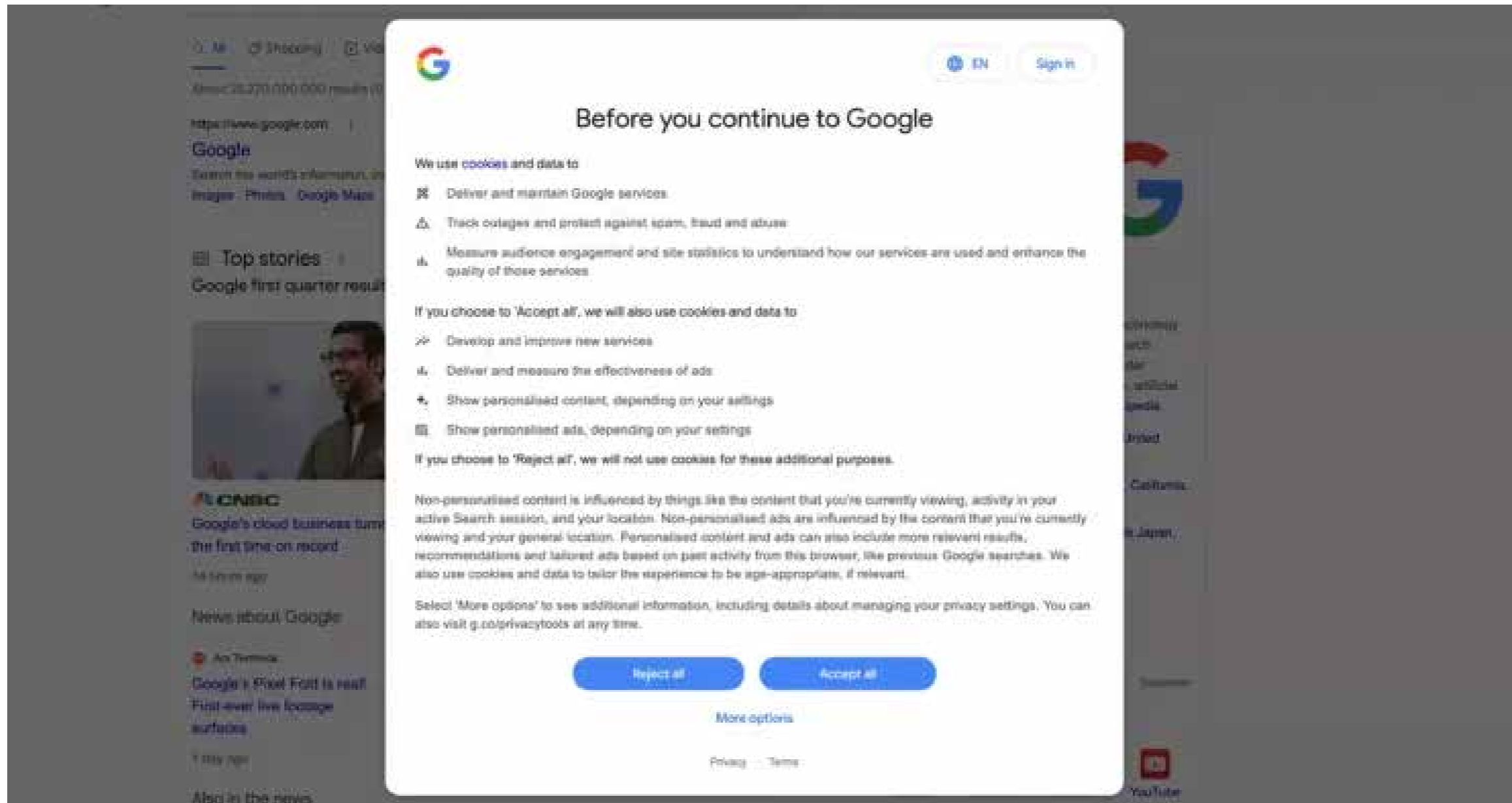
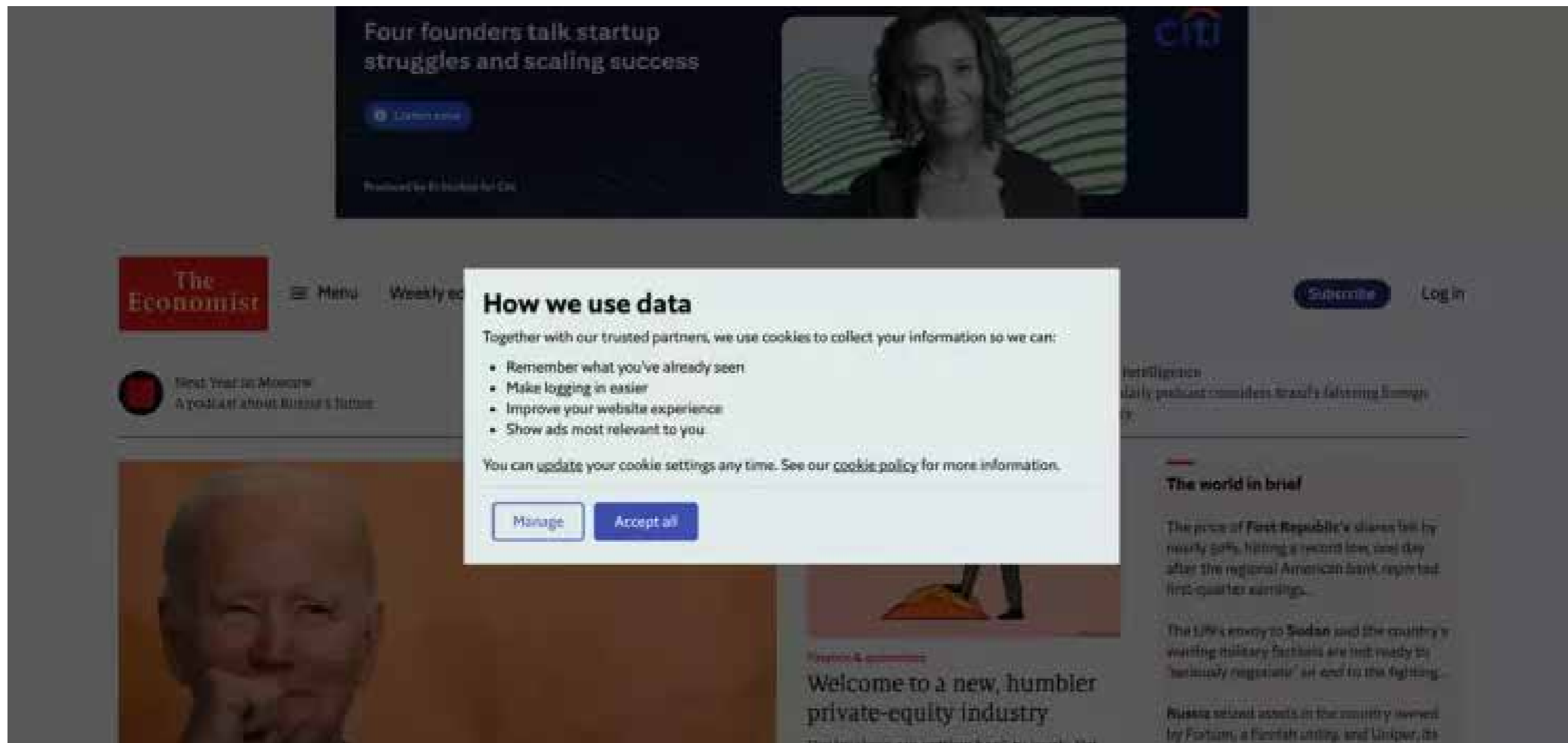
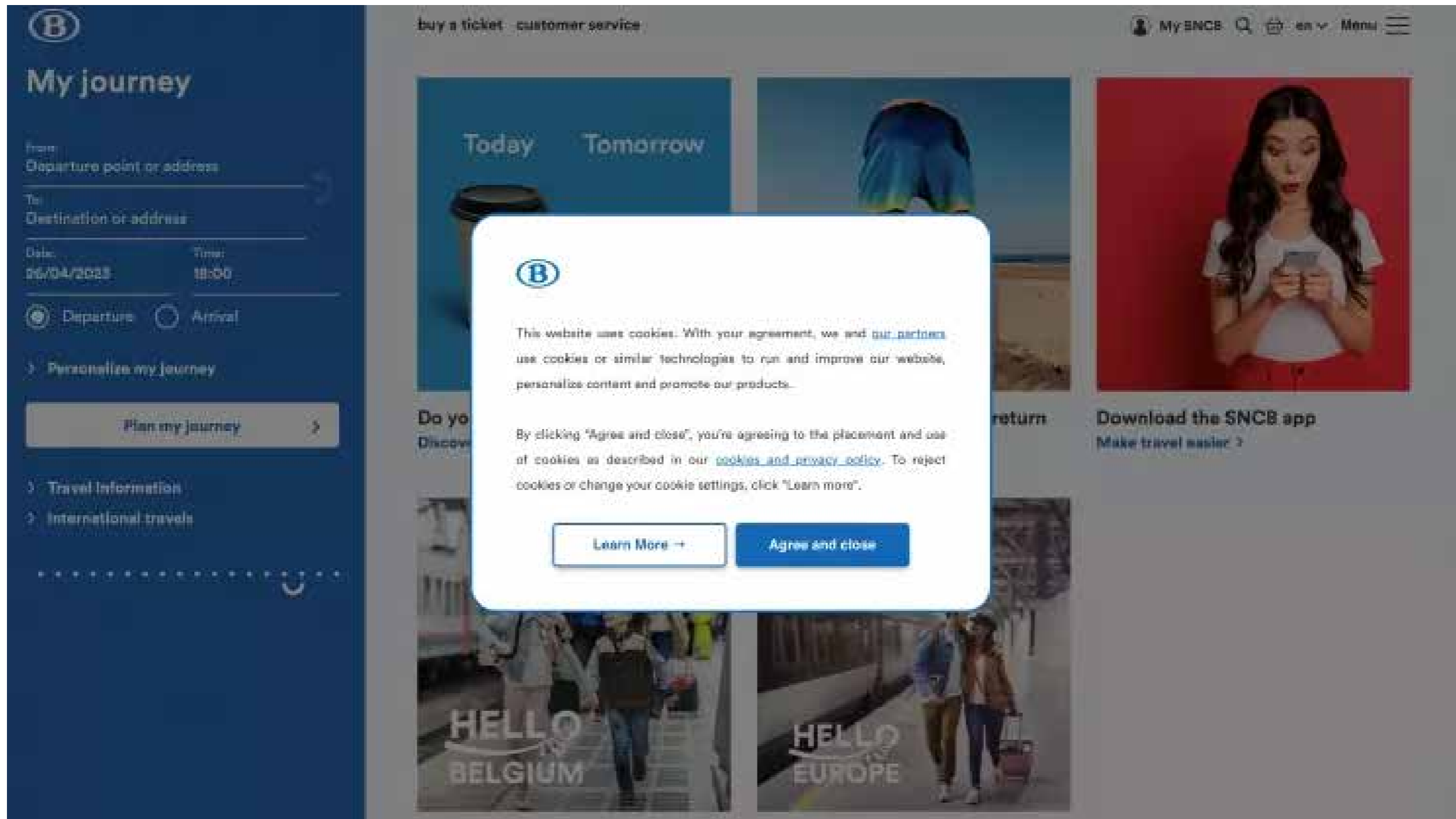


Figure 2a. An example of a consent banner that offers only an 'accept all' button. This might be considered a dark pattern (accessed 26 April 2023)



www.worldcommercereview.com

Figure 2b. An example of a consent banner that offers only an 'accept all' button. This might be considered a dark pattern (accessed 26 April 2023)



Even with these enforcement efforts, studies show that some websites drop cookies before getting consent or even if the user does not consent, despite obligations in both the ePrivacy Directive, which governs cookies, and the GDPR, that firms obtain consent before collecting personal data via cookies, because consent would otherwise be useless³. In France, CNIL fined the newspaper *Le Figaro* for these practices in 2021 (CNIL, 2021)⁴.

Meanwhile, some websites, such as French cinema site allocine.fr, ask users either to consent to cookies or pay a fee to access the website through a paywall (so-called 'cookie walls'). CNIL considers this paywall as GDPR-compliant under certain conditions (CNIL, 2022).

However, the authority ignores economic studies that suggest that users prefer a zero-price product over a paid-for one when they have a choice, even if the zero-price product is of lower quality (Shampan'er and Ariely, 2006). Even if users pay, some websites require them to create an account, enabling collection of user data as if the user had consented to the use of cookies.

There is also a growing recognition that users frequently encounter cookie banners when browsing online, leading to 'cookie fatigue' or 'consent fatigue'. This leads users to ignore banners and automatically consent or decline with a feeling of resignation (Kulyk *et al* 2020).

The United Kingdom's data protection authority, under the UK G7 presidency in 2021, called for G7 countries to overhaul cookie banners⁵. The European Commission might soon propose an initiative to end cookie fatigue in Europe⁶.

Risks that the DMA might not ensure effective consumer consent

Because of the DMA provisions on consent, gatekeepers will have to request consent more often, in stark contrast with the desire to reduce the number of consent banners and to end consent fatigue.

Moreover, the DMA obligations will increase the amount of information users must deal with, as gatekeepers must provide unambiguous information for each practice targeted by the DMA.

This could lead to information overload when users face too much information, to the point that the information becomes useless and meaningless for making effective choices (Thaler and Sunstein, 2021). Reading privacy policies is very time-consuming (McDonald and Cranor, 2008) and thus users accept the terms without understanding and reading them (OECD, 2018).

Therefore, even if the DMA prohibits dark patterns and requires gatekeepers to request consent only once a year, the increase in consent banners and information might prevent users from consenting effectively.

Recommendations to ensure effective consumer consent under the DMA

The European Commission cannot tell gatekeepers how to comply with the DMA obligation (Articles 8 and 13 DMA). However, it can monitor and enforce compliance (Articles 26 and 29 DMA).

In particular, the Commission can request that gatekeepers show in their annual compliance reports that their compliance measures are effective (Articles 8, 11 and 46 DMA). On the DMA obligation of effective user consent, the Commission should request gatekeepers to provide an independent behavioural study that examines:

1. The design of each consent banner, to check that it is free of dark patterns, and
2. User choices when gatekeepers present a choice between consenting in exchange for accessing a personalised service, and not consenting in exchange for accessing an equivalent service. The study should detail how

gatekeepers provide equivalent, less-personalised services. Some gatekeepers could request a fee from users to access additional services without consent for personal data processing, something the DMA does not prevent.

However, this practice would likely to raise similar concerns to cookie walls, as it might undermine the concept of consent given freely, considering that users might not have real and satisfactory alternatives if they decline to consent. Gatekeepers might also increase the attention cost of using a service by, for instance, displaying more sponsored content or advertising in a newsfeed to users that do not consent.

Gatekeepers might then argue that the lower quality of the service is a direct consequence of the inability to process data, as advertising or sponsored content is necessary to run the service for free. Whether these practices will be found DMA-compliant and provide ways to circumvent the obligations will depend on what constitutes an equivalent service with the same quality, and how gatekeepers offer them.

Another challenging issue for the Commission is that users might not even realise they are receiving a lower quality of service if they do not consent.

Finally, the Commission should work with the high-level group composed of the European competition, data protection, consumer protection, telecommunication and audiovisual media authorities (Article 40 DMA). In line with its remit, this group should advise the Commission on how to deal with dark patterns, consent fatigue and information overload.

In particular, the group with the Commission should carry out a behavioural study on how users perceive and interact with consent banners, separately and collectively, to monitor consent fatigue and information overload.

The group should also inform the Commission about how the DMA interacts with different legal regimes, including, but not limited to, data protection and consumer protection laws, and how to ensure a consistent approach between these legal regimes. ■

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Endnotes

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2. See CNIL statement of 6 January 2022: <https://www.cnil.fr/en/cookies-cnil-fines-google-total-150-million-euros-and-facebook-60-million-euros-non-compliance>
3. Kate Kaye, 'Ad Trackers Continue to Collect Europeans' Data Without Consent Under the GDPR, Say Ad Data Detectives', Digiday, 4 October 2021, <https://digiday.com/media/ad-trackers-continue-to-collect-europeans-data-without-consent-under-the-gdpr-say-ad-data-detectives/>
4. See CNIL statement of 29 July 2021 (in French): <https://www.cnil.fr/fr/cookies-sanction-de-50-000-euros-lencontre-de-la-societe-du-figaro>
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How will higher carbon prices affect growth and inflation?

Carbon pricing is a central instrument in the EU's fight against climate change. Brand *et al* use macroeconomic models examine what higher prices for carbon emissions will do to growth and inflation

Carbon pricing is a central instrument in the EU's fight against climate change, but it will also affect our economies. In this post on *The ECB Blog*, we use macroeconomic models to look at what higher prices for carbon emissions will do to growth and inflation.

Urgent action is needed to reduce greenhouse gas emissions and prevent the most disastrous effects of climate change. This is why the EU aims to reduce such emissions by 55% by 2030 (compared to 1990 levels), and to achieve net zero emissions by 2050.

The EU's Fit-for-55 package will use measures like carbon prices, regulation and green investment, all of which will affect the economy. But how, and with what economic consequences?

Carbon pricing and the economy

In this post we focus on carbon pricing. It is the most effective instrument to reduce emissions because it is targeted at the carbon footprint of the economy. It forces everyone to take the damage caused by emissions into account – for example when running a business, driving a car, or heating a home.

Carbon pricing usually takes the form of a tax imposed on emissions or an emission trading scheme in which companies can buy and sell the right to generate emissions (which *The ECB Blog* will look at in a dedicated post soon). All forms of carbon pricing provide incentives to reduce emissions. They do that by putting a price tag on the emissions from consumption and production.

For example, you might travel less often by plane as you see prices rising due to the fact that airlines have to buy carbon emissions allowances.

How does carbon pricing affect the economy and, eventually, growth and inflation? Carbon prices influence both supply and demand primarily via higher energy prices – either directly via their impact on consumer prices or indirectly via their impact on production costs.

Model-based estimates of carbon-price increases consistent with the International Energy Agency's net zero scenario in 2050 suggest a moderate impact on euro area GDP and inflation over the current decade

On the supply side, the increase in production costs drives up inflation and results in lower production. If the government sets out the future path of carbon price increases in a credible way, firms can anticipate and factor in those higher costs when they set their prices or decide on production volumes. The more firms do so today, the stronger the inflation impact will be upfront.

On the demand side, higher carbon prices hit household incomes and firm profits. This in turn reduces consumption and investment, eventually creating downward pressure on inflation. The more households and firms take into account future carbon price increases for their spending today, the more they will frontload this reduction in consumption and investment. So we have two forces moving inflation in opposite directions.

There are a number of factors affecting how strong these effects are, and in which direction they pull. Fiscal policy, for example, can redistribute the receipts from carbon taxes to low-income households. This would reduce the loss of real incomes and help sustain household consumption.

If countries around the world tax carbon emissions differently this will affect international competitiveness, the terms of trade (the amount of goods a country can purchase for a certain amount of exported goods), and the demand for export goods.

Quantifying the overall effect of carbon pricing on the economy is fraught with a high level of uncertainty, including model uncertainty. To deal with this uncertainty, we used six macroeconomic models to assess the impact of raising carbon prices in the euro area¹.

For the calculation we assumed a carbon price increase from €85 in 2021 to €140 per tonne of CO₂ emission by 2030². For the rest of the world, we factored in a proportionate increase in carbon prices, albeit from lower levels.

What would be the quantitative impact of this increase in carbon prices on the euro area economy? The models suggest that it would moderately lower consumption and investment, with GDP falling 0.5-1.2% below baseline by 2030 (see Chart 1, top, where the baseline refers to a scenario with no changes in carbon prices).

Across all models, the median estimate for GDP translates into average annual growth dropping by roughly 0.1 percentage points. Likewise, the models suggest that the maximum impact on annual inflation would be modest at less than 0.2 percentage points per year in the period up to 2025, and falling gradually thereafter (see Chart 1, bottom).

Accordingly, the carbon price increase, as assumed for this simulation, would only have a rather limited economic impact on the euro area economy. That means monetary policy would face only a modest trade-off in terms of stabilising inflation relative to output.

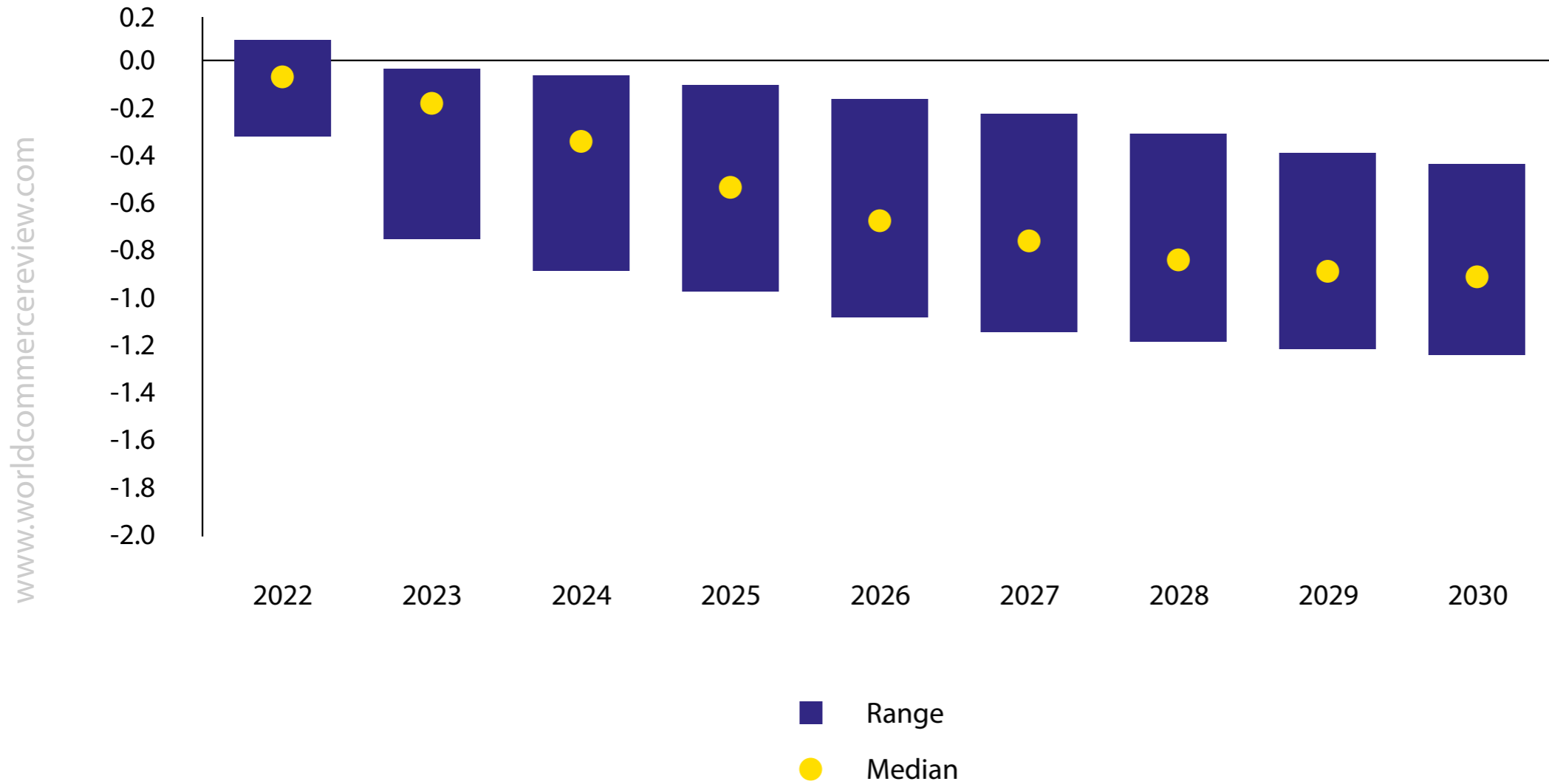
The size and, ultimately, the direction of the resulting response of policy interest rates depend on the model. Models emphasising the adverse supply-side effects of the scenario, with a larger impact on inflation, tend to prescribe a limited increase of policy interest rates. And models in which adverse demand effects dominate tend to show a small decline of policy rates.

Raising carbon prices is expected to support the transition to a low-carbon economy. But the carbon price increase in our scenario would reduce carbon emissions in the euro area by only around 11% by 2030. This is the median estimate of our six models (see Chart 2).

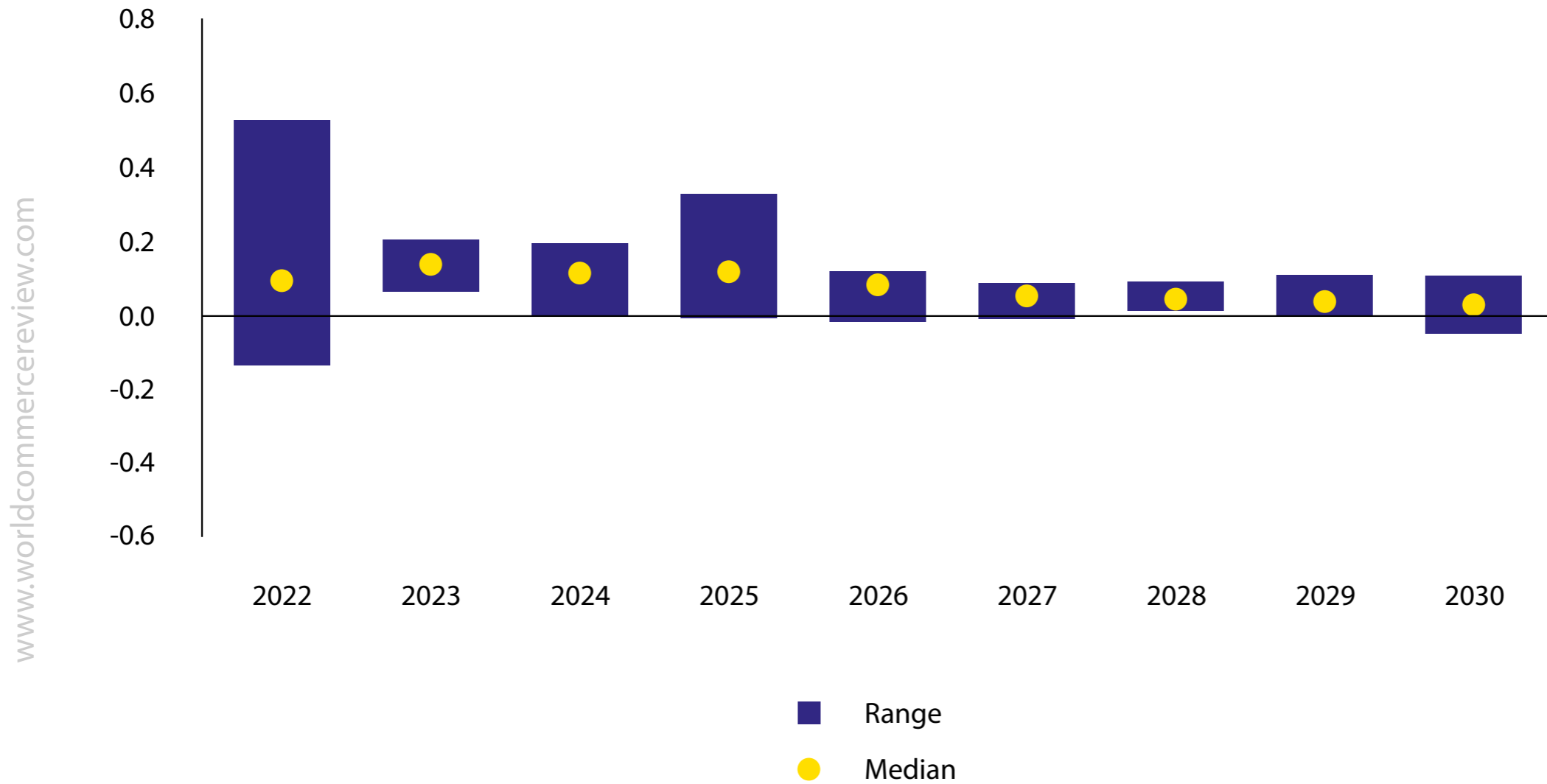
And that figure is far below the EU's intermediate goal of reducing emissions by 46% by 2030 (compared to 2021 levels). This shortfall highlights the need for a more ambitious carbon pricing policy, additional regulatory action, green investments, and technological adaptation and innovation.

Chart 1. Carbon pricing impact on real GDP (LHS) and inflation (RHS)

Percentage and percentage-point deviation from baseline paths



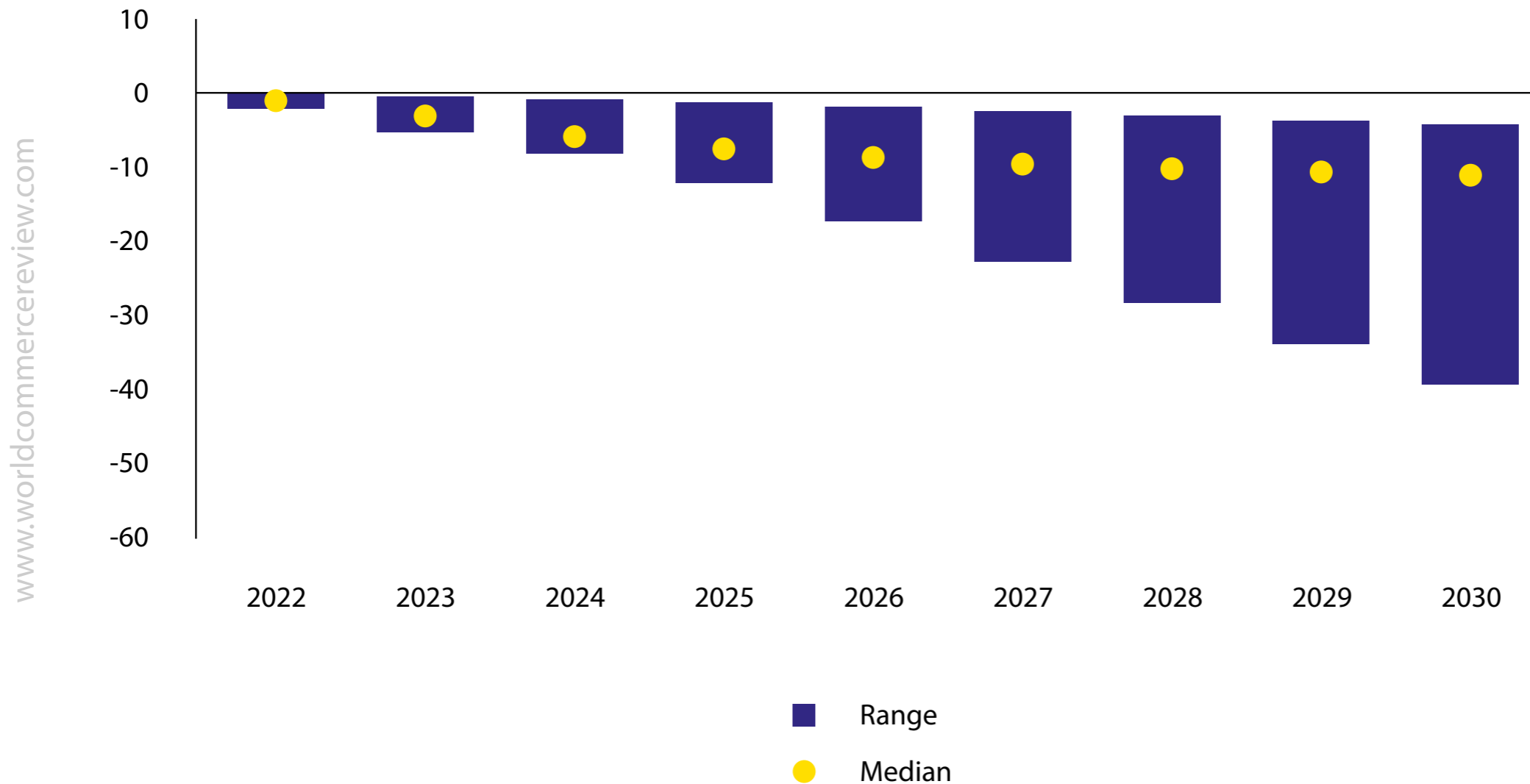
Percentage and percentage-point deviation from baseline paths



Note: The charts display the impact (range and median across models) of the assumed carbon price increase on euro area real GDP and inflation between 2022 and 2030. Sources: NAWM-E, E-DSGE I + II, G-Cubed, NiGEM and Oxford.

Chart 2. Carbon pricing impact on carbon emissions

Percentage deviation from baseline paths



Note: The chart displays the impact (range and median across models) of the assumed carbon price increase on euro area carbon emissions between 2022 and 2030.

Sources: NAWM-E, E-DSGE I + II, G-Cubed, NiGEM and Oxford.

We have to put the estimated reductions in carbon emissions in the euro area into an international perspective. The euro area currently contributes a mere 5% of global carbon emissions. Achieving a substantial effect on global emissions would require a more ambitious increase in carbon prices in the rest of the world.

If these carbon prices were aligned with those for the euro area by 2030, the estimated reduction in global carbon emissions would be about three times greater than in our benchmark scenario. In this event, the euro area terms of trade would improve by more, while euro area foreign demand would weaken more strongly, doubling the estimated negative impact on euro area GDP.

How fast carbon emissions can be reduced depends on how quickly the economy adjusts to higher prices for carbon emissions. If capital and labour get reallocated more swiftly, if the economy adapts more rapidly to new technologies and if there is sufficient financial support, the process can go faster.

It would also help if green energy could replace fossil fuel generated energy more easily than assumed in the models. This would reduce emissions more strongly and also mitigate the impact on GDP and inflation. More green investments or major technological advances would also help in this regard.

To conclude, model-based estimates of carbon-price increases consistent with the International Energy Agency's net zero scenario in 2050 suggest a moderate impact on euro area GDP and inflation over the current decade, with modest inflation-output trade-offs for monetary policy as it seeks to preserve price stability.

But the estimated carbon emission reductions by 2030 are limited, equal to around one-fourth of the EU's intermediate goal. Achieving greater cuts in emissions with higher carbon prices would have a bigger impact on inflation and GDP, with more sizeable trade-offs for monetary policy.

Accordingly, reaching the EU's climate goals will require a mix of ambitious carbon emission pricing, additional regulatory action and technological innovation, as set out in the Fit-for-55 package. ■

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Endnotes

1. Three of these models were developed at the ECB in line with its climate change action plan: the New Area-Wide Model with a disaggregate energy sector (NAWM-E), as well as two smaller-scale environmental DSGE models with financial frictions and costly abatement, respectively (E-DSGE I + II). The three other models are commercial models that are widely used for climate change analysis: NiGEM, G-Cubed and the Oxford Economics model.
2. The starting value of €85/tCO₂ in 2021 corresponds to estimates of effective carbon rates by the Organisation for Economic Co-operation and Development. The terminal value of €140/tCO₂ by 2030 is aligned with the carbon price assumption in the International Energy Agency's net zero scenario for 2050, as set out in its 2022 World Energy Outlook.

This [blog](#) was prepared in liaison with Alina Bobasu, Kai Christoffel, Alistair Dieppe, Michael Dobrew, Marien Ferdinandusse, Alessandro Ferrari, Thaïs Massei, Romanos Priftis, Angela Torres Noblejas and Aurelian Vlad.

Improving banking resolution in the EU

The Commission's Crisis Management and Deposit Insurance proposal has the potential to improve bank resolution in the European Union, Mathias Dewatripont, Peter Praet and André Sapir suggest

The collapse of several US regional institutions and of Crédit Suisse in the last two months has increased the urgency for crisis management reform in the EU. This column argues that the Crisis Management and Deposit Insurance proposal by the European Commission has the potential to improve bank resolution in the EU while protecting depositors and financial stability.

The authors suggest it should be accompanied by further efforts to increase loss-absorbency and liquidity requirements, supervision, and managerial accountability in order to reduce moral hazard, while taxpayer interests could be better served if additional flexibility were granted to resolution authorities to temporarily nationalise troubled banks under state aid control.

The events of the last two months have demonstrated the importance of a banking regulation ecosystem which combines (i) flexibility to deal efficiently with a bank in crisis in order to avoid financial instability, and (ii) enough preventive measures to lower the probability of crises while also limiting moral hazard.

Recently, several banks have been under stress and, so far, four in the US and one in Switzerland have needed public intervention. Each time, money from deposit insurance funds and/or the treasury has been used, and the problem bank has 'disappeared'.

Moreover, even in the case of a globally systemically important bank (GSIB) like Crédit Suisse, authorities went for absorption of the entire bank by an even larger one.

Evaluations of the events differ. Some are rather positive, stressing that financial instability was avoided (Löyttyniemi 2023). Others, however, are outright negative, stressing in particular the 'unsustainability' of

megabanks overlapping multiple jurisdictions (Brunetti 2023, Admati *et al* 2023). Both sides make valid points in our view.

More generally, there is the question of the 'political sustainability' of repeatedly relying on public money for 'bank bailouts'; the failure of supervisory authorities to prevent these crises can easily lead to 'bailout fatigue'.

We welcome the new flexibility offered by the CMDI proposal because it will help improve financial stability, which is crucial for the real economy and therefore also for taxpayers

This is one reason Lehman happened in 2008, after the Long-Term Capital Management (LTCM) and Bear Stearns interventions. It also explains the US savings and loans crisis in the 1980s, when the Federal Savings and Loans Insurance Corporation (FSLIC) fund was exhausted and the US Congress refused to replenish it.

The current banking situation is already leading to soul-searching in the US (and also the UK), with the Federal Deposit Insurance Corporation (FDIC) suggesting a ‘targeted extension’ of deposit insurance for companies’ working capital. Some go even further, advocating a general extension of deposit insurance (eg. Heider *et al* 2023)¹.

In this column, we focus on the specific situation in the EU, where so far in the recent turmoil there has not been a ‘bank in crisis’. This happy situation is partly the result of the fact that Basel III requirements apply to all EU banks, in contrast with the situation in the US, where many banks (including Silicon Valley Bank) are exempted of such requirements, which apply only to the biggest ones.

By contrast, the example of Crédit Suisse is more worrisome, since it is a GSIB headquartered in a fully Basel III-compliant country, Switzerland – which is not the case for the EU.

More worrisome for the EU is the fact that, under its Banking Recovery and Resolution Directive (BRRD), public money is harder to access than in the US or Switzerland until 8% of the balance sheet of the troubled bank has been bailed-in. As stressed, for example, by Dewatripont (2014 a, 2014b) and Dewatripont *et al* (2021, 2023), it can be very dangerous for financial stability if one cannot reach this 8% without bailing-in depositors.

The result has been that the BRRD, in force since January 2016, has been very largely ignored – especially in the Banking Union – when dealing with troubled banks, with national authorities preferring to use other options, in particular national bankruptcy laws.

This loophole has allowed troubled banks to be declared bankrupt, and therefore not 'banks' any more, which means that the BRRD is no longer relevant, thereby allowing national authorities to sell (part of) such 'non-banks' to ... a bank (as Italy has shown with two Venetian banks)!

Given the potential cost in terms of financial instability from failing banks, avoiding bailing-in depositors by using this loophole was probably useful, but such an unharmonised approach – and thus an unlevel playing field – is clearly not first-best. Reforming the system is therefore needed.

Evaluation of the Crisis Management and Deposit Insurance proposal

In our view, the Crisis Management and Deposit Insurance (CMDI) proposal by the European Commission² is an important step in the right direction because it comes to terms with the reality that the EU framework (the BRRD) has not been used in resolution since it could be hitting depositors and destabilise the entire banking sector.

The CMDI rightly proposes to ease, under certain conditions, the use of deposit guarantee scheme (DGS) money in order to protect deposits while resolving troubled banks. Note that the CMDI refers to national DGS schemes since the Commission (realistically) feels the time is not yet ripe for moving to a European Deposit Insurance System (EDIS) in the euro area, a desirable endpoint to complete the Banking Union.

Evidence presented by the Commission along its CMDI proposal credibly shows that the problem is more acute for mid-sized and smaller banks than for larger ones because the former have a higher share of deposits in their balance sheet.

For banks with at least €100 billion of assets, the BRRD obliges them to have a minimum buffer of 8% of own funds and subordinated securities which are bail-inable, giving them access to the EU Resolution Funds.

The innovations in the CMDI proposal are that it (1) recognises that small and medium-sized banks may not have a sufficient amounts of bail-inable own funds and subordinated securities to meet the 8% requirement of the BRRD without hitting deposits; and (2) allows national DGSs to cover the gap between the two in resolution.

The CMDI would permit easier access to DGS money and protection of deposits by : (i) eliminating the 'super seniority' of the insured deposits (and the DGS) over other deposits; and (ii) introducing generalised depositor protection, which means that senior bonds, and not only junior ones, can be bailed-in without having to touch deposits (a feature which is already in place in some EU countries).

Note, however, that the CMDI proposal de facto means that national DGSs would become junior in resolution to deposits since they would intervene to protect them, a big change in comparison to their current super seniority status.

Facilitating access to DGS money in order to resolve a bank in trouble without hitting depositors is an idea we strongly subscribe to. At the same time, we are conscious of the fact that using public money for banks in trouble is never popular, and that safeguards are therefore needed to avoid a political backlash. This leads to the following considerations:

1. It is 'politically astute' of the Commission to say in the CMDI proposal that deposit-guarantee and resolution funds will be paid for by the banking industry rather than by 'individual taxpayers'. In reality, as tax-incidence reasoning indicates, this is only partly true: individual depositors/taxpayers will be impacted to some extent since banks will adjust their behaviour, for instance by paying lower interest rates on deposits. Moreover, one should not forget that moral hazard is not reduced by industry-funded bailouts, but only by bail-ins.

2. What is needed, therefore, in order to reduce crisis events due to moral hazard (and also to avoid both a political backlash and also opposition by large banks, which fear having to pay for smaller ones) is to continue beefing up long-term subordinated loss-absorbency for all banks, small and large³. Enhanced loss-absorbency is thus a complement to and not a substitute for the crisis-time flexibility introduced by the CMDI. Both flexibility and enhanced loss-absorbency capacity are needed in order to credibly claim, as the Commission does, that CMDI *“will improve cost-efficiency, support the real economy and its competitiveness.”*
3. Another way to increase crisis prevention is enhanced supervision. In this respect, recent evidence of ‘click banking’ leading to higher deposit volatility in times of increasing interest rates suggests more demanding stress tests and higher outflow rates in the computation of the Basel liquidity coverage ratio.
4. This being said, since it is impossible to make sure that deposit guarantee and resolution funds will not be used, it is important that those deemed responsible for the problems are seen to be ‘punished’. Next to the bail-in of creditors and shareholders, holding management accountable in front of courts in cases of misbehaviour would be helpful in this respect. (Beyond this, it is surprising that, in a sector plagued by such intense leverage, regulation allows managerial compensation to be tied to stock prices, given that it induces them to take risks regulation then tries to reduce.)
5. The CMDI proposal insists on exit of the problem bank from the market as a condition for access to DGS money. This is also a useful disciplinary mechanism. One should, however, avoid ‘unintended consequences’ in terms of unnecessarily ‘tying the hands’ of public authorities in their resolution strategy. Indeed, history is full of examples where taxpayers have benefited from the state temporarily nationalising troubled banks rather than being forced to find a buyer at very short notice, especially in crisis times where multiple banks may be in trouble.

Allowing for the option of temporary ownership by a member state is also natural in a setting where DGS money is still national. Asking for the state to exit 'within X years' could, however, help protect taxpayer interests too. One could benefit here from the expertise that DG Competition has acquired since the Great Financial Crisis as a watchdog ensuring that state aid is kept to a minimum and unfair advantage is not obtained by the acquiring bank (Dewatripont *et al* 2010).

In conclusion, we welcome the new flexibility offered by the CMDI proposal because it will help improve financial stability, which is crucial for the real economy and therefore also for taxpayers.

However, in order to avoid worsening moral hazard, such flexibility should be accompanied by additional measures: beefing up the loss-absorbency capacity of all banks; enhancing bank supervision, in particular for new risks to the banking landscape; and making bank managers more accountable.

Finally, one should not unnecessarily tie the hands of resolution authorities by forcing excessively rapid sales of troubled banks. ■

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Endnotes

1. See also Perotti (2023) for a regulatory reform of the treatment of deposits.
2. See https://ec.europa.eu/commission/presscorner/detail/en/ip_23_2250
3. One may indeed want to beef up capital also for those big banks whose market capitalisation as a percentage of their total assets is low, which may indicate an 'excessive use' of internal models.

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EU moving towards better international bank capital standards compliance

CREDIT SUISSE

The US and Swiss bank collapses show the importance of strong capital and liquidity positions and should signal to the EU the benefits of closer adherence to Basel III, Nicolas Véron believes

The collapses in rapid succession of Silicon Valley Bank (SVB) and Signature Bank in the United States, and of Credit Suisse in Switzerland, have reawakened debates on banking policy. In the United States, reports assessing what went wrong are expected from both the [Federal Reserve](#) and [Federal Deposit Insurance Corporation](#) (FDIC) on 1 May. In Switzerland, the unorthodox engineering of Credit Suisse's takeover by UBS has generated [lawsuits](#) and [investigations](#).

By contrast, in the European Union as in the United Kingdom, there have been no visible signs of banking-sector weakness. Since more than nine-tenths of EU [banking assets](#) are in the euro area and under European banking supervision led by the European Central Bank (ECB), that counts as a success for the single supervisory mechanism – the main finished piece of the EU banking union project, on which the EU embarked in 2012.

As emphasised by ECB Supervisory Board Chair Andrea Enria, in a 21 March [speech](#), European supervisors have been focused on both interest-rate risk and business-model risk in recent years, two areas at the core of the SVB and Credit Suisse disasters. This stands in sharp contrast to the pre-2012 period, when banking supervisors in the EU looked [unable](#) to get anything right.

Meanwhile, EU banking union remains incomplete – and it is likely that the absence of banking sector turmoil in the EU will mean that pre-existing political obstacles will continue to prevent its completion any time soon.

The two key stumbling blocks are a European deposit insurance scheme (EDIS), for which the Commission's ill-fated [proposal](#) of 2015 has been left unadopted despite protracted negotiations, and the regulatory treatment of banks' sovereign exposures (RTSE), which has been negotiated in parallel, outside of public view and also without concrete results.

On 16 June 2022, an acrimonious meeting of euro area finance ministers in the Eurogroup format acknowledged the impasse. Ministers decided to shelve the discussions on EDIS and RTSE and [asked](#) the European Commission to make proposals on a more limited reform agenda of crisis management and deposit insurance (CMDI).

In doing so, they admitted that the EU framework for the handling of unviable banks, which they had enshrined in 2014 in the bank recovery and resolution directive (BRRD, 2014/59/EU), had [not worked](#) as intended.

The recent banking turmoil has given the Basel framework renewed legitimacy: SVB may not have failed so miserably if it had not been exempted from the Basel framework

Closer to the US?

This policy area is hard to grasp, and not only because of its unseemly proliferation of four-letter acronyms. In simplistic terms, the essence of the CMDI project is to move closer to the US system in which the FDIC is the single authority for both deposit insurance and the resolution of failing banks.

In that system, all deposits, insured or not, have equal and preferred status to the failing bank's other liabilities, a feature known as general depositor preference. This creates incentives for the FDIC to finance takeovers of failing banks by sounder peers, protecting all depositors from losses in most cases.

A degree of market discipline is nevertheless preserved, since uninsured depositors have incurred losses in a minority of [bank failures](#) in recent decades.

The irony is that, by invoking a systemic risk exception and extending an unlimited guarantee to all depositors of SVB and Signature Bank, the US authorities may have departed [permanently](#) from this model, at precisely the time when the EU was considering adopting it.

The European Commission had planned to publish its CMDI proposal on 8 March, then [procrastinated](#) and eventually [published](#) it on 18 April. In the meantime, the US systemic risk exception was [triggered](#) on 12 March.

Basel III

Moving towards a US-inspired system with general depositor preference, as that proposal suggests, still makes sense for the EU. But this may be impossible without simultaneously completing the banking union, because the continued reliance on national deposit guarantee arrangements defeats the purpose of a single Europe-wide framework.

In any case, time is short to wrap up CMDI before the end of the current EU legislative cycle in about spring 2024, especially as several EU countries appear **unhappy** with it. The CMDI proposal will likely end up being useful as a basis for public debate rather than actual legislation.

All is not deadlocked, however. Another rule, which transposes into EU law the international accord known as **Basel III Endgame**, was **proposed** in October 2021. Its adoption is expected before end-2023. The current, non-final version is **not compliant** with the Basel III template.

However, the recent banking turmoil has given the Basel framework renewed legitimacy: SVB may not have failed so miserably if it had not been **exempted** from the Basel framework. As noted by Bundesbank President Joachim Nagel in a **speech** on 14 April, *“it is now all the more important to implement the Basel III rules globally without any concessions.”*

The EU should focus on achieving that outcome, even as it leaves its menagerie of other acronyms – EDIS, RTSE and CMDI – unfinished for the time being. By emphasising the importance of strong capital and liquidity positions, the US banking mess could usefully lead EU policymakers to adopt the Basel III Endgame in a compliant manner. ■

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The value added of CBDCs: a view from the euro area



Maria Demertzis and Catarina Martins argue that the ECB is uniquely positioned to help create the global standard, and in the process to help protect the EU's global strategic interests

Executive summary

Different jurisdictions have set out different reasons for creating central bank digital currencies (CBDCs). Some countries, particularly those with already-operational CBDCs for retail purposes, aim to promote financial inclusion. But in countries where most citizens have access to financial services, central banks are interested in CBDCs as an aspect of the increasing digitalisation of finance.

Central banks could also choose to use CBDCs to guarantee in full citizen's holdings (currently, deposits in commercial bank are only partially guaranteed), but this would trigger major changes in the financial system in terms of the role of commercial banks in intermediation and the role of fiat money. So far, central banks have not opted to go this way.

In the euro area, consumers have multiple payment options and a very efficient retail payments system. The currency enjoys high levels of trust and is not challenged by the emergence of private currencies, such as Bitcoin, or by the risk that cash, a monetary system's anchor, will disappear. Therefore, creating a CBDC for retail purposes in the euro area offers little obvious value added, at least for the foreseeable future.

However, there is a strong case for building a CBDC that banks could use for crossborder wholesale purposes (ie. with other currencies). Wholesale CBDCs could revolutionise the way that crossborder, cross-currency payments are made for two reasons.

1. Crossborder payments are currently slow and inefficient. Pilot projects have shown that wholesale payments with CBDCs can generate substantial time and cost savings.

2. Any two central banks that have operational wholesale CBDCs could settle transactions between themselves. This would be very different from the current system, as most settlements today are done via the dollar (and then the euro) infrastructure and use correspondent banks.

The euro area and the United States would have to consider carefully from a geopolitical perspective how wholesale CBDCs might affect their global economic standing. By developing a CBDC for wholesale purposes, the European Union would be able to contribute to developing the global standard.

Wholesale CBDCs have the potential to change the current dollar-based system into one that is more diverse

1 Introduction

Central bank digital currencies (CBDCs), a digital equivalent of cash, are increasingly gaining traction. At least 114 jurisdictions, representing 95 percent of global GDP, are at some stage of developing a CBDC¹. In 11 countries, CBDCs are now a reality and operate in parallel to their physical equivalent. But it is not necessarily easy for the consumer to understand the difference between a euro in coin or note form and a digital euro.

A good starting point in identify the benefits of CBDCs is to understand the problem that cannot be solved through the increasing range of digital payment options provided by the private sector, and which therefore requires the state's intervention. This is important in explaining why the taxpayer might be asked to finance the creation of a CBDC.

We argue that CBDCs do have added value, but this is not the same for every country. In countries with high levels of financial exclusion and where there is a lack of modern and reliable digital payment systems, a CBDC can facilitate access to payments for many people. But in countries with ample payment solutions and where financial exclusion is a second-order problem, the justification is different.

Central banks worry that as finance becomes increasingly digitalised, two things might happen: first physical cash, the anchor of any financial system, will be displaced, and second, private currencies will become popular. Both could reduce the monopoly of sovereign money. Central banks fear this would compromise their ability to maintain monetary and financial stability.

CBDCs will have a dual purpose, just like their physical equivalent: for retail purposes, typically by consumers and small businesses to make daily payments, representing a small part of total payments; and for wholesale (ie. bulk) purposes by banks and other financial institutions, either domestically or cross border. In the euro area, most efforts

to date have focused on how to develop a retail CBDC. Only recently² has there been also an attempt to advance thinking on the wholesale aspects as well.

On the retail side, the arguments for a digital euro put forward by the European Central Bank revolve around the speed of digitalisation of finance and the notion of strategic autonomy. The prospect of finance becoming predominantly and eventually even exclusively digital threatens the existence of sovereign money and compromises the role of its guardian, the central bank.

The ECB also argues that a big part of all payments is managed by foreign players, who collect sensitive information about EU citizens. A pan-European payment method that is very close to cash would help reduce this vulnerability. It would also help homogenise payments in the euro area and, given easier access, may help promote the international role of the euro.

However, these reasons, understandable as they might be, do not make a compelling case for a retail digital euro, at least for now. There is no imminent threat that digitalisation will undermine the role of the physical euro. And there are easier ways, like through regulation, to promote the creation of a uniformly-accepted digital instant payment method in the EU, without having the taxpayer finance a CBDC.

Meanwhile, Europe's vulnerability arising from foreign players being present in the payment sphere is a very delicate argument. Does the EU want to create European payment players at the expense of competition?

Finally, the euro has acquired a very stable international role, second to, and quite far from, the dollar. At best, a digital equivalent can only expand the euro's international appeal at the margins. Other factors that pertain to a more integrated and well-governed European economy would advance more significantly its international acceptability.

There are also several technical choices, including limits on the amount of digital euros that any citizen can hold, or the fact that these deposits will not be remunerated, that also prevent the greater international use of the euro.

In addition, the Eurosystem has a very fast and efficient retail payment system and can still find efficiency gains within the current system. All these make the case for a digital euro even less attractive.

However, the EU and the global financial system can really benefit from developing wholesale CBDCs for making payments outside the euro area. This can generate efficiency gains for all payments made outside the EU. In our view, the creation of CBDCs globally has the potential of revolutionising crossborder payments.

For now, one reason why the dollar is the currency of choice globally is because it offers the infrastructure via which any two parties can settle a transaction. Any two countries that have CBDCs will have in principle the ability to settle transactions between them, bypassing the current dollar-based system.

Before this could happen however, there would have to be a commonly agreed global standard on how to design and use CBDCs. This is a significant barrier as it requires mutual recognition of legal systems and agreement on economic and technical design issues (BIS, 2022).

Global governance will be a major obstacle to this revolution and the euro area and the United States would have to consider carefully how their economic standing globally would be affected.

For example, current sanctions on Russia mean that countries that want to continue economic relations with Russia cannot do so in dollars or euros. Mutually accepted CBDCs between any two countries could allow them to continue trading and therefore bypass sanctions.

This reduces the need for the dollar infrastructure in international settlements and, importantly, raises the threshold for returning to the dollar when the option presents itself in the future. International financial fragmentation encourages the development of CBDCs and may be part of the explanation for their rapid advancement in the past few years.

2 The emergence of CBDCs

We first clarify how CBDCs may differ from physical cash. Figure 1 describes the taxonomy of money. The digital form of a sovereign currency, a CBDC would be legal tender and fully guaranteed by public authorities. This contrasts with deposits in commercial banks which are guaranteed only in part: for example, €100,000 in the euro area and \$250,000 in the US.

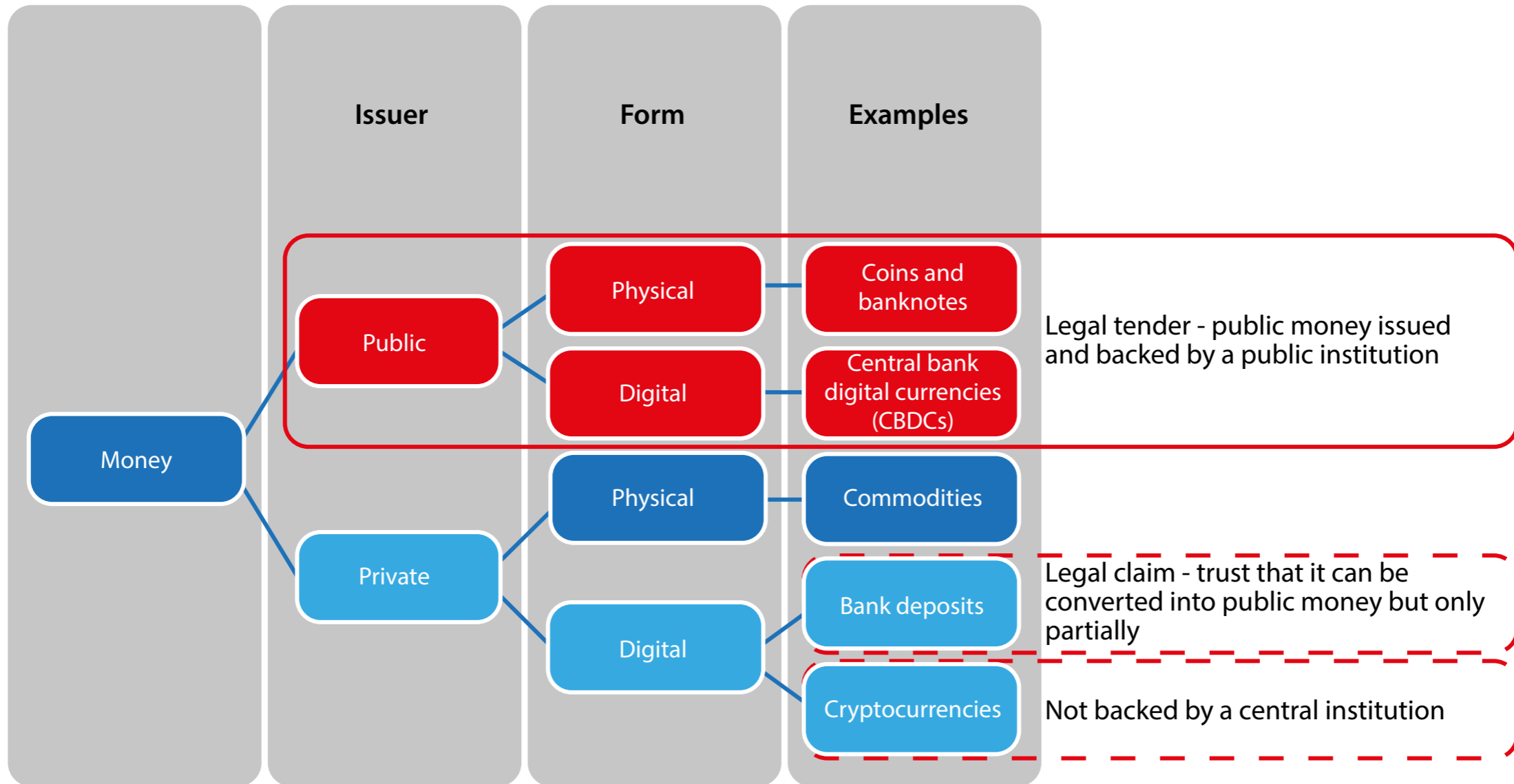
As legal tender, CBDCs could not be refused as means of payment or for repaying debts in the respective jurisdictions.

However, legal tender laws are not sufficient to guarantee the acceptability of a new currency, as shown in the literature (Lotz and Rocheteau, 2002). In a two-sided market, acceptability comes not only from take-up by consumers, but also from take-up by merchants, who must invest in the necessary equipment. This has been shown to be an obstacle and would have to be addressed for CBDCs.

Also, CBDCs will be convertible one-to-one into other forms of central bank money – reserve balances or cash. A CBDC will be the closest substitute possible to physical cash, which settles near instantly.

However, while the technology may be able to ensure privacy, CBDCs will not allow for anonymity in the same way as physical cash. Last, holding CBDCs would mean holding a direct liability with the respective central bank, very much like holding a banknote.

Figure 1. Taxonomy of money



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Source: Adapted from Claeys et al (2018).

Central banks have become interested in the idea of CBDCs for three main reasons:

1. The emergence of cryptocurrencies. The Bitcoin revolution has provided means of payment that are privately issued and managed. If private money were to become successful, especially if it is in principle available to everyone globally, it could displace publicly issued money (cash) and fiat money that is issued by financial institutions but monitored and guaranteed in part by public authorities.

The existence of private money reduces the money base that central banks control, and therefore reduces their ability to control inflation and monitor financial stability. With CBDCs, central banks would provide a digital equivalent of public money that would mimic the technological features of cryptocurrencies.

2. Increasing use of digital payments. The increased digitalisation of payments reduces the role and use of cash in most economies. Cash is often referred to as the anchor of the financial system, providing the necessary trust to the whole system.

The worry is that with decreasing use of cash in everyday transactions, physical cash would disappear, thus eroding trust in the system. A digital equivalent of cash would maintain the anchor while addressing the change in payment preferences.

3. Improve the reach and efficiency of payment systems. In several countries where many people do not have access to the financial system or digital payments, CBDCs offer increased financial inclusion.

This is potentially a game changer, and it is not a coincidence that those countries already using CBDCs, such as Nigeria and the Bahamas, have financial inclusion as a prime motive.

However, even for countries where financial exclusion is a small and isolated problem, there are benefits to improving the efficiency of payments.

This is particularly true for payments across borders, where CBDCs have the potential to create a global standard for international payments that is both efficient and universally accepted. This has the potential to revolutionise the way payments are settled between any two entities anywhere in the world.

While these three reasons are not exhaustive, they are the main arguments put forward by most countries. Other reasons that have been mentioned for developing CBDCs are a more cost-effective issuance and management of physical cash (Reserve Bank of India, 2022), support for the wide application of new technology and innovation, and the strengthening of operational resilience and cybersecurity³.

Central banks worldwide are experimenting with the technology to identify which type of CBDC, retail and/or wholesale, will provide value-added for their consumers and cover their needs.

3 The case for a retail CBDC

Currently, a consumer (payer) who wants to make a payment instructs their bank to make a transfer to the payee's account. The transaction involves an amount moving from one bank to the other and is settled by the central bank.

With CBDCs, however, both the payer and the payee will have accounts directly at the central bank. There will be no commercial banks involved⁴. Both the payment and the settlement will happen via the central bank directly. Furthermore, CBDCs could use new technology, such as distributed ledger technology (DLT), which is being explored.

The motive for deploying a retail CBDC depends crucially on how the three factors we have described in section 2 have impacted a particular jurisdiction. Are cryptocurrencies a threat to traditional forms of payment and possibly a source of financial instability?

Is physical cash redundant, therefore, threatening to de-anchor trust in the monetary system? Are there efficiency gains to be had in payments both for retailers and in wholesale?

3.1 Cryptocurrencies are not taking over payments

The emergence of cryptocurrencies has democratised payments and financial services in that it has provided easier access by removing intermediaries. However, cryptocurrencies have also proved to be very bad means of payment or store of value because their price has been very volatile (Demertzis and Martins, 2023).

In practice, the fear that cryptocurrencies could displace sovereign money has so far proved unfounded. Nevertheless, the experience is not the same around the world, and of course things might change in the future.

Despite its increasing size, the crypto market still represents a small fraction of the total financial system. According to the ECB, the value of all cryptoassets represented less than 1 percent of total global financial assets by April 2022 (Panetta, 2022a). They also represent a small component of the total value of payments.

The *Global Payments Report* (FIS, 2023) noted that cryptocurrencies are used much more for investment purposes than as a means of payment (77 percent compared to 18 percent, according to their survey), and that the value of e-commerce payments using crypto represented 0.19 percent of global e-commerce value in 2022.

Table 1. 2022 Global Crypto Adoption Index

Overall index ranking	Country	Overall index ranking	Country
1	Vietnam	11	Nigeria
2	Philippines	12	Turkey
3	Ukraine	13	Argentina
4	India	14	Morocco
5	United States	15	Colombia
6	Pakistan	16	Nepal
7	Brazil	17	United Kingdom
8	Thailand	18	Ecuador
9	Russia	19	Kenya
10	China	20	Indonesia

Source: Chainalysis (2022).

However, in Africa, Asia and Latin America, cryptocurrencies are increasingly playing a more active role. An index compiled by Chainalysis (2022) tried to capture a broad picture of cryptocurrency adoption by scoring countries on a variety of measures. It ranks only two high-income countries – the US and the United Kingdom – among the top 20 crypto adopters in 2022 (Table 1).

According to White and White (2022), Africa is the fastest-growing cryptocurrency market among developing regions. Between 2020 and 2021, Africa saw a 1,200 percent increase in cryptocurrency payments. Remittances, which are a very important source of income for the continent, have been greatly facilitated by cryptocurrencies (White and White, 2022).

In Nigeria, 10.3 percent⁵ of the population owned cryptocurrency in 2022. The popularity of crypto in Nigeria is explained by financial exclusion, the lack of access to financial services. However, the weakness of the domestic currency and inflation is also a reason for the popularity of crypto alternatives.

A CBDC would help, at least in principle, to reduce financial exclusion, but would not by itself alleviate doubts about the strength of the sovereign currency.

3.2 Cash is still popular

The increased popularity of digital payments, particularly during the COVID-19 lockdowns, has reduced the need for cash. Nevertheless, cash still has an important role in point of sale (PoS) payments, particularly in less-developed regions and it is here to stay at least for the foreseeable future (BIS, 2023; FIS, 2023).

European Central Bank data for the euro area indicates that, despite the reduction in cash payments at the point of sale, from 79 percent in 2016 to 59 percent in 2022, cash remains the most popular payment method, especially for low-value transactions (Figure 2, top panel).

Citizens' opinions on the importance of having the cash option demonstrates that a society without cash is nowhere close. The proportion of people considering cash 'very important' and 'fairly important' is above 50 percent for most euro area countries (Figure 2, bottom panel). This goes against the popular belief that cash will soon be abandoned.

Zamora-Pérez *et al* (2022) argued that, at the global level, the demand for cash has not decreased but rather has increased. This has happened despite the many new innovative solutions that have emerged for non-cash payments.

Some of this increased demand may be related to a precautionary savings motive: a means of storing value in a period of low-interest rates that spanned several years.

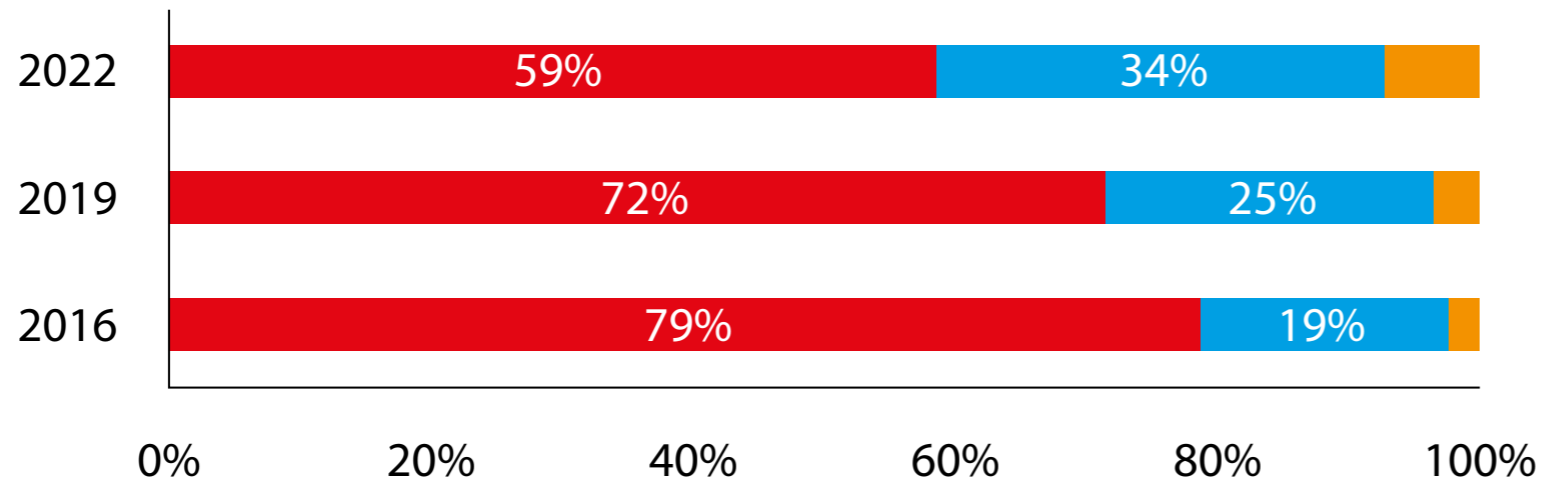
Additionally, even countries like Sweden, that have attempted to go totally cashless, have acknowledged that this might not be possible and that some, even if limited, amounts of cash will always be needed⁶. Armelius *et al* (2020) went as far as arguing that Sweden may be an outlier when it comes to the trend towards a cashless society, and not the trendsetter.

Nevertheless, it is important to acknowledge that the process of digitalisation will mean that the demand for physical cash will continue to decline. It is much more difficult to assess whether it will disappear completely or, like in Sweden, stabilise at a low level⁷.

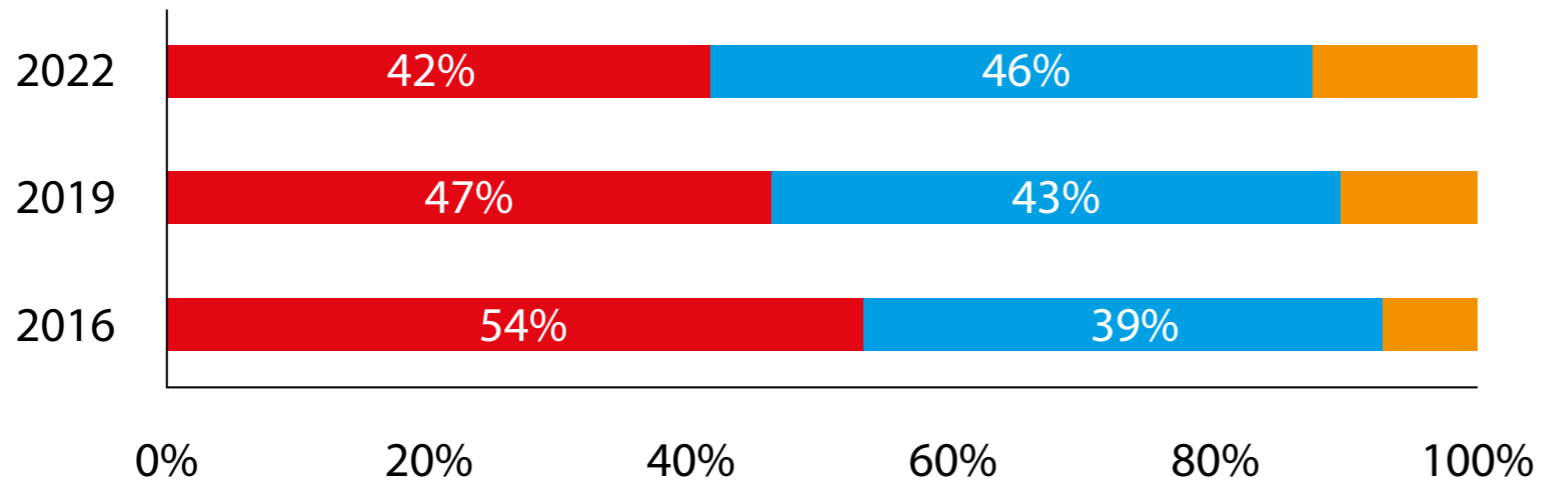
Part of the answer will depend on how well CBDCs, as the closest digital equivalent to cash, can take over the role of cash in providing an anchor for the system. Choices in the design of the CBDC will determine how close to cash CBDCs can be. Privacy and anonymity, the thresholds for consumer holdings of CBDCs and whether it will be remunerated or not will be relevant in this regard.

Figure 2. Payment preferences and the importance of cash in the euro area

Number of transactions

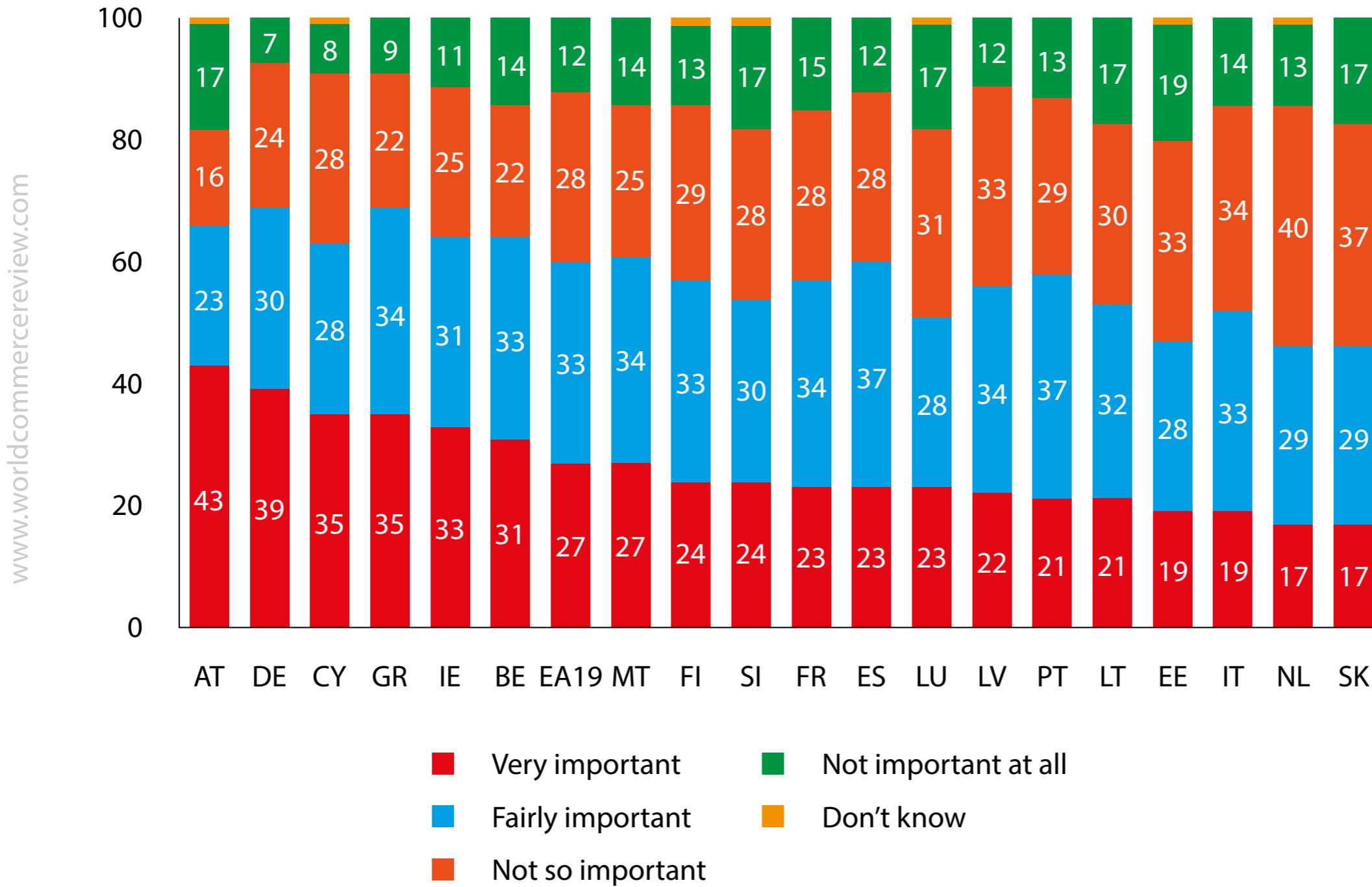


Value of transactions



■ Cash ■ Card ■ Others

Importance of having the option to pay with cash, by country (%)



Source: Bruegel based on ECB (2022).

3.3 Financial exclusion and the introduction of retail CBDCs

Perhaps the most compelling argument for introducing retail CBDCs is that it will increase financial inclusion. It is therefore not surprising that countries where a substantial part of the population is excluded from financial services were the first to introduce their national currencies in digital form.

Nigeria's eNaira, for example, was launched at the end of 2021, with the aims of increasing remittances, fostering crossborder trade, improving financial inclusion, enabling the government to make welfare payments more easily and making monetary policy more effective⁸.

Providing the local population with access to digital payments and through them facilitating crossborder transactions in the form of remittances is particularly important, given the relevance of remittances as a source of income for the country. Figure 3 shows the level of financial inclusion worldwide.

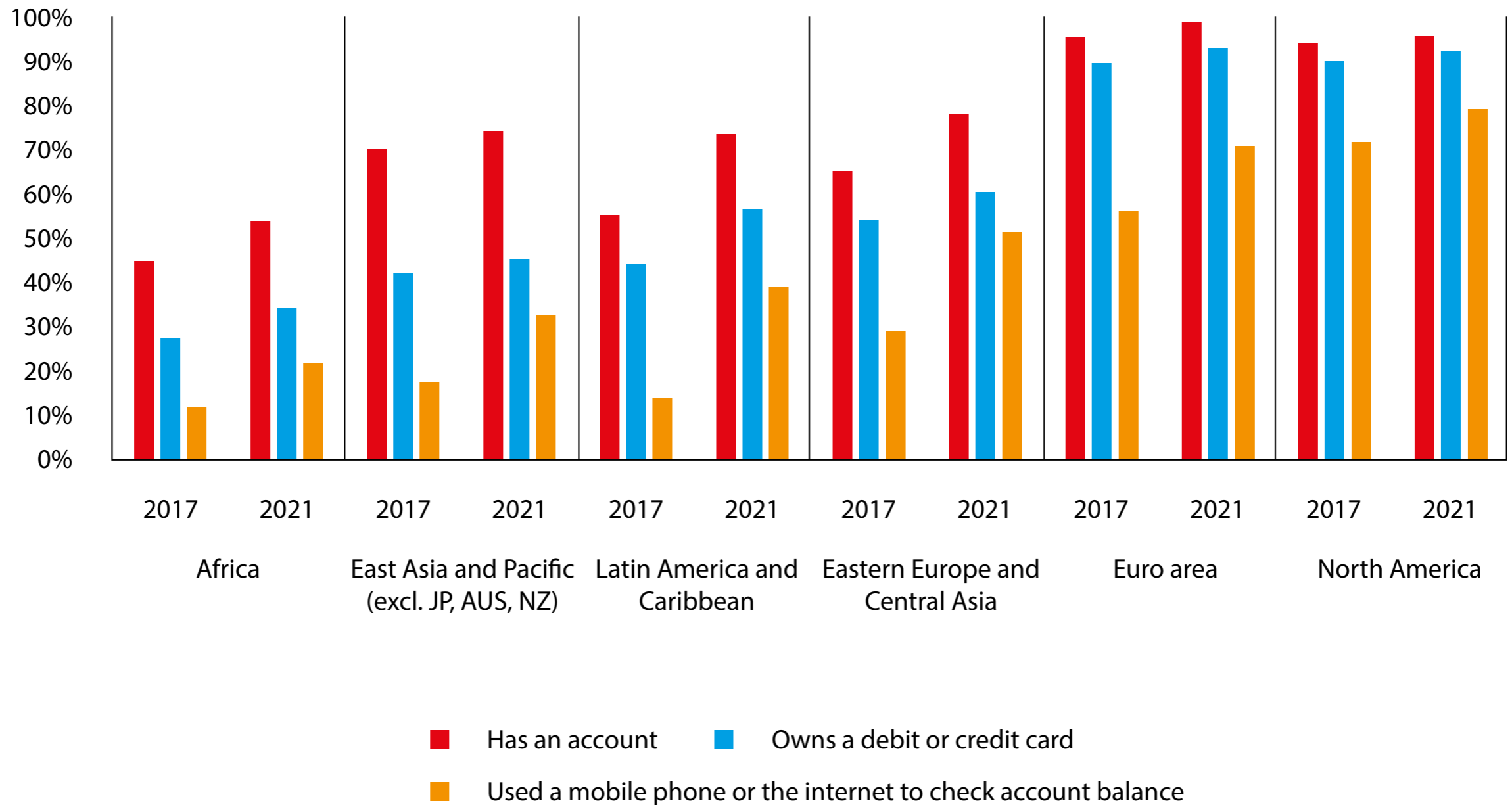
Advanced economies such as euro area countries, the US and Canada have very high levels of financial inclusion. This is not the case for African countries or some Caribbean countries, where CBDCs are already being introduced.

However, a CBDC by itself is not enough to reduce financial exclusion. For CBDCs to be adopted widely there needs to be broad access to internet connection, consumers need to have mobile phones and merchants need to have invested in the equipment to accept payments in CBDCs.

Figure 4 shows that while a large proportion of the African population has access to a mobile phone, access to the internet by contrast is not as widespread (50 percent), which defines the limits of success that the introduction of a digital currency can have.

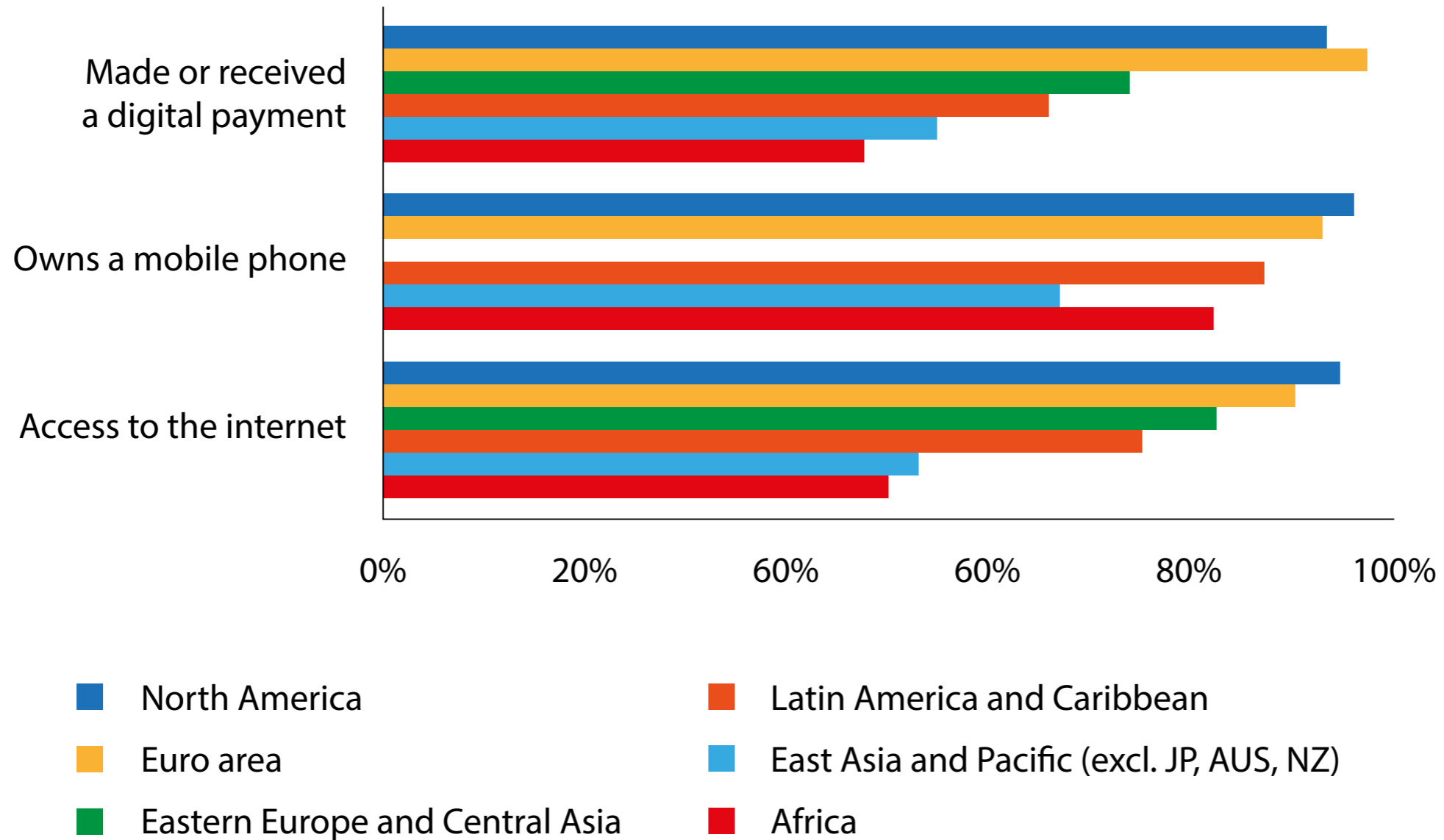
Figure 3. Financial inclusion, three metrics

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Notes: JP = Japan, AUS = Australia, NZ = New Zealand.
 Source: Bruegel based on the Global Findex Database 2021.

Figure 4. Digital infrastructure and penetration



Source: Bruegel based on the Global Findex Database 2021.

It is worth noting that even if there is digital access, it is not immediately the case that the introduction of CBDCs is the only or even the easiest way to improve financial inclusion, as shown by India and Brazil.

Officially launched in 2016, Unified Payments Interface (UPI)⁹ is an Indian instant payment system widely adopted in the country. Given its huge success, it is seeking agreements with other countries to enable its acceptance abroad¹⁰.

The Central Bank of Brazil meanwhile launched a platform for real-time digital payments called PIX which has proved an enormous success. Since the launch, the number of registered users has increased continuously, reaching more than 137 million in May 2023¹¹, which represents more than 60 percent of the country's population.

PIX does not require any exchange of personal data, as the payer just asks for the payee's QR code, and payment transfers happen at very high speed at any time of the day. According to the 2023 *Global Payment Report*, average fees on PIX transactions are 0.22 percent of the transaction cost compared to 1 percent for debit cards and 2.2 percent for credit cards.

It would be very difficult to make a case for introducing a retail CBDC that can provide more value added than this to the consumer, a fact that explains why the Central Bank of Brazil's interest in introducing a CBDC is mainly for wholesale purposes¹².

3.4 How popular are CBDCs?

Admittedly, digital equivalents of sovereign currencies have existed for no more than two years. But their uptake is not as impressive as authorities hoped.

Table 2 shows their uptake level for three countries, Nigeria, the Bahamas and China. Compared to total currency in circulation, CBDCs represent very small amounts and in none of these cases above 0.17 percent of the total.

There are major problems to overcome. For the Sand Dollar, the CBDC of the Bahamas, introduced in October 2020, at least two issues might contribute to its small uptake¹³.

First, the public confuses the Sand Dollar with privately issued cryptocurrencies that are not immediately trusted. After the scandal around FTX, which was based in the Bahamas, the public grew very sceptical about any digital currency.

Second, the Sand Dollar is not readily accepted everywhere. Merchants do not all have the right equipment to accept it (a reason also given for the eNaira), even though they incur no cost for having the equipment.

Table 2. CBDCs in circulation

December 2022 values	Nigerian eNaira	Bahamian Sand Dollar	Chinese e-CNY
CBDC in circulation	3 billion eNaira	303,785 Sand Dollars	13.61 billion e-CNY
% of total currency in circulation	0.01%	0.17%	0.13%

Source: Bruegel based on Central Bank of Nigeria, Central Bank of The Bahamas and People's Bank of China.

This raises interesting questions about how to increase public acceptability. Historical incidents show that legal tender laws are not sufficient to guarantee the acceptability of a new currency (Lotz and Rocheteau, 2002).

In a two-sided market, acceptability comes not only in the form of consumer take-up, but also from merchants who must invest in the necessary equipment. This has been shown to be an obstacle. Zamora-Pérez *et al* (2022) found that providing the status of legal tender is not always the right means of increasing the popularity of a currency, as the cost of building the infrastructure necessary for a currency's adoption must be addressed.

However, Brazil's PIX payment system shows that mandatory participation of certain private players may be enough to create sufficient network effects, necessary for such markets to pick up. Similarly, Chinese public authorities are beginning to pay civil servants salaries in e-yuan¹⁴.

An important reason for low uptake is the lack of trust in the underlying currency. The digital representation of a currency is not sufficient to generate trust. It may allow for easier access but that can only help marginally. This is shown to be an important explanatory factor in the poor adoption of the eNaira in Nigeria¹⁵.

An interesting experiment is taking place in Zimbabwe, where authorities have issued a gold-backed token¹⁶ as a way of improving the trust in the local currency, the Zim dollar. Pegging the currency to a trusted asset is one way of trying to improve its stability and reputation. But it can also prove to be very expensive and ultimately non-credible. It will be interesting to see how far this effort goes to establish trust in the country's CBDC.

3.5 A mixed case for establishing a retail CBDC

We have so far discussed arguments that are regularly made to justify the introduction of a retail CBDC, and the experience of countries that have decided to launch CBDCs.

The process of digitalisation in payments has not made a clear case for CBDCs. If anything, there is still insufficient understanding among the public in countries where they are already in operation, of the difference between CBDCs and private cryptocurrencies.

The most compelling reason in favour of a CBDC is financial inclusion. But even for this, CBDCs are not a solution by themselves. Other elements, like digital infrastructure, need to be available. And the Brazilian example shows that when digital infrastructure is available, there are other solutions to financial inclusion. The key is finding effective ways of creating network effects.

The welfare implications of introducing retail CBDCs remain very understudied. Piazzesi and Schneider (2022) suggested that the emergence of digital currencies could distort the level of competitiveness in payment systems.

This is of relevance in jurisdictions, such as the euro area, where there are plenty of other available private payment alternatives. CBDCs have the potential to prevent useful innovation in private markets, therefore, reducing aggregate welfare.

On the other hand, Williamson (2022) took a different view. Competing with private means of payment, CBDCs will attract safe assets (deposits). This, he argued, is a way of managing safe assets in a better, more welfare-enhancing way compared to how private banks deal with this stock. CBDCs could in theory be a way of bypassing the imperfections of partial deposit guaranteed systems.

However, CBDCs are not the only way of guaranteeing deposits in full. Regulatory adjustments could do this instantly. Importantly, a regime that shifts deposits from private banks to the central bank will necessarily change

the face of retail banking, an action that should not be done lightly. This has never been the motive behind introducing CBDCs and should not be dealt with as a mere unforeseen consequence.

There remain operational risks of introducing a retail CBDC. How will deposit holders retrieve them from private banks and place them at the central bank? Can this happen all at once, or will it trigger a run on the banks? There are also issues of cyber security and no system can be completely secure.

How does technology and the regulation that applies to it ensure financial stability? Finally, there is overwhelming evidence that consumers worry about privacy and anonymity (ECB, 2021; Noll, 2023).

While the technology that the ledger provides may offer novel solutions to a number of issues, the legal framework behind CBDCs is as credible as that of physical currencies and the institutions responsible for their issuance. A digital representation of a currency cannot solve governance shortcomings.

4 What is novel about wholesale CBDCs?

4.1 Improving wholesale payments

In the current system, bank reserves in the central bank available for wholesale transactions are already a form of central bank digital currency.

In other words, payers and payees in the wholesale market – banks – already have accounts at the central bank. This means that, unlike CBDCs for retail purposes, wholesale CBDCs do not need to be created from scratch. Rather, it is about using the most modern technology – distributed ledger technology (DLT) – to operate wholesale transactions.

Then the question is whether this new technology can provide efficiency gains in wholesale payments domestically, or between central banks across borders.

In various advanced economies, domestic payment systems are already very efficient: for example, real-time gross settlement systems such as T2, launched by the Eurosystem in March 2023 to replace the previous TARGET2 system, which settles euro-denominated payments, and the Fedwire Funds Service, which settles dollar-denominated transactions.

The systems are operated by the respective central bank. T2 is already meant to improve cost efficiency, provide greater cyber security and optimise the use of liquidity by harmonising and integrating various TARGET services¹⁷.

Even though wholesale settlement systems are quite advanced in the EU and in the US, the ECB and the Fed are both exploring how DLT can prove more efficient and secure for domestic interbank transfers¹⁸.

However, it is in crossborder and cross-currency transactions that DLT could provide sizeable gains. These transactions are subject to inefficiencies related to the current correspondent banking architecture (Hebert *et al* 2023). International payment systems have not kept up with the scale of crossborder financial flows in an increasingly open world.

The systems used are costly, slow and complex, which means that many participants from emerging markets and the developing world have been left with no access to the global financial system.

In an increasingly interconnected world, the need to improve crossborder payments has been established as a priority by the G20, with the Financial Stability Board leading in coordination of efforts¹⁹.

BIS (2021) provided a flavour of the potential gains from new ways of making crossborder payments. Table 3 summarises the results of such comparisons.

A transaction that currently takes three to five days could be completed in less than 10 seconds. Cost savings could also be significant, but their magnitude would vary between banks and regions. For example, average costs for overseas transactions amount to 2 percent in Europe, while in Latin America such costs amount to as much as 7 percent.

New payment solutions being explored could reduce this cost to as low as 1 percent. Savings would come from removing the network of correspondent banks in the chain of transactions and putting in place instead direct corridors that allow central banks to communicate.

Such efficiency gains were achieved in a pilot project called mBridges (BIS, 2022), in which the following central banks participated: the Hong Kong Monetary Authority, the Bank of Thailand, the Central Bank of the United Arab Emirates, the People's Bank of China, and the BIS Innovation Hub Hong Kong Centre. Using DLT, the project established a multi-CBDC platform via which market participants could make crossborder peer-to-peer payments directly using central bank money.

Along with efficiency and cost gains, the project demonstrated an ability to reduce settlement risk and allow for the use of local currencies for international payments, a move away from having to rely on international tradable currencies like the dollar and the euro. The pilot showed though that several complex choices would have to be made.

Table 3. Efficiency gains from DLT compared to the current payment system

	Current payment systems	New technologies for payments
Transaction time	3-5 days	2-10 seconds
Costs	<2% - >7%	As low as 1%
Accessibility	Via corresponding banks	Peer-to-peer

Source: Bruegel based on BIS (2021).

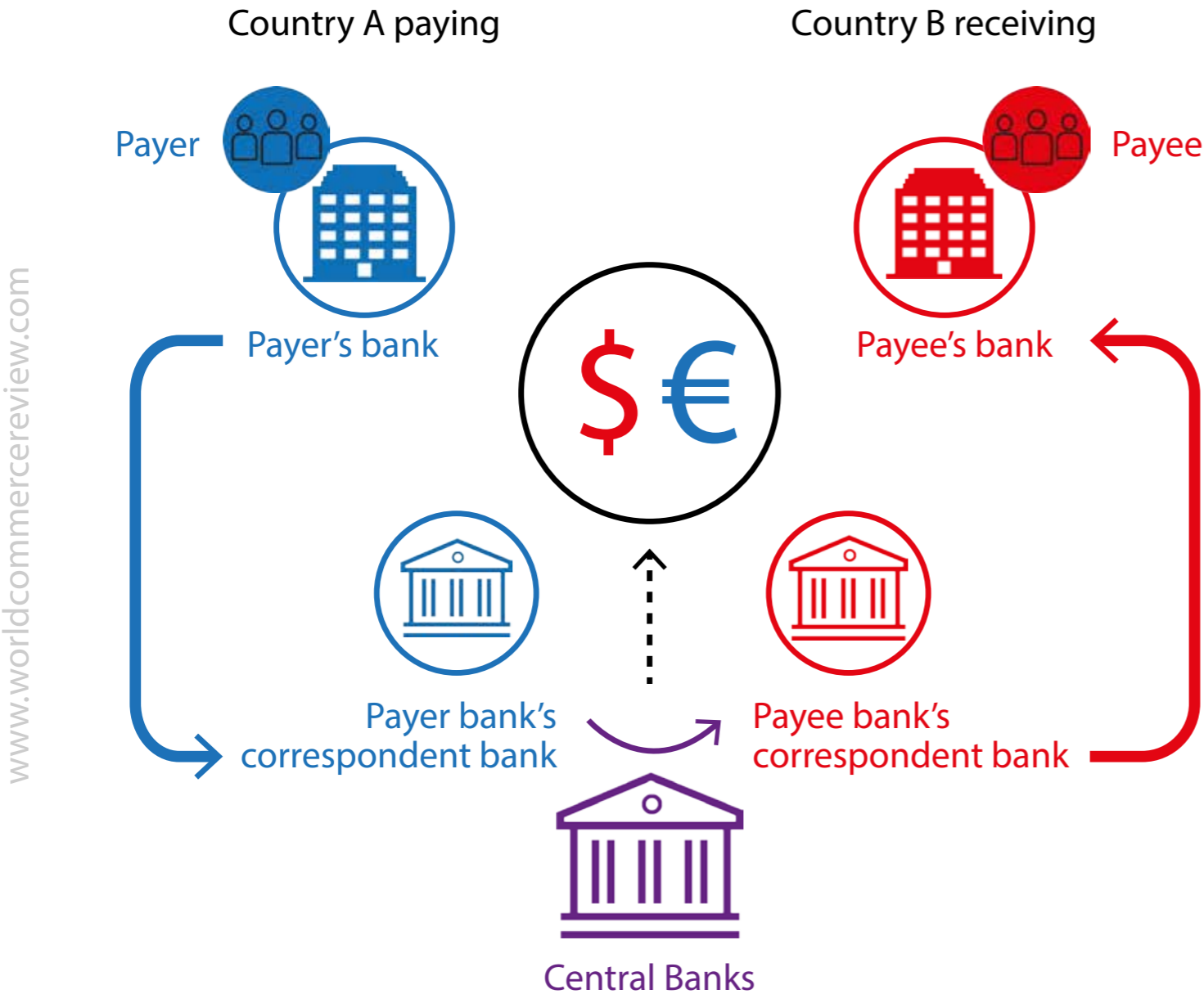
4.2 From a dollar-centric system to bilateral settlements

The international financial system has long relied on the dollar, which has meant having to rely on the dollar settlement system. Figure 5 describes the current system of economic exchange between any two countries.

A company in country A, the payer, instructs its bank to make a payment; the bank then contacts its correspondent bank. The latter will engage with the correspondent bank in country B, which finalises the cycle by contacting the payee's bank and crediting the due amount to the receiver's account.

Depending on the currency in which the exchange is made, the respective central bank will be involved. It is important to note that the dollar is by far the main currency of choice globally in trade invoicing (more than half of global trade) and foreign exchange transactions (almost 90 percent of the total volume) (Moronoti, 2022). This also means that US settlement authorities are involved in finalising most global transactions.

Figure 5. The dollar (euro) based international financial system



Source: Bruegel based on BIS (2022).

Wholesale CBDCs would change this system. Central banks would have dedicated corridors (like the mBridges described above) for settlement directly between themselves. There would be no need for correspondent banks. The payer's bank would have an account directly at the country's central bank, which in turn would communicate directly with the central bank in the payee's country.

This would mean more diversification of currency pairs, with increased liquidity for currency pairs that do not include the dollar. Also, more direct relationships between parties would lead to the de-risking of transactions.

The payer's bank can pay the payee's bank in one of three ways (Figure 6). First, it can hold domestic currency in an account in the domestic central bank, in which case the two central banks will transact using a pre-agreed currency.

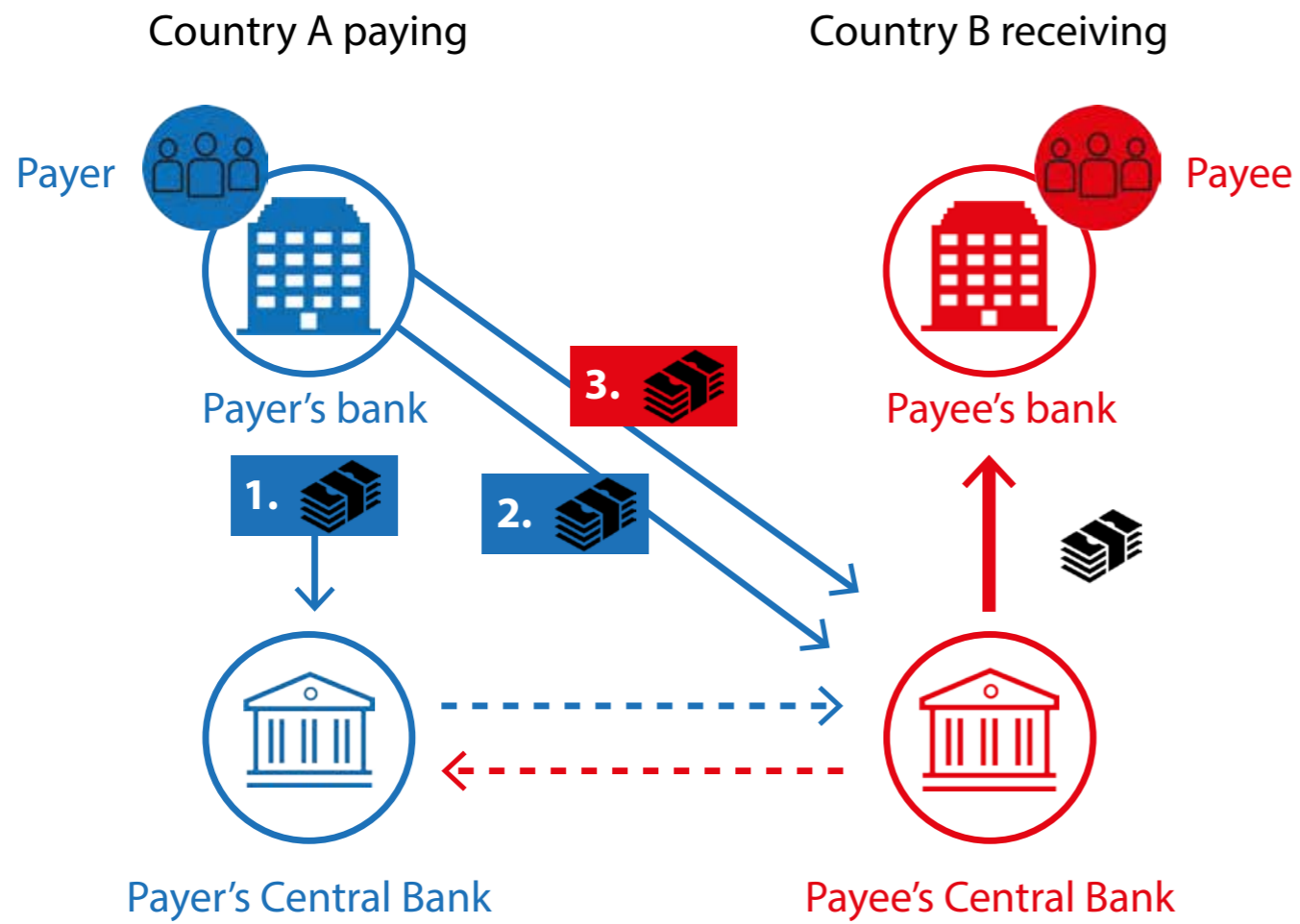
Second, the payer's bank could have a domestic currency account at the foreign central bank and would pay with its domestic currency.

Third, the payer's bank would have a foreign currency account at the foreign central bank and would pay with this.

The first method is closest to what happens today; the dedicated corridors between central banks will allow the settlement of any transaction. The mBridge pilot showed that the third method is the most efficient because it involves the fewest steps between the two transacting parties.

An important issue that DLT solves is interoperability. The current system does not allow for interoperability because communication needs to happen through secure messages. If countries use different systems, they run the risk of not being able to communicate between themselves.

Figure 6. Commercial banks' CBDC accounts at a central bank



www.worldcommercereview.com

Source: Bruegel.

Blockchain²⁰ technology has provided solutions that allow communication between parties via corridors. But before such dedicated corridors are created, a number of choices need to be made on technical, legal (and governance) and economic issues.

For the system to function, established rules to provide legal certainty are needed. Would current rules for holding foreign securities be sufficient for wholesale CBDCs, or would a new legal framework be needed?

Global coordination on this issue would be preferable and indeed necessary for wholesale CBDCs to challenge the current ways of settling international transactions. Arguably, the governance of wholesale CBDCs will be the most important obstacle to their uptake.

But bilateral recognition of legal systems would also be sufficient for any two central banks to settle transactions between them. Wholesale CBDCs then have the potential to change the current dollar-based system into one that is more diverse. It is not immediately obvious why two countries that trade in dollars would prefer to trade in their own currencies.

However, if one of them was sanctioned by the US, for example, then the dollar would no longer be available to them. A settlement system that is operational between any two central banks would guarantee the continuity of economic activity. While an alternative settlement system by itself does not automatically reduce the appeal of the dollar as the currency of choice, it does reduce the threshold for using other currencies.

Many countries that are thinking about strengthening their resilience will no doubt examine the geopolitical importance of ensuring functioning settlement system. It is no coincidence that so many central banks, including China's, are eager to develop a digital equivalent of their currency.

It is not difficult to imagine CBDCs being weaponised for geopolitical reasons, as central bank reserves have been since Russia's invasion of Ukraine²¹.

However, many issues remain. On the governance side, choices will have to be made on issues including data privacy, preserving anonymity, monetary sovereignty and conflict settlement. The mBridges pilot showed that the most efficient payment method would be for foreign companies to have accounts at the domestic central bank if they trade domestically.

What would that mean for monetary sovereignty? How would potential conflicts be resolved? Equally, economic issues would also have to be decided. How would countries deal with counterparty risk? Would the domestic central bank agree to carry that risk on behalf of foreign institutions?

5 A digital euro: design options and its future

5.1 The ECB's thinking so far

The Eurosystem is considering the introduction of the digital euro for retail use. The digital euro project is at time of writing in the investigation phase, which will come to an end in October 2023 at which point the ECB will decide on the next steps²². Three progress reports have been issued so far (Box 1).

The first progress report, published in September 2022, focused on the functionalities and limits for users. It concluded that the consumer should be able to pay with digital euros online and offline, and that the digital euro should mimic cash-like features as much as possible.

While privacy is to be ensured, the digital will not be fully anonymous because of worries about money laundering. Also, it should be used exclusively for payments and not as a form of investment.

This choice also reflects financial stability considerations, and particularly the prevention of excessive migration of bank deposits to the central bank, which could disrupt the current financial system. To this end, individual holdings should be limited to between €3,000 and €4,000 (Panetta, 2022b).

The second progress report, issued in December 2022, focused on defining the settlement and distribution roles and ensuring an easy conversion between digital euros and cash/private money. The Eurosystem intends to retain full control over the issuance/redemption and settlement of digital euros, but has not decided on the technology to use – traditional, DLT or a combination of both.

The distribution and direct interaction with end users would be the responsibility of banks and other payment service providers. They would develop the interfaces and services – such as wallets – and perform regular anti-money laundering checks.

The third progress report (April 2023) clarified that payments would be done using technology already familiar to most European citizens, for example, contactless or QR codes, through either the existing apps of intermediaries or a Eurosystem app, depending on the user's preference. The April 2023 report also discussed the possibility of access for non-euro area residents.

The primary focus of the initial releases of the digital euro however will be for euro area residents only (individuals, merchants and governments), even though access to non-residents could be possible if they have an account in the euro area. Access for residents of the European Economic Area and selected third countries could be envisaged in later releases of the digital euro.

A last important point made in this report is that the digital euro will not be programmable money. This means that the ECB would not determine or interfere with where, when and for which purpose the digital euro is used.

Early in the second half of 2023, the Eurosystem will present the overall thinking on how to design a digital euro. Box 1 summarises its thinking so far.

The ECB will also investigate cross-currency functionalities as a way of improving the transparency and efficiency of crossborder payments (as endorsed by the G20). This functionality could be implemented by ensuring interoperability between the digital euro and other CBDCs or by relying on a common infrastructure that could host multiple CBDCs.

5.2 Other advanced economies' approaches to CBDCs

Several countries are more advanced than the euro area in this process and have decided not to issue a retail CBDC in the foreseeable future. This is mainly because they do not see CBDCs as offering added value in terms of payment options or to their citizens.

This is the situation in Canada²³, Denmark (Danmarks Nationalbank, 2022), Japan²⁴, Sweden (Swedish Government, 2023) and Switzerland²⁵. In the United Kingdom, the Chair of the House of Lords Economic Affairs Committee argued that a CBDC was *"a solution in search of a problem."*

Similarly to the euro area, the US is still investigating whether to issue a retail CBDC, but is finding it difficult to justify it. In April 2023, Fed Governor Michelle W Bowman said *"it is difficult to imagine a world where the trade-offs between benefits and unintended consequences could justify a direct access CBDC for uses beyond interbank and wholesale transactions"* (Bowman, 2023).

Box 1. The ECB's thinking on the retail digital euro

- Target users: Primarily euro area residents (individuals, merchants and governments). Possible extension of access to non-residents.
- Intended as: means of payment and not form of investment (avoid excessive migration of bank deposits to the central bank). It will not be remunerated.
- Availability: both online and offline solutions envisaged.
- Limits: €1 trillion to 1.5 trillion total, meaning around €3,000 to €4,000 digital euro per capita. Limits apply to individuals, who can have only one account. Merchants would not have digital-euro holdings but would accept payments in digital euros.
- Privacy: the digital euro should replicate as much as possible cash-like features, but no full anonymity. Possibly, greater privacy for low-value low-risk payments.
- Issue and settlement: responsibility of the Eurosystem; digital euro is direct liability of the central bank (convertible one to one with the euro).
- Onboarding, distribution and services: responsibility of banks and other payment service providers (supervised financial intermediaries). These would perform the regular onboarding procedures (eg. anti-money laundering checks) and can develop consumer-oriented services beyond the core mandatory functionalities.
- Access and use: via existing apps provided by the PSPs or via an Eurosystem app. Payments done using technology such as contactless or QR code.

This does not mean, however, that their respective central banks are not investigating and preparing for a possible future launch, should the conditions and assessment change. Importantly, the idea of a wholesale CBDC is being pursued by some.

For instance, Switzerland is participating in various projects focused on better understanding the wholesale potential: 'Project Helvetia', a collaboration between the Swiss National Bank, the BIS and SIX, a commercial infrastructure operator, and 'Project Jura', which the Banque de France has also joined. Other countries, including the UK and the US, have expressed their potential interest in a wholesale CBDC.

It is important to note that the decision to issue a CBDC is ultimately political, mostly taken by the respective governments, rather than the central bank. Governments' positions can change over time, as developments of CBDCs in other countries advance and they gain a better understanding of the operational, legal, financial and economic implications of CBDCs (whether retail or wholesale).

5.3 The future of the digital euro

A digital euro for wholesale purposes has substantial potential for reducing frictions in crossborder (ie. beyond the euro area borders) payments. As explained earlier, these improvements could bring a fundamental change in the international financial settlement system.

Governance will be crucial. Legal issues, economic choices and technical uniformity would all need to be agreed at global level for CBDCs to challenge the status quo in global wholesale payments. But the Eurosystem cannot afford to be left out of this debate.

Moreover, as the ECB has invested in understanding the workings of CBDCs, it is well placed to contribute to setting the global standard and helping promote global coordination. As a standard-setter, the EU could exert influence as societies adapt to an increasingly digitalised financial ecosystem. As an active participant and contributor to the debate, the EU should aim to protect its global interests.

When it comes to using a digital euro for retail purposes inside the euro area, we do not see a compelling case for issuance at this stage. There are many issues to clarify, and a digital euro might bring significant changes to the financial system that need to be considered carefully.

Privacy vs anonymity

In response to the public's concerns about privacy, the ECB has been very clear about protecting consumer data when using the digital euro. However, privacy is not the same as anonymity and the ECB is also clear that transacting in digital euros will not be anonymous. This makes the digital euro only an imperfect substitute for cash.

As 42 percent (Figure 3) of the value of all transactions in the euro area in 2022 was in cash, there is still a great deal of anonymity in the way that payments are made currently. As one of the motivations for launching CBDCs was the need to provide a digital equivalent of cash, this is a clear shortcoming.

Cash as the anchor of the financial system

Would the elimination of cash in the future destabilise the system? It is often argued that cash is the anchor of trust in the financial system. In a world of fiat money, deposits are only partly guaranteed. For the consumer, the only other money guaranteed in full by the sovereign is cash. Being able to revert to cash at any time is what provides trust in the system.

Can a CBDC that is also guaranteed in full provide the equivalent anchor to the system? The answer to this is important and citizens will need to be assured that digital money is at the very least not programmable (ie. money with built-in rules that impose restrictions on how it is used).

Also, it is difficult to see how digital cash can provide the anchor to the system if consumers are allowed to have only limited holdings of CBDCs (see below).

Limited holdings

If the amount of digital euros allowed per person is small, as is currently the intention (between €3,000 and €4,000 per person), then the digital euro risks never taking off. Why would the euro area consumer opt to have one more account, this time at the central bank, if it is only of limited use? The amount allowed would need to be at least equal to the amount in deposits that is currently guaranteed (€100,000) for the consumer to have a motive to switch.

Moreover, the consumer has ample payment alternatives in the euro area. If the worry is that payment alternatives are country-specific, then imposed coordination (like the IBAN system for bank deposits) would provide an adequate solution. Regulation therefore can achieve the same result with much less effort.

If on the other hand, the ECB were to allow unlimited amounts of digital euros to be held in the form of deposits, that could potentially be a game changer. Having all deposits guaranteed by the state is an attractive proposition for the consumer.

But for her to switch, she would still need to see interest paid on these deposit accounts, or she would be left worse off. But interest-bearing deposits at the central bank would transform the roles of both the central banks and financial intermediaries.

Commercial banks, which are currently mainly funded by deposits, would have to find alternative operating models. What would be the cost to the system of providing such a guarantee? Or would the amount of money in circulation necessarily have to decrease?

The ECB and other central banks have not justified their interest in CBDCs as a way of altering the financial system. Rather, their thinking focuses on imposing as small a distortion as possible. With that in mind, digital euro holdings would remain very small.

European strategic autonomy

Last, the ECB also uses the argument of strategic autonomy to justify its interest in the project. What is the risk in current European payment systems that requires intervention? An ECB report on open strategic autonomy from a central banking perspective (ECB, 2023) mentioned that *“non-European payment-related service providers handle around 70% of European card payment transactions.”*

A retail CBDC could address this concern though, as explained above, it might also distort competition and innovation in domestic payment systems. The strategic autonomy argument adds a layer of protectionism that would need to be very carefully justified economically and politically, or risk going against the EU’s own principles.

De-risking is a much better argument: asking the question of how a digital equivalent of the sovereign currency can prepare society for what cannot be controlled (eg. a system that is potentially fully digitalised and where the global appeal of CBDCs is high).

Communication gap

There is still a gap in the public’s understanding of the extent to which a digital euro is a useful innovation. The ECB

needs to take time to explain the reasons for the digital euro in ways that will make a tangible difference to public perceptions.

Without public support, the project will not take off. Evidence from countries that have launched CBDCs highlights the importance of clear understanding among citizens. In the meantime, the efforts the ECB has made to understand the complexities of a digital euro are very useful.

6 Conclusions

With 114 central banks worldwide at some stage of developing a digital equivalent of their sovereign currency, it is difficult to believe that the idea will not take off or that there is no added value in having a CBDC. However, there is a gap between central banks' motivations for launching CBDCs and the general understanding of what that motivation is.

Central banks in countries where financial exclusion is a first-order problem are keen to use CBDCs to provide wide access to payments. But this is not useful if there is insufficient digital infrastructure and penetration in the country.

Moreover, if the underlying sovereign currencies are weak and the institutions behind them lack credibility, the digital representation of the currency is not necessarily the tool for building trust.

Nevertheless, inclusion and protecting consumers from the pitfalls of cryptocurrencies are good societal objectives that can provide visible welfare improvements.

But for countries or jurisdictions (like the euro area) where these problems are much less prevalent, the case for establishing a retail CBDC is not strong. That does not necessarily devalue the efforts to understand the choices and trade-offs that must be considered in the process of creating a CBDC.

Moreover, as an attempt to prepare for a future in which the global financial system is more digitalised or there is a need to rethink intermediation, the ECB's efforts are worthy investments.

However, more efforts should be made in terms of creating wholesale CBDCs to facilitate cross-border payments outside the euro area. There are immediate and sizeable savings to be had in both time and costs. Wholesale CBDCs also have the potential to change the international financial system and therefore the EU's position in it.

From the perspective of the US (and to a lesser extent the EU), as more countries seek to create wholesale CBDCs, the greater the threat of a fragmented global financial system, with other currencies taking a more prominent role.

It may be early days, but the EU must explore how to reap the benefits of new technology in wholesale payments, while protecting the global cooperation from which it benefits. Given the work it has already done on the retail digital euro and the EU's very advanced payment methods, the ECB is uniquely positioned to help create the global standard, and in the process to help protect the EU's global strategic interests. ■

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Endnotes

1. See the Atlantic Council central bank digital currency tracker: <https://www.atlanticcouncil.org/cbdctracker/>
2. See European Central Bank press release of 28 April 2023, 'Eurosystem to explore new technologies for wholesale central bank money settlement', <https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230428~6a59f44e41.en.html>
3. See Danmarks Nationalbank (2022) for more detail.
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5. See <https://triple-a.io/crypto-ownership-nigeria-2022/>
6. See <https://sweden.se/life/society/a-cashless-society>
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8. See State House, Abuja press release of 25 October 2021, 'At Official Launch of eNaira, President Buhari Says Digital Currency will Boost Nigeria's GDP by \$29 billion in 10yrs', <https://statehouse.gov.ng/news/at-official-launch-of-enaira-president-buhari-says-digital-currency-will-boost-nigerias-gdp-by-29-bn-in-10yrs/>
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19. See Financial Stability Board press release of 13 October 2020, 'FSB delivers a roadmap to enhance cross-border payments', <https://www.fsb.org/2020/10/fsb-delivers-a-roadmap-to-enhance-cross-border-payments/>
20. Blockchain is a form of DLT in which all transactions are recorded and organised in linked digital blocks. For more details on DLT and blockchain see Demertzis and Martins (2023).
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A digital euro: widely available and easy to use

Fabio Panetta argues that making a digital euro both available to everyone and easy to use requires a good design and an adequate regulatory framework

We are now entering the final stage of the investigation phase of the digital euro project. The ECB's Governing Council recently endorsed a third set of design options for the digital euro – design options that we have also discussed in previous hearings.

We have published a report setting out the Eurosystem's views on how people could access, hold and start to use the digital euro. The report also examines how the digital euro could be distributed by intermediaries as well as the services and features it could offer¹.

Our work in recent months has not just been about investigating technical issues. We have also held focus groups to hear from potential users of a digital euro and find out what they think about the different features a digital wallet should have. This will help us in designing a product that meets their needs².

In a modern economy, being able to pay digitally is a basic need for people. With cash, central banks already provide a means of payment that is risk-free, widely accessible and easy to use, and that leaves no-one behind. But the rapid digitalisation of our economies requires us to complement cash with its evolution in the digital sphere: a digital euro.

As a central bank, we need to be ready for future evolutions and make sure that the money we issue maintains its role as a monetary anchor in the digital era, thereby reassuring us that one euro is one euro whatever form it takes and wherever we go. And it cements people's trust in our currency³.

For this monetary anchor to be effective, the digital euro would need to be in line with people's preferences. Everyone across the euro area should be able to use it for day-to-day payments: online, in shops or from person to person.

In my remarks I will focus on how we can ensure that everyone in the euro area would be able to easily access and use a digital euro – if and when they want to, no matter who they bank with or which country they come from. People would have no *obligation* to use the digital euro. But they should always have the *option* to use it. Just like they do with cash today.

In a modern economy, being able to pay digitally is a basic need for people

In my remarks I will look at the digital euro also from a regulatory angle.

Ensuring the digital euro is widely available and easy to use

There is currently no single European digital means of payment that is universally accepted across the entire euro area. It therefore comes as no surprise that Europeans see the ability to pay anywhere as the most important feature of a potential digital euro⁴. In other words, they are keen for one of the key characteristics of euro banknotes to be replicated in the digital realm.

At the ECB, we have been investigating the technical solutions that would enable people to easily make payments in digital euro, anywhere in the euro area⁵. But if we want the digital euro to replicate these cash-like features, we need a proper regulatory framework.

Legislators assigned the legal tender status to euro banknotes in the Treaty⁶, and this is why citizens can use them throughout the entire euro area⁷. They are tangible proof that we share a single currency.

The digital euro could also be given legal tender status by legislators⁸. If introduced, the digital euro would be a public good, and Europeans would expect to be able to access and use it easily, anywhere in the euro area. So, it would be more beneficial and convenient for all users if merchants that accept digital payments were obliged to accept the digital euro as legal tender⁹.

A requirement for merchants to accept digital euro could, in fact, also be seen as an opportunity. For example, it would make European payments more resilient and would enhance competition¹⁰. This, in turn, would help to make payments cheaper, with clear benefits for everyone in the euro area¹¹.

But if we want to make the digital euro widely usable, acceptance is only one side of the coin. The other side is access.

Individuals and merchants will expect to be able to obtain digital euro at their banks¹², just like they do today with cash¹³. It should be simple for people to start using the digital euro, and there should be no need to change bank in order to do so.

In our regular exchanges, consumer associations and merchants¹⁴ have remarked that the best way to ensure broad access for consumers would be to require euro area banks and other payment service providers to make the digital euro available to their customers¹⁵.

Previous attempts at building pan-European payment initiatives have shown that ensuring broad access throughout the euro area has ultimately always required regulatory measures¹⁶.

So, both sides of the coin – widespread acceptance and broad access – are necessary to ensuring the digital euro would be a public good that meets the expectations of consumers and merchants.

These two aspects are also key to achieve other public policy goals. For instance, they are essential to ensure that the digital euro can support financial inclusion and generate opportunities for financial intermediaries.

A digital euro would offer a new platform for innovation that is truly European. It would allow these intermediaries to build services for their customers that are instantly available across Europe. It could help domestic payment providers and new instant payment solutions to scale up and operate at the European level. And it would reduce dependence on a few dominant providers, increasing competition and resilience.

Ensuring a seamless European payment experience

Over the past 20 years euro banknotes have enabled everyone in the euro area to easily recognise and use public money, regardless of what country they are living in, or where they are paying.

The same should be true for the digital euro. People should be able to pay and be paid in digital euro anywhere in the euro area, no matter which intermediary they are using to access the digital euro or which country they are in.

To achieve this, we need a common set of standards – which we call a ‘payment scheme’¹⁷.

The scope of these standards will be limited to what is strictly necessary to establish and offer users a harmonised and convenient payment experience, while enabling and inviting the supervised intermediaries to develop further services and solutions¹⁸.

Even if supervised intermediaries will distribute the digital euro, one should not forget that it will be a liability of the central bank. The Eurosystem, as its issuer, would be accountable to euro area citizens for its correspondence to their payment needs.

The Eurosystem should therefore be able to govern the standards to ensure that using a digital euro in the future is as standardised as using cash today. It would do so by steering consensus among all involved stakeholders – consumers, retailers, banks and non-banks.

Ensuring wide availability through the right economic incentives

Economic incentives should be used to encourage the active distribution of the digital euro and to ensure that it is widely available. We have already proposed a set of four core principles for a digital euro compensation model¹⁹.

- The first principle is that, as a public good, the digital euro should serve society. We believe consumers should be able to use it free of charge for basic day-to-day purposes²⁰.
- Second, intermediaries should be compensated for the services they provide, just like they are for other digital payments.
- Third, legislative safeguards should prevent merchants from being overcharged by intermediaries if they are obliged to accept digital euro as legal tender. While we believe that the digital euro would allow for more competitive fees, this principle would ensure that fees for merchants cannot exceed the current levels for comparable means of payment.
- Finally, the Eurosystem would bear its own costs, for example for settlement²¹ activities and managing the common standards for making and receiving payments in digital euro. This would reflect the public good nature of the digital euro and follow the same logic that currently applies to cash. The savings that arise from the Eurosystem covering its own costs would ultimately benefit the end-users.

The path ahead

The design of the digital euro and its regulatory framework are key to ensuring that it retains its key characteristics as a public good.

It will then be European legislators to decide whether the digital euro will be an inclusive, truly European means of payment – widely usable and accessible across the entire euro area, free for basic use, and offering the highest levels of privacy. The success of a digital euro will be in your hands.

The ECB stands ready to continue discussing all these issues with you during the legislative process. Throughout the next project phase, which is expected to be launched later this year, we will accommodate any necessary adjustments to the design of the digital euro that may emerge from legislative deliberations²². In that phase, we will develop and test the possible technical solutions and business arrangements necessary to provide a digital euro.

These two processes – legislative and design – should advance in parallel so we can be in a position to promptly begin issuing a digital euro, if and when warranted. The possible decision by the Governing Council to issue a digital euro would be taken only after the legislative act has been adopted.

We will take all the necessary measures to ensure that the digital euro would act as a true public good. But all European institutions have to play their part to achieve our common goal of making the digital euro a success.

This is why we are looking forward to the European Commission's legislative proposal. It will be a decisive step forward for the digital euro and put Europe at the forefront of the work on central bank digital currencies among the G7. ■

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Endnotes

1. See ECB (2022), [Progress on the investigation phase of a digital euro](#), September; ECB (2022), [Progress on the investigation phase of a digital euro – second report](#), December; ECB (2023), [Progress on the investigation phase of a digital euro – third report](#), April; and ECB (2022), [Letter from Fabio Panetta to Ms Irene Tinagli on progress reporting on the investigation phase of a digital euro](#), 14 June. The first report covers topics such as the transfer mechanism, privacy and tools to control the amount of digital euro in circulation. The second report focuses on the roles of intermediaries, a settlement model, funding and defunding and a distribution model for the digital euro. The third report covers the Eurosystem's views on accessing the digital euro, holdings, onboarding, distribution aspects, services and functionalities.
2. See Kantar Public (2022), [Study on New Digital Payment Methods](#), March; and Kantar Public (2023), [Study on Digital Wallet Features](#), April.
3. People's trust in money issued by private intermediaries (such as bank deposits) relies on the ability to convert it, on a one-to-one basis, into risk-free central bank money (such as cash). See for example [Central bank digital currencies: a monetary anchor for digital innovation](#), speech by Fabio Panetta, Member of the Executive Board of the ECB, at the Elcano Royal Institute, Madrid, 5 November 2021.
4. Focus groups suggested that people see the ability to "pay anywhere" as the most important feature of a new digital payment instrument. This emerged in all countries and age groups. See Kantar Public (2022), [Study on New Digital Payment Methods](#), March; and Kantar Public (2023), [Study on Digital Wallet Features](#), April.
5. Panetta, F (2023), ["The digital euro: our money wherever, whenever we need it"](#), introductory statement at the Committee on Economic and Monetary Affairs of the European Parliament, Brussels, 23 January.
6. See Article 128(1) of the Treaty on the Functioning of the European Union.
7. The fact that euro banknotes and coins enjoy the status of legal tender means that they are a valid means of payment to settle a monetary debt unless the parties have agreed on another means of payment. The definition of legal tender relies on three main criteria: (i) mandatory acceptance; (ii) acceptance at full face value; and (iii) power to discharge from payment obligations.

8. *The European Commission is also expected to publish a proposal on the scope of legal tender of euro banknotes and coins in the second quarter of 2023. While the main objective of legislative measures related to cash is to preserve its widespread use and availability, for the digital euro the goal would be to establish its use and availability from scratch.*
9. *Giving the digital euro legal tender status may help to increase its adoption and use, creating a positive feedback loop of network effects (where the value and utility of a payment system increase as more users join and transact within the network). In other words, the more people use a particular payment system, the more valuable and convenient it becomes for all users.*
10. *For the merchants, the digital euro, as a true pan European retail payment solution, would allow for enhanced bargaining power in the payments market that is currently dominated by a few dominant providers.*
11. *See [Written feedback after the 6th Euro Retail Payments Board \(ERPB\) technical session, March 2023.](#)*
12. *Banks are mentioned here as an example of a payment service provider (PSP) that could distribute the digital euro. The Eurosystem believes that all PSPs as defined in the revised Payment Services Directive (PSD2) – ie. credit institutions, electronic money institutions and payment institutions – could distribute the digital euro.*
13. *Panetta, F (2022), [“Building on our strengths: the role of the public and private sectors in the digital euro ecosystem”](#), introductory statement at the Committee on Economic and Monetary Affairs of the European Parliament, Brussels, 29 September.*
14. *See [Written feedback after the 6th Euro Retail Payments Board \(ERPB\) technical session, March 2023.](#)*
15. *Without this obligation, the digital euro may not be universally accessible to everyone across the euro area. There could be a situation where each euro area country has only a few banks (or even no banks) that offer digital euro accounts/wallets, forcing many customers to open an account with a new bank because their current one does not provide access to digital euro. This would also endanger network effects necessary to the success of a payment solution (see footnote 9).*

16. There are lessons to be learned from the delays in achieving pan euro area reach in case of the SEPA Credit Transfers and direct debit schemes and then also the SEPA Instant Credit Transfer scheme. If broad access is to be ensured for the digital euro, the required regulatory measures need to be established at an earlier stage in the process.

17. Panetta, F (2022), [“Building on our strengths: the role of the public and private sectors in the digital euro ecosystem”](#), introductory statement at the Committee on Economic and Monetary Affairs of the European Parliament, Brussels, 29 September.

18. To avoid placing an additional investment burden on intermediaries, the digital euro scheme Rulebook Development Group [ECB hosts first digital euro Rulebook Development Group \(RDG\) meeting](#) is investigating how to leverage existing standards and solutions as much as possible, and how to make the digital euro compatible with existing solutions. It will also reflect on present and future regulatory requirements. See as well as [RDG mandate](#) and the related [calls for expression of interest scheme compatibility workstream](#) by experts to participate in workstreams.

19. A compensation model for the digital euro refers to the framework that determines how entities are remunerated for their participation in or use of a digital euro currency. The digital euro compensation model is a four-party scheme with variations concerning three aspects: (i) pricing for private individuals, (ii) pricing for merchants, and (iii) costs for the Eurosystem. The model could also cover factors such as transaction fees, interest rates, incentives and other mechanisms for compensating users. See ECB (2023), [“Compensation model for the digital euro”](#), presentation at the Euro Retail Payments Board, 22 February.

20. ECB (2020), [“Report on a digital euro”](#), October. The scope of digital euro basic services is yet to be defined, but it should be similar in nature to the basic services that banks are required to provide under the [Payment Accounts Directive](#). These basic services could therefore include features such as free-to-open digital euro accounts/wallets, payments between individuals, and the funding and defunding of digital euro accounts/wallets. If consumers had to pay for the basic services, it would also put the digital euro at a disadvantage to some existing digital means of payments.

21. Settlement can be defined as the completion of a payment transaction with the aim of discharging end users' obligations through the transfer of funds. See Panetta, F (2022), "[Building on our strengths: the role of the public and private sectors in the digital euro ecosystem](#)", introductory statement at the Committee on Economic and Monetary Affairs of the European Parliament, Brussels, 29 September.

22. In autumn this year, the Governing Council may decide to enter the next preparation and experimentation phase. This is entirely separate from the decision on whether or not to issue a digital euro, which will only be taken once the legislative process has concluded.

This article is based on the introductory [statement](#) delivered at the Committee on Economic and Monetary Affairs of the European Parliament, Brussels, 24 April 2023.



Holdings limit will prove central to the digital euro's future

The European Central Bank says its digital currency will not be a store of value, in contrast to global counterparts. Rebecca Christie discusses the ECB's digital euro strategy

As the [digital euro](#) moves closer to reality, one decision more than any other will dictate what role the currency plays in the economy: how many digital euros a single user can hold at one time. The European Central Bank is studying whether to issue a digital euro, with a decision on next steps coming in October 2023. A limit of €3,000 is on the table, which would set the digital euro up as a cash alternative but not a place to keep substantial liquid assets.

In contrast, the Bank of England has said it could allow holdings of [£10,000 to £20,000](#), enough to handle most everyday transactions if the digital pound emerges, while India has emphasised the potential for crossborder [remittances](#).

Worldwide, e-money is evolving rapidly, with more than 100 central banks looking into central bank digital currencies (CBDCs) and a handful, including China, already putting such currency in use.

Vision for the digital euro

Whether or not the European Union really needs a digital euro, many [policymakers](#) seem to have decided they want one. Debate will step up in June, when the European Commission will publish a legislative proposal on principles for the digital euro, ahead of the ECB's decision on whether to advance to an experimental phase.

[Privacy](#), consumer protection and financial inclusion, rather than technical constraints or [international](#) mandates, should be the focus of democratic oversight. The central bank should decide mechanics, including whether and how to pay [interest](#).

So far, the ECB has been firm that its CBDC is not intended to be a store of value. The goal is increased access to safe, secure and low-cost payments without destabilising banks or expanding into direct consumer service. Having

phased out the [€500 note](#) to avoid encouraging money laundering and mattress stuffing, the Eurosystem should not create a new way to sidestep the financial system. Nor should it entertain talk of the digital euro as a potential crisis management tool.

The ECB should consider financial technology opportunities as supporting goals, not a primary driver

Conservative limits on holdings and usage seem the best way to keep the project within scope. The ECB has floated a monthly limit of 1,000 transactions, possibly with a maximum value of €50 each. It should aim to supplement cash, not replace bank accounts, and should help people outside traditional channels take part in the economy even when physical bank notes are no longer practical.

Rising bank turmoil

Recent financial-sector turmoil, combined with the euro area's lack of true joint deposit [insurance](#), may put pressure on the ECB to entertain higher allowances. Already, critics such as Michiel Hoogeveen, vice chair of the European Parliament's economic and monetary affairs committee, wonder if the CBDC could weaken the banking system overnight if customers immediately fill their full allowance.

The ECB needs to engage with those who say a digital euro could serve as a backdoor deposit backstop via increased limits in the middle of a crisis, while making clear that is not the project's objective.

Ignazio Angeloni, former member of the ECB's Bank Supervisory Board, [found](#) that around €1 trillion of deposits could switch out of bank deposits and into digital euro, given the currently proposed limits. This total is unlikely, since any such trend is likely to be gradual, and also in the aggregate would represent only about 10% of total overnight bank deposits. Nonetheless, such moves could destabilise banks that are already weak.

Strategic design

The ECB's digital euro strategy will be built around three main levers: features to reduce excessive usage, a distribution model that encourages intermediation, and an ability to steer liquidity conditions as needed.

Consumers would access digital euro through banks and licensed providers, with no fees for basic use. Costs would instead be born by merchants and payment providers, as with other regulated interchange fees.

Most recently, ECB Governing Council member Fabio Panetta said the [next phase](#) of digital euro exploration would include small towns, not just financial-sector [stakeholders](#).

While the ECB is looking at whether to align its existing wholesale payment platform with emerging CBDC standards, more experimental designs are off the table. For example, Panetta said the digital euro will [never](#) be “programmable money,” in the way that privately managed [decentralised finance](#) technologies can be used to set smart contracts. For now, consumer usage is where the EU focus is.

The ECB should consider financial technology opportunities as supporting goals, not a primary driver. Some central banks have emphasised innovation as motivation to move ahead. Yet private developers will doubtless charge steeper fees for more sophisticated services, serving only a fraction of future CBDC users.

The main point should be to make electronic payments available to all euro area residents, regardless of what country they live, work or travel in. By addressing their needs, rather than plugging every hole in the financial infrastructure with this one new tool, the ECB may be able to create a digital currency that actually works. ■

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Economic uncertainty creating difficulty for central banks

Francesco Papadia says regaining price stability is difficult but doable, but the bigger problem facing central banks is economic uncertainty, not managing the trilemma

While headline inflation in the euro area is moving in the right direction, core inflation remains stubbornly high, close to 6%. Unemployment is historically low, but growth prospects are mixed. Financial stability is considered at risk, especially because of possible tensions around Italian bond yields.

In this context, the International Monetary Fund in April [summarised a recurrent narrative](#), writing that Europe must strike a balance between *“sustaining the recovery, defeating inflation and safeguarding financial stability.”*

In handling this trilemma, much of the focus is on central bank policies. Measures taken by central banks are considered critical for the economies in which they work. The importance of the trilemma and of central bank policies should not be underestimated, but both issues should be put in context.

Central banks must of course find the right balance between competing objectives. The primary objective of price stability does not mean they can forget about financial stability and the risk of bearing down too hard on economic activity. But this balancing act is the essence of central banking, and conditions could easily be more difficult than they are now.

The current situation is not one of stagflation, which would create an acute dilemma between fighting inflation or the recession: unemployment is very low and economic activity prospects are uncertain but not unequivocally negative.

Financial stability must be preserved, but so far the situation is not worrying, in terms either of stress in the financial system, or of the spreads between the yields of peripheral and core countries.

The European Central Bank can dedicate itself to the objective of regaining price stability with the reasonable expectation that it can do so without causing financial instability or too much damage to economic activity and employment.

The main issue for central banks is part of a more general problem: under the pressure of events, the public sector is taking an ever-larger role in shielding private participants from economic hardships

The assessment that central bank policies are of critical importance also needs qualification. Only for inflation is central bank action decisive. The possible fragmentation of global trade and production, poor demographics, immigration tensions, climate risks and geopolitical developments and crises, are graver problems to be dealt with and solutions to them will be achievable, if at all, only over the longer term. In any case, it is not central banks that have the primary responsibility for dealing with these longer-term problems.

The fact that the ECB and the Fed have been able to maintain their focus on inflation and could thus further increase rates confirms the reading that possible damages to economic activity and unemployment, as well as risks to financial stability, have to be considered but are not overwhelming.

This attitude reinforces the market view that central banks are serious about bringing inflation back towards 2%, even if their success is far from assured.

Adding to a favourable reading, at least relative to the prevailing narrative, of the situation facing central banks is their [reactivation of dollar swaps](#), complementing what they are doing domestically. Swaps allow central banks in selected economies to 'print dollars', in the sense that they can influence the Fed's balance sheet, with the Fed's consent of course. So, the tool is potent, and its mere existence can have beneficial effects, even if it is not used.

All this does not mean that there have not been problems in the policy response of central banks to the latest crises. The main issue for central banks is part of a more general problem: under the pressure of events, the public sector is taking an ever-larger role in shielding private participants from economic hardships.

With the global financial crisis, COVID-19 and Russia's invasion of Ukraine, this was justified from a short-term perspective. But the medium and long-term negative consequences must be controlled. A difficult balance must be maintained between providing immediate help while minimising its moral hazard consequences.

Relatedly, the bank resolution framework created after the Great Financial Crisis – envisaging bailing in of private investors – is proving difficult to implement. It is unclear whether the answer is better implementation of the bailing-in solution or a return to the old bail-out approach. The former may be preferable, but practical difficulties dog its implementation.

In conclusion, the task of central banks is difficult, but the balancing act between regaining price stability while avoiding financial instability and excessive damage to economic activity and employment could be more demanding – as it has been in the past. The real difficulty currently is economic uncertainty.

Fundamental economic relationships, such as that between unemployment and inflation, have become muddier, making decisions much more difficult to take. This, rather than dealing with the trilemma, is the most difficult challenge. ■

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The path ahead



Christine Lagarde says dynamic between profits and wages risks continuing to drive up prices, and warns of danger of 'tit-for-tat' inflation

The euro area has been hit by an inflation shock, which is now working its way through the economy. While headline inflation is likely to decline steeply this year, driven by falling energy prices and easing supply bottlenecks, underlying inflation dynamics remain strong.

In such an environment, our ultimate goal is clear: we must – and we will – bring down inflation to our medium-term target in a timely manner. But to achieve this goal we need a robust strategy, which takes into account the high levels of uncertainty we are facing today.

As John Maynard Keynes once observed, *“it would be foolish, in forming our expectations, to attach great weight to matters which are very uncertain.”*

In current conditions, a robust strategy calls for a data-dependent approach to making policy and a clear reaction function so that the public understands the sources of information that will be important to us.

To that end, our future policy path will be determined by three factors: our assessment of the inflation outlook in light of the incoming economic and financial data, the dynamics of underlying inflation and the strength of monetary policy transmission.

At the same time, I have made clear that there is no trade-off between price stability and financial stability. We have plenty of tools to provide liquidity support to the financial system if needed and to preserve the smooth transmission of monetary policy.

In my remarks, I will discuss our policy path so far and what lies ahead. And I will explain the reaction function that will govern our future rate decisions.

The path so far

Last year, inflation in the euro area surged strongly, and spread deeply, because it was driven by two types of shocks which hit the economy at the same time. First, we underwent an unprecedented series of negative supply shocks caused by pandemic-induced supply chain disruptions, Russia's invasion of Ukraine and the ensuing energy crisis. This significantly increased input costs for all sectors of the economy.

Faced with a world that is changing faster than any of us could have imagined, we need to be both focused on our goal and robust in our strategy to achieve it

Second, we faced a positive demand shock caused by the reopening of the economy after the pandemic. That favourable demand environment allowed firms to pass rising input costs through to prices much faster and more strongly than in the past¹.

Our policy stance was starting from highly accommodative levels, having been tailored to the very-low inflation environment of the past decade and the initial deflationary risks of the pandemic. So, we had to adjust, as quickly as possible, a stance that had become inadequate.

This initially placed important emphasis on signalling, ie. demonstrating, through actions and commitments, that monetary policy would cover the necessary ground decisively. That is why we put a great weight on the pace of our actions, hiking rates in large increments.

And we also communicated a clear upward path for rates, so that the public could be confident that monetary policy was on an anti-inflationary path, and that rates would soon leave accommodative territory. In a sense, an emphasis on data dependence was less important because monetary policy had distance to cover across all scenarios.

But as the inflation outlook evolved, it became clear that a pure normalisation of policy – which would imply achieving a broadly neutral stance – would not suffice in itself. The combination of shocks had two effects – on distance and persistence – which warranted further policy action.

First, the shocks increased the distance of inflation from our target. Even though inflation has likely passed its peak, it is descending from very high levels, and it is projected to be too far above our target for too long. The longer inflation is too high, the greater the danger that it remains so.

Second, the shocks also increased the risk that above-target inflation becomes more persistent. In particular, price pressures have broadened and deepened. Measures of underlying inflation tracked by the ECB currently range between 4% and 8%.

In this setting, we needed to bring rates to sufficiently restrictive levels to dampen demand. And, in doing so, we could keep a firm grip on inflation expectations and ensure they remain anchored.

That is a key reason why we committed to raise interest rates significantly and at a steady pace over recent meetings – and why we decided last week that a further 50 basis point hike was necessary.

The policy path ahead

Now a sizeable policy adjustment is already behind us: since July last year we have raised interest rates by 350 basis points. However, inflation is still high, and uncertainty around its path ahead has increased. This makes a robust strategy going forward essential. Such a strategy has three elements.

First, with high uncertainty, it is even more important that the rate path is data-dependent. This means, ex ante, that we are neither committed to raise further nor are we finished with hiking rates. Indeed, as I explained recently, if the baseline scenario in our most recent projections is confirmed, we will still have ground to cover to make sure that inflation pressures are stamped out.

Second, while the European banking sector is resilient, with strong capital and liquidity positions, in view of recent financial market volatility, we are ready to act and provide liquidity support to the financial system if needed and to preserve the smooth transmission of monetary policy.

But it should be clear that there is no trade-off between price stability and financial stability. As we have proven many times, we are able to set the appropriate policy stance to control inflation and at the same time use other instruments to address risks to monetary policy transmission.

We did this when we decided to use reinvestments under the pandemic emergency purchase programme more flexibly, and when we agreed on the transmission protection instrument. These programmes ensured that rate normalisation proceeded smoothly.

The third element of a robust strategy is a clear reaction function. At our last meeting, we clarified our reaction function and the sources of information that will be important to us. The future calibration of the rate path will be determined by – and will require continuous monitoring of – three key inputs, and this is what I will explain now.

The inflation outlook

The first input is our assessment of the inflation outlook in light of the incoming economic and financial data. This will be informed primarily by our staff inflation projections.

Monetary policy must be forward-looking, given the lags with which our policy works. And the staff inflation projections are the best mechanism for distilling incoming economic and financial data into a comprehensive picture of medium-term inflation dynamics. The future rate path will depend on whether we see inflation converging durably to our target in our forecasts, and the level of confidence we have in this convergence as captured by the balance of risks.

Our latest forecasts see headline inflation at 2.1% in 2025 and core inflation at 2.2%, which is a downward revision compared with our last projection round in December. But the confidence band around these forecasts is now unusually wide.

As the cut-off date for the projection round was in early March, the forecasts do not incorporate the effects of the recent financial market tensions. Those tensions have added new downside risks and have made the risk assessment blurrier.

More generally, many of the assumptions in the projections, such as those on fiscal policies and energy and food prices, are volatile. This implies additional uncertainty around the baseline for both growth and inflation.

Some of this uncertainty will recede as the fallout from recent events in financial markets becomes clearer. But faced with overlapping shocks and shifting geopolitics, the level of uncertainty will most likely remain high. To confirm the outlook in our projections over time, we therefore also need to look at additional indicators that can be observed in real time.

Underlying inflation

To that end, the second input we will be drawing on is the dynamics of underlying inflation. Underlying inflation is not a policy target, but measures of underlying inflation can serve as a complementary cross-check of our forecasting process.

Underlying inflation is typically quite inertial and therefore gives us an indication about the persistence of inflation into the medium term. We will be looking to see a sustained downward turn in underlying inflation measures to be confident that the inflation path will converge to our target in the medium term.

So far, we do not see clear evidence that underlying inflation is trending downwards. In fact, we see two forces pushing underlying inflation in different directions.

To the one side, falling energy prices are weakening a key driver of underlying inflation pressures. Imported energy prices have played a central role in pushing up inflation for all economic sectors, given the huge energy shock we have faced. This is why measures of underlying inflation that capture the more persistent effects of energy costs are already showing a decline².

To the other side, increasing domestic price pressures could offset some of this disinflationary impulse. Measures of underlying inflation that capture items sensitive to the business cycle – such as Supercore³ – or items with low import content are still strengthening.

If this continues and aggregate demand picks up from its current compressed levels, we could see a handover from imported to domestic price pressures that keeps overall price pressures high. The key issue in determining which of these forces wins out will be developments in wages.

The euro area has suffered a large terms-of-trade loss owing to rising energy prices, the cost of which must ultimately be shared between firms and workers. And it is important that there is fair burden sharing between them, with both accepting that they cannot fully recover the income that the euro area has paid to the rest of the world and the ensuing loss of output.

So far, real wages have decreased substantially, while firms' profit margins have expanded in many sectors. But the labour market is quite tight, labour shortages are increasing, and the terms-of-trade shock has largely reversed. This is leading workers to use their bargaining power to recoup lost income.

For the seven countries covered by the ECB's wage tracker⁴, collective bargaining during 2022 led to an aggregate wage rise of 4.7% for this year. This is already playing a stronger role in core inflation. While wage-sensitive items⁵ contributed only around 0.5 percentage points to core inflation before the pandemic, that contribution has more than doubled in recent months.

If both workers and firms accept fair burden sharing, and stronger wage growth represents merely a rebalancing between labour and capital, then both wage and price pressures should diminish as this process plays out. But if both parties attempt to unilaterally minimise their losses, we could see a feedback mechanism between higher profit margins, wages and prices.

The risk of such a 'tit-for-tat' dynamic is also heightened by the prospect that labour market tightness will linger. Unlike other jurisdictions, labour participation in the euro area has grown robustly since last year⁶, helping to address part of the soaring labour demand driven by reopening.

But the pandemic has also led to a sharp increase in public employment⁷, reducing the pool of labour available to the private sector. And how much further labour supply can expand overall will depend, among other things, on complex policy questions such as countries' attitudes to immigration and childcare.

At the same time, the unemployment rate is at a historical low and, in some countries, it is so low that it will be increasingly difficult to recruit from the remaining pool of labour.

All this means that we could see a more prolonged cost-push shock coming from wage growth. This is unlikely to prevent goods disinflation, since wages represent only around 20% of direct input costs for manufacturing firms.

But wages make up around 40% of direct input costs for services providers, and services inflation accounts for almost two-thirds of core inflation.

In parallel, firms' profit margins continue to grow, in part because some are taking advantage of supply-demand imbalances to test consumer demand with large price increases – over and above their increase in costs. But in the absence of a persistent rise in market power⁸, this can only continue insofar as demand remains resilient. Otherwise, firms will have to absorb cost increases in margins and price pressures will start to ease.

This is where the third input comes in that we will use to assess the rate path, which is the strength of the transmission of our policy measures in restricting demand.

Policy transmission

We saw a large contraction in domestic demand at the end of last year and the latest data, such as retail sales, suggest that consumption has not yet rebounded. But this has not stopped cost increases from passing through. Short-term measures of momentum in core inflation – for instance the three-month on three-month rate – actually increased in February.

There are two factors which could explain this apparent resilience. The first is the atypical buffers for consumption that households have available in the current environment. They are still benefiting from sizeable fiscal policy support to shield them from rising energy prices, amounting to around €250 billion in 2022 and 2023, and they still have around €900 billion in excess savings built up during the pandemic⁹.

The second factor is the reduced sensitivity of the labour market to slowing growth, which is supporting labour income and households' employment expectations. Faced with labour shortages, firms are responding to weaker demand first by hoarding labour – that is, by further reducing hours worked rather than by cutting jobs.

And now, with energy prices falling and wages rising, household disposable incomes are set to increase. This was reflected – before the recent financial market tensions arose – in our projections for a stronger recovery this year.

So, for inflationary pressures to ease, it is important that our monetary policy works robustly in the restrictive direction. And that process is only starting to take effect now.

The first leg of the monetary transmission process – from policy measures to financing and monetary conditions – is already having a substantial impact. The cost of borrowing is increasing steeply, and loan dynamics look to be contracting faster than during previous hiking cycles. Credit growth to firms has dropped markedly since the third quarter of last year.

We are also seeing a tightening of money, with annual M1 growth turning negative for the first time since the creation of the euro area - although this is also being driven by the shifting of funds from overnight to better-remunerated time deposits in the context of higher rates.

For the second leg of the transmission process – from tighter financing and monetary conditions to demand – there is currently more uncertainty. We know that the full effect of monetary policy on demand will only reveal itself over time. But both the strength and speed of this process could have changed.

Since the ECB last conducted a major hiking cycle, in the mid-2000s, the financial structure of the euro area has evolved. The share of variable-rate mortgages has fallen, slowing the transmission of interest rate increases into debt payments.

Excess savings and the low pass-through to deposit rates might also weaken incentives for households to save more of their income in response to higher policy rates. These factors could mean a weaker pass-through to consumption.

At the same time, we have seen a very sudden shift from low-for-long rates to considerably higher levels – and this is already having an impact on more interest-sensitive demand components like investment. Housing investment has been falling for the past three quarters and business investment also contracted at the end of last year. The greater role today played by sectors that rely on discounted future earnings, such as tech, could also make monetary transmission more powerful.

What we will have to monitor carefully in the weeks and months to come is whether there is a further strengthening of this pass-through. If, for example, banks start to apply a larger ‘intermediation wedge’ – meaning that at any level of the base rate they demand a higher compensation for the perceived risk they are taking on when lending – then pass-through will become stronger.

So, we will be paying close attention to a range of indicators of credit availability and credit pricing, such as the monthly data on money and credit flows, our bank lending survey and our survey on access to finance for small and medium-sized enterprises.

While more restrictive credit conditions are part of the mechanism by which our tightening ultimately reins in excess price pressures and brings inflation back to target, we will make sure that the process will be orderly throughout.

Conclusion

Voltaire said *“Uncertainty is an uncomfortable position. But certainty is an absurd one.”* Faced with new and overlapping shocks, we have no choice today but to deal with uncertainty.

But the public can be certain about one thing: we will deliver price stability, and bringing inflation back to 2% over the medium term is non-negotiable.

We will do so by following a robust strategy that is data-dependent and embeds a readiness to act, but that does not entertain trade-offs around our primary objective.

Faced with a world that is changing faster than any of us could have imagined, we need to be both focused on our goal and robust in our strategy to achieve it. ■

Christine Lagarde is President of the European Central Bank

Endnotes

1. Lagarde, C (2022), [“Monetary policy in a high inflation environment: commitment and clarity”](#), lecture organised by Eesti Pank and dedicated to Professor Ragnar Nurkse, Tallinn, 4 November.
2. This is visible, for example, if one compares the persistent and common component of inflation (PCCI) and the PCCI excluding energy. The former has been declining strongly since the summer of last year, whereas the PCCI excluding energy has only stabilised.
3. For an explanation on different measures of underlying inflation, see Ehrmann, M, Ferrucci, G, Lenza, M and O’Brien, D (2018), [“Measures of underlying inflation for the euro area”](#), Economic Bulletin, Issue 4, ECB and ECB (2021), [“Inflation measurement and its assessment in the ECB’s monetary policy strategy review”](#) Occasional Paper Series, No 265, September.
4. Germany, France, Italy, Spain, the Netherlands, Austria and Greece.
5. Defined as those items in the core inflation basket for which wages account for more than 40% of input costs.
6. According to the labour force survey, the labour force has increased by 2.2 million since the start of last year and remains well above pre-pandemic levels, due to the rising participation of foreign workers (+1.3 million), women and older workers.
7. Employment growth in the public sector has accounted for about half of total employment growth since the end of 2019.
8. Kouvavas, O, Osbat, C, Reinelt, T and Vansteenkiste, I (2021), [“Markups and inflation cyclicality in the euro area”](#), Working Paper Series, No 2617, ECB.
9. However, the concentration of accumulated savings among higher-income households limits the extent to which this buffer can support the recovery in consumption, and the real value of excess savings has declined due to inflation

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Developing Europe's policy towards China

Ursula von der Leyen wants to de-risk, not de-couple trade with China, arguing that trade can remain strong as long as the EU can increase its resilience in some strategic sectors

Our relationship with China is one of the most intricate and important anywhere in the world. And how we manage it will be a determining factor for our future economic prosperity and national security. China is a nation with a unique history dating back from early civilisation through the rise and fall of dynasties.

Its philosophers have shaped culture and society in much of today's world – from Lao Tzu's teachings about living in harmony with nature to the ethical values of Confucius. The Four Great Inventions of Ancient China – the compass, gunpowder, papermaking and printing revolutionised world civilisation. But this latest era is in many ways one of the most remarkable chapters in that long, winding and often turbulent history.

In less than 50 years China has moved from widespread poverty and economic isolation to be the world's second largest economy, and a leader in many cutting-edge technologies. Since 1978, growth has averaged over 9% per year and more than 800 million people were lifted out of poverty. This is one of the greatest accomplishments of the past half century.

China's reach stretches across all continents and global institutions – and its ambitions are far greater still. Through the Belt and Road Initiative, it is the largest lender to developing countries. And its economic, industrial and military power puts into question any notion of China itself still being a developing country.

We heard that last October when President Xi told the Communist Party Congress that by 2049 he wanted China to become a world leader in "*composite national strength and international influence*." Or to put it in simpler terms: he essentially wants China to become the world's most powerful nation. Given its size and global influence, it is positive that China's economy has eventually reopened after COVID-19.

And it is good that our citizens, businesses and diplomats are able to exchange once again. Because understanding each other starts with speaking with one another. But at the same time, we are concerned by what is behind this return to the global stage.

We must collectively show that our democratic system, our values and our open economy can deliver prosperity and security for people

Defining a European strategy towards China – defining what success looks like – must start with a sober assessment of our current relations and of China’s strategic intentions. Our relationship with China is far too important to be put at risk by failing to clearly set the terms of a healthy engagement.

It is clear that our relations have become more distant and more difficult in the last few years. We have seen a very deliberate hardening of China’s overall strategic posture for some time. And it has now been matched by a ratcheting up of increasingly assertive actions. There was a stark reminder of that last week in Moscow during President Xi’s state visit.

Far from being put off by the atrocious and illegal invasion of Ukraine, President Xi is maintaining his ‘no-limits friendship’ with Putin. But there has been a change of dynamic in the relationship between China and Russia.

It is clear from this visit that China sees Putin’s weakness as a way to increase its leverage over Russia. And it is clear that the power balance in that relationship – which for most of the last century favoured Russia – has now reversed.

Most telling were President Xi’s parting words to Putin on the steps outside the Kremlin when he said: *“Right now, there are changes, the likes of which we have not seen for 100 years. And we are the ones driving these changes together.”*

As a permanent member of the Security Council, China has a responsibility to safeguard the principles and values that lie at the heart of the UN Charter. And China has a responsibility to play a constructive role in advancing a just peace. But that peace can only be just if it is based on upholding the sovereignty and territorial integrity of Ukraine. Ukraine will define the terms of a just peace that requires the withdrawal of invading troops. Any peace plan which would in effect consolidate Russian annexations is simply not a viable plan. We have to be frank on this point.

How China continues to interact with Putin's war will be a determining factor for EU-China relations going forward. And of course, China itself has also taken a more assertive stance in its own neighbourhood. The show of military force in the South China Sea and East China Sea, and at the border with India, directly affect our partners and their legitimate interests.

We also underscore the importance of peace and stability in the Taiwan Strait. Any weakening of regional stability in Asia, the fastest-growing region in the world, affects global security, the free flow of trade and our own interests in the region.

The grave human rights violations occurring in Xinjiang are also a cause for great concern, as laid out in the recent report of the UN High Commissioner for Human Rights. How China meets international obligation regarding human rights will be another test for how – and how much – we can cooperate with China.

Just as China has been ramping up its military posture, it has also ramped up its policies of disinformation and economic and trade coercion. This is a deliberate policy targeting other countries to ensure they comply and conform.

We saw it when China responded to the opening of a Taiwan office in Vilnius by taking retaliatory measures against Lithuania and other European companies. We have seen it with popular boycotts against clothing brands for speaking out on human rights or with sanctions against Members of the European Parliament, officials and academic institutions for their take on China's actions.

We have seen that member states increasingly have to deal with Chinese activities in their societies which are not tolerable. And we have seen it in the region – for example when China severely restricted Australian exports of

barley and wine because of its government's questions on the origin of COVID-19. This is all part of a deliberate use of dependencies and economic leverage to ensure that China gets what it wants from smaller countries.

These escalatory actions point to a China that is becoming more repressive at home and more assertive abroad. There are three broad conclusions we can draw on how China is changing – which in turn must shape how our policies will need to change too.

The first is that China has now turned the page on the era of 'reform and opening' and is moving into a new era of security and control. We saw this earlier this month when President Xi repeated his pledge to make the Chinese military a 'great wall of steel that effectively safeguards national sovereignty, security, and development interests'.

We saw it with Beijing's Global Security Initiative, which it seeks to embed in UN documents and international discourse more widely. We can expect to see a greater focus on security – whether military, tech or economic. All companies in China, for example, are already obliged by law to assist state intelligence-gathering operations and to keep it secret.

We can also expect even stricter economic control measures as part of a strengthening of the Chinese Communist Party's steering of the economy through its institutions and leaders. And we can expect to see a clear path and push to make China less dependent on the world and the world more dependent on China.

Or as President Xi put it bluntly a few years ago: *"China must tighten international production chains' dependence on China to form a powerful countermeasure and deterrent capability."* This is especially true when it comes to critical raw materials like lithium or cobalt. For sectors like high-speed rail and renewable energy technology. Or for emerging tech that is central to future economic and national security – like quantum computing, robotics or artificial intelligence.

The second conclusion we can draw flows from this – and that is that the imperative for security and control now trumps the logic of free markets and open trade. In his report to the recent Party Congress, President Xi told the Chinese people to prepare for struggle. It is no coincidence that he used in his opening speech the words ‘douzheng’ and ‘fendou’ repeatedly – which both can be translated as struggle. This is indicative of a world view shaped by a sense of mission for the Chinese nation.

Which brings me to the third conclusion. And that is that the Chinese Communist Party’s clear goal is a systemic change of the international order with China at its centre. We have seen it with China’s positions in multilateral bodies which show its determination to promote an alternative vision of the world order.

One, where individual rights are subordinated to national security. Where security and economy take prominence over political and civil rights. We have seen it with the Belt and Road Initiative, new international banks or other China-led institutions set up to rival the current international system.

We have seen it with China’s set of global initiatives and by how it positions itself as a power and peace broker, for instance through the recent Saudi Arabia and Iran agreement. And we have seen the show of friendship in Moscow which says a thousand words about this new vision for an international order.

With all this in mind, our response must start by working to strengthen the international system itself. We want to work with our partners on global issues like trade, finance, climate, sustainable development or health.

For that, we need to reinforce the institutions and systems in which countries can compete and cooperate and from which they benefit. This is why it is vitally important that we ensure diplomatic stability and open communication with China.

I believe it is neither viable – nor in Europe’s interest – to decouple from China. Our relations are not black or white – and our response cannot be either. This is why we need to focus on de-risk – not de-couple. And this is part of the reason why I will soon be visiting Beijing together with President Macron.

Managing this relationship and having an open and frank exchange with our Chinese counterparts is a key part of what I would call the de-risking through diplomacy of our relations with China. We will never be shy in raising the deeply concerning issues I have already set out. But I believe we must leave space for a discussion on a more ambitious partnership and on how we can make competition fairer and more disciplined.

And more broadly, we need to think about how we can work together productively in the global system in the future, and on which challenges. There are some islands of opportunity that we can build on. Take climate change and nature protection. I very much welcome the leading role China played in securing the historic Kunming-Montreal Global Biodiversity agreement. And a few weeks ago, China was also an active player in the global deal to protect biodiversity in international waters.

At a time of global conflict and tension, these are notable diplomatic achievements – which China and the European Union worked on together. And we look forward to working together in the same spirit ahead of COP28 later this year. This shows what can be done when interests align. And it shows that diplomacy can still work – whether on pandemic preparedness, nuclear non-proliferation or global financial stability.

The point here is that we do not want to cut economic, societal, political or scientific ties. China is a vital trading partner – accounting for 9% of our goods exports and more than 20% of our goods imports. While imbalances are growing, most of our trade in goods and services remains mutually beneficial and ‘un-risky’.

But our relationship is unbalanced and increasingly affected by distortions created by China's state capitalist system. So we need to rebalance this relationship on the basis of transparency, predictability and reciprocity. We have to ensure that our trade and investment relations promote prosperity in China and in the European Union.

The Comprehensive Agreement on Investment, the so-called CAI – for which negotiations concluded in 2020 – aimed at such rebalancing. But we have to recognise that the world and China have changed significantly in the last three years – and we need to reassess the CAI in light of our wider China strategy.

And we know there are some areas where trade and investment poses risks to our economic and national security, particularly in the context of China's explicit fusion of its military and commercial sectors. This is true for certain sensitive technologies, dual-use goods or even investment which comes with forced technology or knowledge transfers.

This is why – after de-risking through diplomacy – the second strand of our future China strategy must be economic de-risking. The starting point for this is having a clear-eyed picture on what the risks are. That means recognising how China's economic and security ambitions have shifted. But it also means taking a critical look at our own resilience and dependencies, in particular within our industrial and defence base.

This can only be based on stress-testing our relationship to see where the greatest threats lie concerning our resilience, long-term prosperity and security. This will allow us to develop our economic de-risking strategy across four pillars.

The first one is: making our own economy and industry more competitive and resilient. This is particularly the case when it comes to health, digital and the clean-tech sector. If you look at the global market for net zero technologies,

it is set to triple by 2030. Our ability to remain front-runners in this sector will shape our economy for the decades to come.

This is why, you all know it, just last week we put forward the Net Zero Industry Act as a key part of our Green Deal Industrial Plan. The aim is to be able to produce at least 40% of the clean tech that we need for the green transition – such as solar, onshore and offshore wind, renewable energy in the broadest sense, batteries and storage, heat pumps and grid technologies.

But to achieve this goal we will also need more independence and diversity when it comes to the key inputs needed for our competitiveness. We know this is an area where we rely on one single supplier – China – for 98% of our rare earth supply, 93% of our magnesium and 97% of our lithium – just to name a few.

We are deeply mindful of what happened with Japan's imports of rare earths from China a decade ago when foreign policy tensions between the two in the East China Sea became acute. And our demand for these materials will skyrocket as the digital and green transitions speed up. Batteries that are powering our electric vehicles are forecasted to drive up demand for lithium by 17 times by 2050.

This is why we have put forward the Critical Raw Materials Act to help diversify and secure our supply. And we need to think about this right across our Single Market to strengthen our resilience on cyber and maritime, space and digital, defence and innovation.

The second part of this de-risking strategy is better using our existing toolbox of trade instruments. Over the last years we have put in place measures to address security concerns, whether on 5G, the Foreign Direct Investment or

export controls. We have given ourselves the tools to counter economic distortions, notably through the Foreign Subsidies Regulation, as well as a new instrument to deter economic coercion.

We now need the unity at EU level for a bolder and faster use of those instruments when they are required and a more assertive approach to enforcement.

My third point, China's changing policies may require us to develop new defensive tools for some critical sectors. The European Union needs to define its future relationship with China and other countries in sensitive high-tech areas such as microelectronics, quantum computing, robotics, artificial intelligence, biotech, – you name it.

Where dual-use purposes cannot be excluded or human rights might be implicated, there will need to be a clear line on whether investments or exports are in our own security interests. We need to ensure that our companies' capital, expertise and knowledge are not used to enhance the military and intelligence capabilities of those who are also systemic rivals.

So we have to look at where there are gaps in our toolbox which allow the leakage of emerging and sensitive technologies through investments in other countries.

This is why we are currently reflecting on if and how Europe should develop a targeted instrument on outbound investment. This would relate to a small number of sensitive technologies where investment can lead to the development of military capabilities that pose risks to national security.

The Commission will present some initial ideas as part of our new Economic Security Strategy later this year. This will map out where we need to strengthen our economic security and how to better use our trade and tech security tools.

The fourth part of our economic de-risking strategy is alignment with other partners. On issues that concern our economic security, we have much in common with our partners around the world. This is especially true of our G7 and G20 partners and those in the region and beyond who are often more integrated with China and more advanced in their thinking on de-risking.

As part of this, we will focus on free trade agreements where we do not yet have them – such as with New Zealand, Australia, India, our ASEAN and Mercosur partners – on modernising agreements where we have them – such as those with Mexico and Chile – and on better using the others that already exist. We will enhance cooperation on sectors such as digital and clean tech, through the Trade and Technology Council with India or the EU-Japan Green Alliance.

And we will invest in infrastructure in the region and beyond through the Global Gateway strategy. We are offering developing countries a genuine choice when it comes to infrastructure investment and finance. All of this will help strengthen our supply chain resilience and diversify our trade – which must be a central element of our economic de-risking strategy.

We have in front of us a task to refocus on the most important issues. And it is a reflection of the need to adjust our strategy in line with the way the Chinese Communist Party seems to be changing. But if we are to manage this relationship to prepare for the future, we must do it together.

At this defining moment in global affairs, we need the collective will to respond together. A strong European China policy relies on strong coordination between member states and EU institutions and a willingness to avoid the divide and conquer tactics that we know we may face. But I also want to say that nothing is inevitable in geopolitics.

China is a fascinating and complex mix of history, progress and challenges. And it will define this century. But our story about how we relate to China is not yet fully written – and it need not be a defensive one.

We must collectively show that our democratic system, our values and our open economy can deliver prosperity and security for people. And at the same time, we must always be ready to talk and work with those who see the world differently. ■

Ursula von der Leyen is the President of the European Commission

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The EU's strategic dependencies unveiled

Román Arjona, William Connell Garcia and Cristina Herghelegiu find that the EU benefits greatly from its wide participation in international value chains

The EU benefits greatly from its wide participation in international value chains. However, that integration is not exempt from strategic dependencies on products and inputs that are critical for Europe. This column examines the EU's dependencies in traded goods using data from 5,400 products imported between 2017 and 2020.

Foreign-dependent products span various sectors, including energy-intensive industries, health, renewables, and digital. China emerges as the primary source for these dependent products, followed by the US and Vietnam. Policymakers can use these insights to enhance supply chain resilience and mitigate vulnerabilities.

Over the past decades, the world has experienced unwavering changes in the shape of longer-term complex societal challenges: climate change, population ageing, and a massive digitisation of the economy and society.

While some of those have brought about numerous opportunities, others have exerted pressures on Europe's economy, industry, and society. An open-ended 'permacrisis' or 'age of disorder', anchored in relentless disruptions and high uncertainty, has added an additional layer of intricacy to the efforts in place to curb these challenges.

The cumulative impacts of the COVID-19 pandemic, the Russian invasion of Ukraine, and the energy crisis have not only bolstered geopolitical frictions but also induced a deep redefinition of the architecture and dynamics of global supply chains.

While some of the societal costs associated with the refurbishment of global value chains were conceivably unavoidable, others resulted from well-known market failures. These occur when firms prioritise their individual interests, whether financial or otherwise, over broader societal concerns.

For example, an overreliance on ring-fenced geographical areas for strategic inputs such as critical raw materials can induce a sub-optimal outcome from a societal point of view.

Against this backdrop, policymakers around the globe have crafted new policy strategies to spur competitiveness and growth, while addressing the risks stemming from the poly-crisis. Many of those put a focus on uplifting economic and social resilience.

Over recent years the EU has equipped itself with a set of policy measures to curb its strategic dependencies

In the EU, this materialised in a renewed industrial strategy with open strategic autonomy at its core. This new-fangled agenda marries openness to international trade with the creation of domestic capacity in strategic areas (European Commission 2021).

In this column, we present a methodology to measure the EU's dependencies and vulnerabilities. Our approach tracks areas where such dependencies are prone to creating ex-ante risks of supply chain distress and, in doing so, our work complements recent studies (Attinasi *et al* 2022, Baldwin 2022, Benoit *et al* 2022, Inoue and Todo 2022, Martin *et al* 2022, Lebastard *et al* 2023, Schwellnus *et al* 2023).

We also aim at rounding out other studies that analysed global and national product vulnerabilities (Bonneau and Nakaa 2020, Di Comite and Pasimeni 2023, Jaravel and Mejean 2021, European Commission 2021, Reiter and Stehrer 2021, ECB 2023, Schwellnus *et al* 2023).

The departure point of this column is 2021. In that year, the European Commission proposed a bottom-up, data-driven methodology to assess the EU's product dependencies. In a recent paper (Arjona *et al* 2023), we update this methodology by exploiting the novel FIGARO trade dataset by the European Commission that corrects for re-exports in international trade. Lack of treatment of re-exports is a drawback present in prevalent trade datasets that can lead to artificial shrinkages or upsurges in the number of dependent products.

A bottom-up, data-driven method to detect strategic dependencies

Our analysis sets its target on the universe of around 5,400 products imported by the EU from 2017 to 2020. We review and filter those products to identify a sub-set for which the EU experiences foreign dependencies.

To be classified as foreign dependent with our method, a product must meet three criteria: first, the majority of non-EU imports of that product must come from fewer than three foreign countries; second, non-EU imports of the good in question must account for at least 50% of its total EU imports; and third, non-EU imports must exceed total EU exports.

This is then complemented with an assessment of the relative rank of each of the traded goods on the three economic indicators that underpin each of the three criteria above, grouped in a single metric. We then select the top 10% of that distribution.

In short, our methodology permits us to identify those goods which suffer from an excessive concentration on foreign sources, significant scarcity within the EU, and low possibilities for domestic substitution. We subsequently scan goods in sensitive areas such as security and safety, health, and the twin transitions.

Applying the methodology described above to the EU import data, we isolate 204 products as foreign-dependent, under four main blocks. First, dependent products are identified in energy-intensive industries.

These are mostly raw materials used as inputs across many other industrial sectors. Some examples include manganese, nickel, aluminium, chromium, rare earth metals, molybdenum, borates, uranium, silicon, and permanent magnets. In addition, dependencies are identified for traditional energy inputs such as coal or petroleum coke and gases.

Second, within the health industrial ecosystem, dependencies include heterocyclic compounds, alkaloids, medicines, vitamins, and medical instruments (eg. scintigraphic apparatus, mechano-therapy or orthopaedic

appliances). We also observe COVID-19-related goods where major supply chain distress was experienced at the onset of the pandemic, such as surgical gloves or protective garments.

Third, within the renewables industrial ecosystem, dependencies are recognised in raw materials with heavy demand for the green transition, including photovoltaic cells or LED lamps. Fourth, on the digital front, we detect products such as laptops, mobile phones, monitors, and projectors.

These 204 products where the EU experiences foreign dependencies represent around 9.2% of the total extra-EU import value. When it comes to origins, China represents more than half of this value, followed by the US and Vietnam with 9% and 7%, respectively.

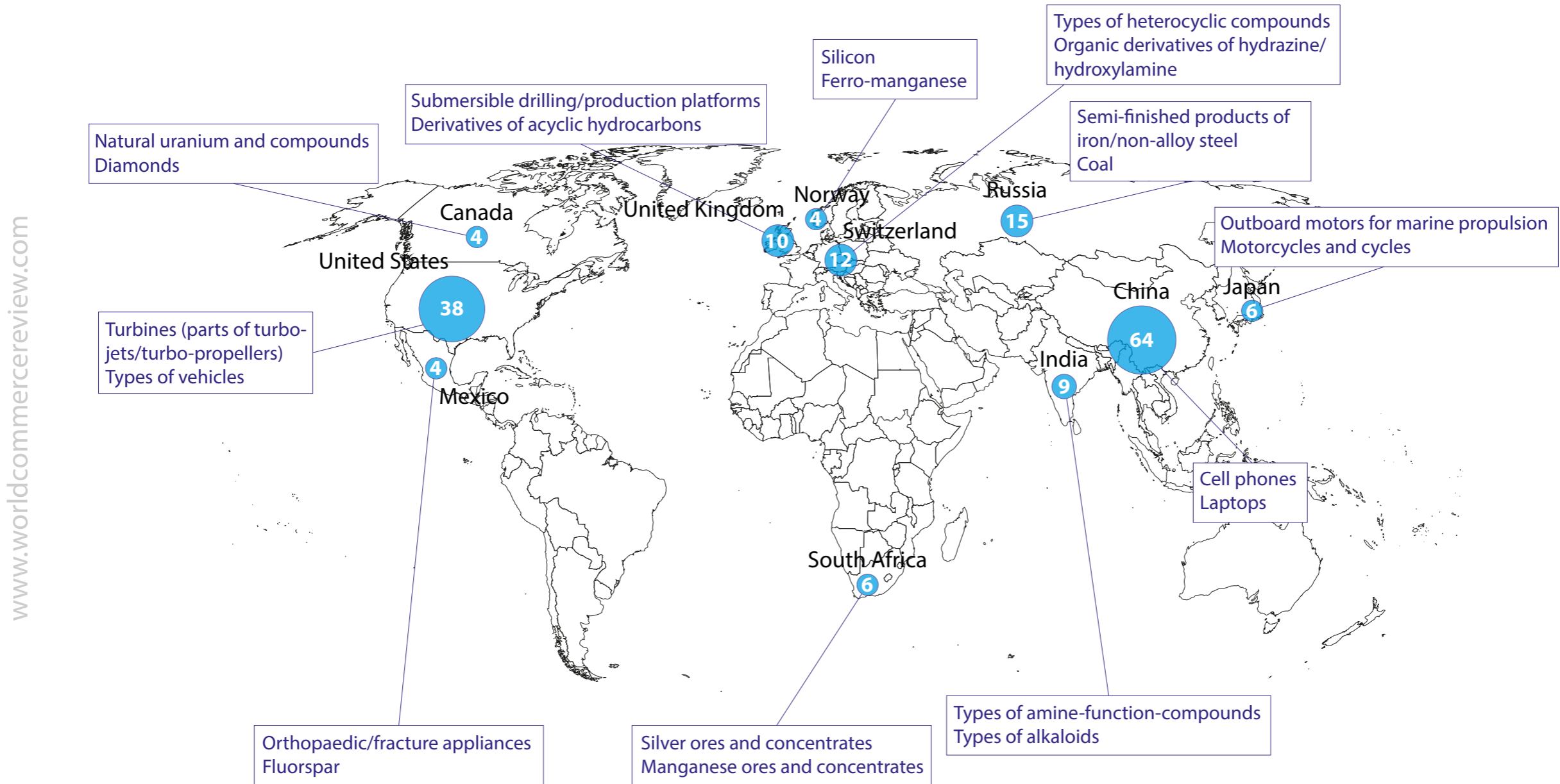
In the number of dependent products, China is the first source for 64 of them, followed by the US with 38 and Russia with 15 (see Figure 1). Examining the number of products rather than the value of imports is crucial since goods, despite facing low import values, may cause significant disruptions to society, as was the case with face masks during the COVID-19 pandemic.

Risks of single points of failure

The list of EU dependencies in strategic ecosystems can be complemented with the main features of the global trade network associated with each of the 204 identified products.

This allows us to detect goods whose production is highly concentrated at the world level and which can be considered highly vulnerable in case of supply chain distress.

Figure 1. Mapping the origins of 204 dependent products, including examples



Source: Authors' computations based on the database - Trade-Figaro-Eurostat.

Our analysis argues that the relative risk of experiencing a global single point of failure (SPOF) for any of the 204 goods is higher when a single exporter is central to a large number of countries within a given trade network, and where world production is likely to be concentrated in a single country.

We calculate the risk of a global SPOF by comparing the relative position of each of the traded goods using the two metrics above. Products with the highest aggregate risk of an SPOF appear in decile 10 of the distribution of all 5,400 HS6 products. Products with the lowest risk of an SPOF locate in the lowest deciles.

Once the relative position of each traded product is identified, we turn back to our identified list of 204 dependencies to inform policymakers when they develop mitigating actions to steer clear of such vulnerabilities.

Out of the 204 EU-dependent products, close to 20% are in the highest decile and thus bear the highest risk of experiencing an SPOF, whereas only 6% are in the lowest risk category.

Those products with the highest risk of an SPOF include goods in the health industrial ecosystem (antibiotics, vitamins, medical apparatus, and COVID-19 goods), digital (laptops and parts, radio-broadcast receivers, and mobile phones), and renewables (LED lights).

Conclusions

Our results imply that the risks associated with EU dependencies cannot be mitigated with a one-size-fits-all policy recipe. Improving our granular understanding of strategic dependencies and global SPOFs would allow, for example, us to differentiate between products where diversification through trade policy instruments is adequate from other products where risk mitigation may instead benefit from EU capacity building.

More precisely, to address EU dependencies on products for which the associated risk of an SPOF is low, EU policies should be able to fully mobilise the power of trade policy instrumentation.

On the other hand, if EU dependencies experience high risks of an SPOF, support for the creation and deployment of novel technologies, stronger R&D, circularity efforts, or stockpiling can appear as more appropriate solutions to support the building of internal EU capacity through industrial and innovation policies.

Against this backdrop, over recent years the EU has equipped itself with a set of policy measures to curb its strategic dependencies. In the case of raw materials, where EU dependencies are prominent, the recently adopted Critical Raw Materials Act (2023) has the goal of fostering the EU's access to a secure, diversified, affordable, and sustainable supply of such materials, supporting a greater EU capacity for extraction, processing, and recycling.

The European Chips Act (2022) and the Net-Zero Industry Act (2023) aim at accelerating the EU's manufacturing capacity in chips and solar panels, respectively. These initiatives secure a central position for accurate and relevant monitoring tools capable of accurately measuring and disentangling strategic dependencies.

Such tools should also be able to identify single points of failure within supply chains and thus provide early warning signals of potential supply chain disruptions. ■

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