WORLD COMMERCE REVIEW

EU ePub
Spring 2021

What is the geopolitcal context of the EU-China investment deal? Fraser Cameron discusses

Benjamin Zeeb discusses the lessons Europe can learn from the formation of the US

Leonard et al consider the geopolitical consequences of the European Green Deal

THE GLOBAL TRADE AND FINANCE PLATFORM

CONTENTS

CONTENTS

CONTENTS

The end of the beginning

Democratic Europe has come under pressure. Benjamin Zeeb considers the lessons that Europe can learn from the American experience to ensure a peaceful completion of the European project

1876

When Lady Liberty first arrived in New York City, the US Civil War had been over for a decade. She had crossed the Atlantic in a storm-battered and perilous journey, just like many hopeful Europeans had done before her, and would continue to do in the decades to come.

Many would spend a good deal of their crossing below deck, destitute and sickly in the disease-ridden bellies of giant steamers, until the ordeal finally came to an end with a view towards Ellis Island and the sight of the torch at the end of her outstretched arm.

In 1876, a full 100 years after the declaration of independence started America on her path towards sovereignty and, ultimately, global dominance, many interpreted the gift, which had been welded in Paris with the help of Gustave Eiffel, quite literally as a passing of the torch.

In this version of the story, revolutionary Europe, where the core ideas on which the American republic rested, had been developed, had sent the statue to America in tacit recognition that it would be here, where these ideas would henceforth be most powerfully expressed.

The torch itself was displayed at the Centennial Exposition held in Philadelphia that same year, a symbolic reaffirmation that the place where the United States had been born a century prior, was, from now on, to be regarded as the rightful patron and preserver of democracy herself.

In retrospect, 1876 should not just be remembered as a mere centennial. The Statue of Liberty did not arrive at a moment that lends itself as a lens through which to look back at the days of the republic's inception. Rather coincidentally, the Statue of Liberty took its place within the public imagination and iconography of the United

States at a time that marked something just as profound as its beginning in Philadelphia on July 4th, 1776: It's completion.

For America had not been completed by defeating the English. It had not been completed when the Constitution came into force in 1789. Neither was it expansion to the Pacific Ocean, nor the defeat of the Mexicans that marked its coming of age.

It was only in overcoming her own worst instincts, the blatant mockery of the foundational principles that so many had bled and died for in the War of Independence, and that so many looked towards when they boarded ships bringing them to the new world, that America really came into her own.

The end of our beginning will be marked by monumental conflict. May the union be won peacefully. May it be won

The end of America's beginning was marked by monumental conflict and violence. Europe would do well to remember this today. Deeply in need of a moment of completion ourselves, maybe we Europeans should ask for the statue back. We might need it to help us face what lies ahead.

America was forged in a war against herself

The America that the Statue of Liberty would go on to symbolize was forged in a war against herself. By 1876, the US Civil War had been won, the better angels of human nature had prevailed, the historic injustice of slavery had been abolished, and America graduated into something more substantive.

Setting the United States on a consistent, if uneven and painfully slow, trajectory towards ever greater social justice, had required a monumental struggle. It had pitted all that was noble about its founding idea against all that is petty and cruel and fearful and vain in the human character.

Not until the Second World War, Europe's own foundational struggle, would a more significant contest be fought and won by the forces of liberty, democracy, and justice.

The Reconstruction era quickly revealed that victory was not absolute. No victories ever are. But the new United States allowed for progress to make its slow way into the present and hopefully to continue beyond.

In 1876 this American progress, a key feature of its coming dominance, was to be seen everywhere. The World Fair was held in the US for the second time, Alexander Graham Bell patented the first telephone and Mark Twain published *Tom Sawyer* to ring in a new age of US literary relevance.

Similarly, many of America's present faults, were already present upon the nation's completion in 1876. Be it political corruption, which has been all but legalized in this, our second American gilded age, the stratification of wealth, adverse effects of industrialization and urbanization, or immigration as a political wedge issue.

By going through an experience of tremendous pain and trauma, by looking inside and taking the battle to all that was brewing there, by deciding to confront inequality and injustice head on, America had, for better and for worse, become recognizable to our modern eyes.

Where America has open wounds, we have broken bones

Europe has yet to face this confrontation. We may look upon America's internal division with contempt and shake our heads in righteous disbelief at every new manifestation of a political culture coming apart, and yet, the truth is that on this side of the Atlantic, we have not even approached a comparable state of completion.

Masked by national borders, language differences, and celebrations of diversity, our deep divisions remain hidden. Where America has open wounds, we have broken bones. We have only just begun to articulate our conflicting visions of future Europe's shape and direction of travel.

Decades after the war that ended up giving Europeans freedom, democracy, and a pathway towards justice, the internal struggle for the future of the continent is still yet to be decided. It will not go down without a fight.

Democratic Europe has come under pressure from external and internal adversaries that attempt to pry apart a structure that leaves ample weak points and obvious targets of attack. With neo-fascism on the rise, a future of liberty, democracy and justice is far from certain for future generations facing constant probing by a resurgent

Russia, a tremendous systemic challenge from a rising and authoritarian China, and the continuing fallout of America's abdication as the guarantor of global order.

Conflict, completion, and reconstruction

Many of those who advocate for European sovereignty and power look to the American experience and see revolution, foundation, and constitution, when really the operative parallel is much less glamorous than that.

While Europe's way of arriving at its destination need not mirror the path of the United States, nor repeat the mistakes made along the way, we should be looking towards a different sequence of events that unfolded a good hundred years after the War of Independence: conflict, completion, and reconstruction.

When it comes to defining goals, there is no need to reinvent the wheel. We already have our torch. We already know what works. We already know justice. We already know the Europe we want. It is essentially made up of the four freedoms articulated by President Franklin Delano Roosevelt in 1942 at the very moment when America, in her completed form, served its most noble purpose by voluntarily returning to the very struggle that had once made her.

Freedom of speech, freedom of worship, freedom from want, and freedom from fear. It is upon us now to forge alliances to defend these four freedoms by transcending petty nationalism and enabling a new kind of cooperation for Europe that can safeguard the rights of all Europeans present and future.

For Europe was not completed by defeating the Nazis. It was not completed when the Lisbon Treaty came into force in 2009. Neither was it Eastern expansion, nor the introduction of the common currency which marked its coming of age.

It will only be in overcoming our own worst instincts, the most blatant mockery of the very foundational principles that so many have bled and died for in the Second World War, and that so many look towards when they board tiny ships bringing them to the a new world in a perilous journey, that Europe will really come into her own.

The end of our beginning will be marked by monumental conflict. May the union be won peacefully. May it be won. ■

Benjamin Zeeb is a founding shareholder at Alliance4Europe and the Director of the Project for Democratic Union

The geopolitics of the European Green Deal

Mark Leonard, Jean Pisani-Ferry, Jeremy Shapiro, Simone Tagliapietra and Guntram Wolff consider the geopolitical consequences of the European Green Deal

Executive summary

The European Green Deal is a plan to decarbonise the EU economy by 2050, revolutionise the EU's energy system, profoundly transform the economy and inspire efforts to combat climate change. But the plan will also have profound geopolitical repercussions.

The Green Deal will affect geopolitics through its impact on the EU energy balance and global markets; on oil and gas-producing countries in the EU neighbourhood; on European energy security; and on global trade patterns, notably via the carbon border adjustment mechanism. At least some of these changes are likely to impact partner countries adversely.

The EU needs to wake up to the consequences abroad of its domestic decisions. It should prepare to help manage the geopolitical aspects of the European Green Deal. Relationships with important neighbourhood countries such as Russia and Algeria, and with global players including the United States, China and Saudi Arabia, are central to this effort, which can be structured around seven actions:

1. Help neighbouring oil and gas-exporting countries manage the repercussions of the European Green Deal. The EU should engage with these countries to foster their economic diversification, including into renewable energy and green hydrogen that could in the future be exported to Europe.

2. Improve the security of critical raw materials supply and limit dependence, first and foremost on China. Essential measures include greater supply diversification, increased recycling volumes and substitution of critical materials.

3. Work with the US and other partners to establish a 'climate club' whose members will apply similar carbon border adjustment measures. All countries, including China, would be welcome to join if they commit to abide by the club's objectives and rules.

4. Become a global standard-setter for the energy transition, particularly in hydrogen and green bonds. Requiring compliance with strict environmental regulations as a condition to access the EU market will be strong encouragement to go green for all countries.

5. Internationalise the European Green Deal by mobilising the EU budget, the EU Recovery and Resilience Fund, and EU development policy.

6. Promote global coalitions for climate change mitigation, for example through a global coalition for the permafrost, which would fund measures to contain the permafrost thaw.

7. Promote a global platform on the new economics of climate action to share lessons learned and best practices.

Introduction: the Green Deal is foreign policy

In December 2019, the European Commission introduced the European Green Deal, an ambitious policy package intended to make the European Union's economy environmentally sustainable.

The goal is to reach climate neutrality by 2050, and to turn the transition into an economic and industrial opportunity for Europe. The deal is made up of a wide array of policy measures and subsidies aimed at cutting pollution while increasing research and investment in environmentally friendly technologies.

The Green Deal is at root an effort to transform the European economy and European consumption patterns. But because it entails a fundamental overhaul of the European energy system and because it ranks so high on the EU policy agenda, it will also change the relationships between the EU and its neighbourhood and it will redefine Europe's global policy priorities. As such, it is a foreign policy development with profound geopolitical consequences.

First, such a sweeping structural change will alter European trade and investment patterns. The EU imported more than €320 billion worth of energy products in 2019 and more than 60 percent of EU imports from Russia were energy products[1].

A massive reduction in this flow will restructure EU relationships with key energy suppliers. Countries including Russia, Algeria and Norway will ultimately be deprived of their main export market.

Inevitably, Europe's exit from fossil-fuel dependency will adversely affect a number of regional partners, and may even destabilise them economically and politically.

Second, Europe accounts for around 20 percent of global crude oil imports. The fall in oil demand resulting from Europe's transition to renewables will impact the global oil market by depressing prices and the reducing the income of the main exporters, even if they do not trade much with the EU.

Third, a greener Europe will be more dependent on imports of products and raw materials that serve as inputs for clean energy and clean technologies. For example, rare-earth elements, of which China is the largest producer, are essential for battery production. Moreover, Europe could remain a major net importer of energy but that energy will need to be green, such as green hydrogen produced in sun-rich parts of the world.

The Green Deal will redefine Europe's global policy priorities; as such, it is a foreign policy development with profound geopolitical consequences

Fourth, the Green Deal will impact Europe's international competitiveness. If European firms take on regulation-related costs that their foreign competitors do not bear, they will become less competitive both domestically and abroad. And if the EU attempts to limit this loss and avoid carbon leakage by imposing tariffs on carbon-rich imports, it risks being accused of distorting international trade.

That might lead to friction with major trading partners, particularly carbon-intensive ones, if they view a carbon border adjustment mechanism as an illegal trade barrier.

But most fundamentally, the Green Deal is foreign policy because climate change is a global problem. A transition away from carbon that would only focus on Europe would not do much to mitigate global warming, as Europe represents less than 10 percent of global greenhouse-gas emission.

Worse, if the Green Deal simply displaces Europe's greenhouse gas emissions to its trading partners, it will have no impact at all on climate change.

If only for this reason, the EU is likely to push very hard for ambitious enforceable multilateral agreements on containing global warming and will subordinate some of its other objectives to this overriding priority.

Already, the European Commission has recognised that it will either need to export its standards or create a border adjustment mechanism to maintain European competitiveness and prevent carbon leakage.

All these factors imply the EU will need to develop new trade and investment agreements, new models of financial and technical assistance and, more generally, a new approach to international diplomacy that will encourage sustainable investment and development.

This international activism will necessarily spill over into relationships with the United States and China, which have their own views on how to promote sustainable development and manage international climate negotiations. Relationships with other countries, including the Gulf states and Russia, whose export interests will be directly affected, will also be transformed.

All these foreign policy efforts will provoke a geopolitical response from the EU's international partners. Responses will range from cooperation in implementing complementary climate policies, to competitive efforts to redirect trade and investment flows, to downright hostile efforts to counter the effects of the Green Deal.

In this paper we map out the geopolitical implications of the Green Deal. We look not only at the effects of purposeful efforts to export climate policy, but also at the unintended side-effects.

The second section focuses principally on the effects on Europe's energy trade patterns, its development policy, its approach to climate negotiations and, most controversially, the proposed carbon border adjustment mechanism.

The third section examines how other countries (with case studies of the US, China, Russia, Algeria and Saudi Arabia) might understand the Green Deal and how they are likely to respond.

The final section proposes an external action plan as an integral part of EU climate strategy. To succeed, the EU must address head-on the difficulties the Green Deal is likely to create with economic partners and neighbours.

Only a pro-active EU attitude will help turn potential frictions into opportunities for renewed international partnerships. We therefore suggest a series of EU foreign policies to buttress the Green Deal. To succeed in

implementing the Green Deal, the EU and its members will need to mobilise all their instruments of foreign policy in support of that agenda.

Mapping the geopolitical implications of the Green Deal

To make Europe climate neutral by 2050, the European Green Deal must pursue one main goal: to reshape the way energy is produced and consumed in the EU. The production and use of energy across the economy account for more than 75 percent of the EU's greenhouse-gas emissions (IEA, 2020).

Almost three-quarters of the EU energy system relies on fossil fuels. Oil dominates the EU energy mix (with a share of 34.8 percent), followed by natural gas (23.8 percent) and coal (13.6 percent). Renewables are growing in share but their role remains limited (13.9 percent), similarly to nuclear (12.6 percent) (Eurostat, 2019).

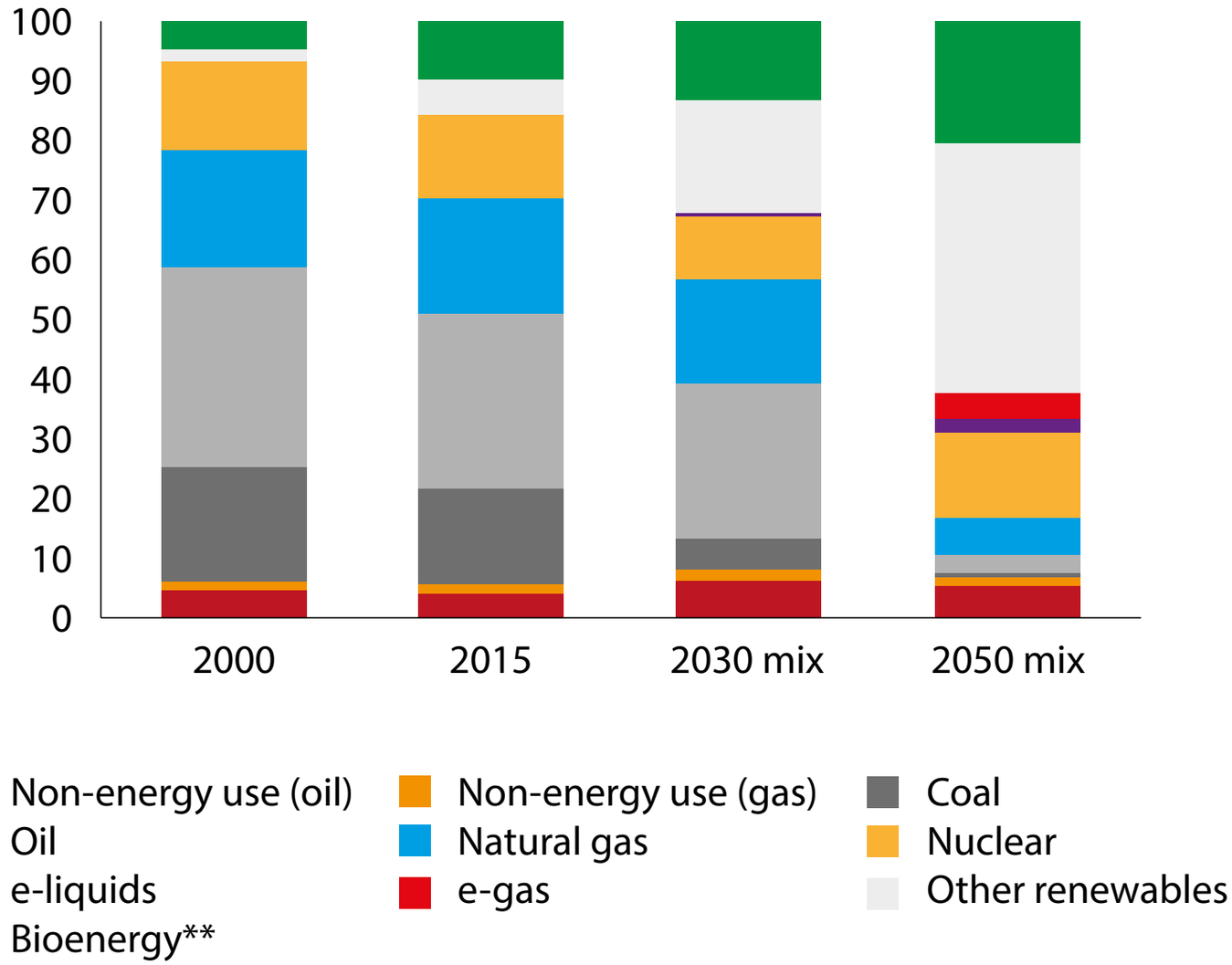
This situation will change completely by 2050, if the European Green Deal is successful. But change will be incremental. According to European Commission projections, fossil fuels will still provide about half of the EU's energy in 2030.

But fossil fuels differ in their pollution intensity. Use of coal – the most polluting element in the energy mix – has to be substantially reduced by 2030, while oil and, especially, natural gas can be phased out later.

Most of the change for oil and gas will happen between 2030 and 2050. Within this timeframe, oil is expected to be almost entirely phased-out, while natural gas would contribute just a tenth of EU energy in 2050 (Figure 1)..

Depending on the exact scenario, EU imports of coal would drop by 71-77 percent between 2015 and 2030, while oil imports will drop by 23-25 percent and imports of natural gas by 13-19 percent.

Figure 1. EU energy mix evolution (55 percent lower emissions in 2030 compared to 1990 and climate neutrality in 2050)



Note: among the various scenarios consistent with EU climate targets used by the European Commission, we picked the MIX scenario. E-liquids and e-gas are synthetic fuels, resulting from the combination of green hydrogen produced by electrolysis of water with renewable electricity and CO_2 captured either from a concentrated source or from the air. Bioenergy includes solid biomass, liquid biofuels, biogas, waste.
Source: Bruegel/ECFR based on European Commission (2020).

After 2030, oil and natural gas imports are expected to shrink dramatically, with oil imports down 78-79 percent and natural gas imports down 58-67 percent compared to 2015 (Figure 2).

This profound transformation of the EU energy system will have a wide variety of geopolitical repercussions. These can be grouped into four categories: i) repercussions for oil and gas-producing countries in the EU neighbourhood; ii) repercussions on global energy markets; iii) repercussions for European energy security; and iv) repercussions for global trade, notably via carbon border adjustment measures.

Repercussions for oil and gas producing countries in the EU neighbourhood

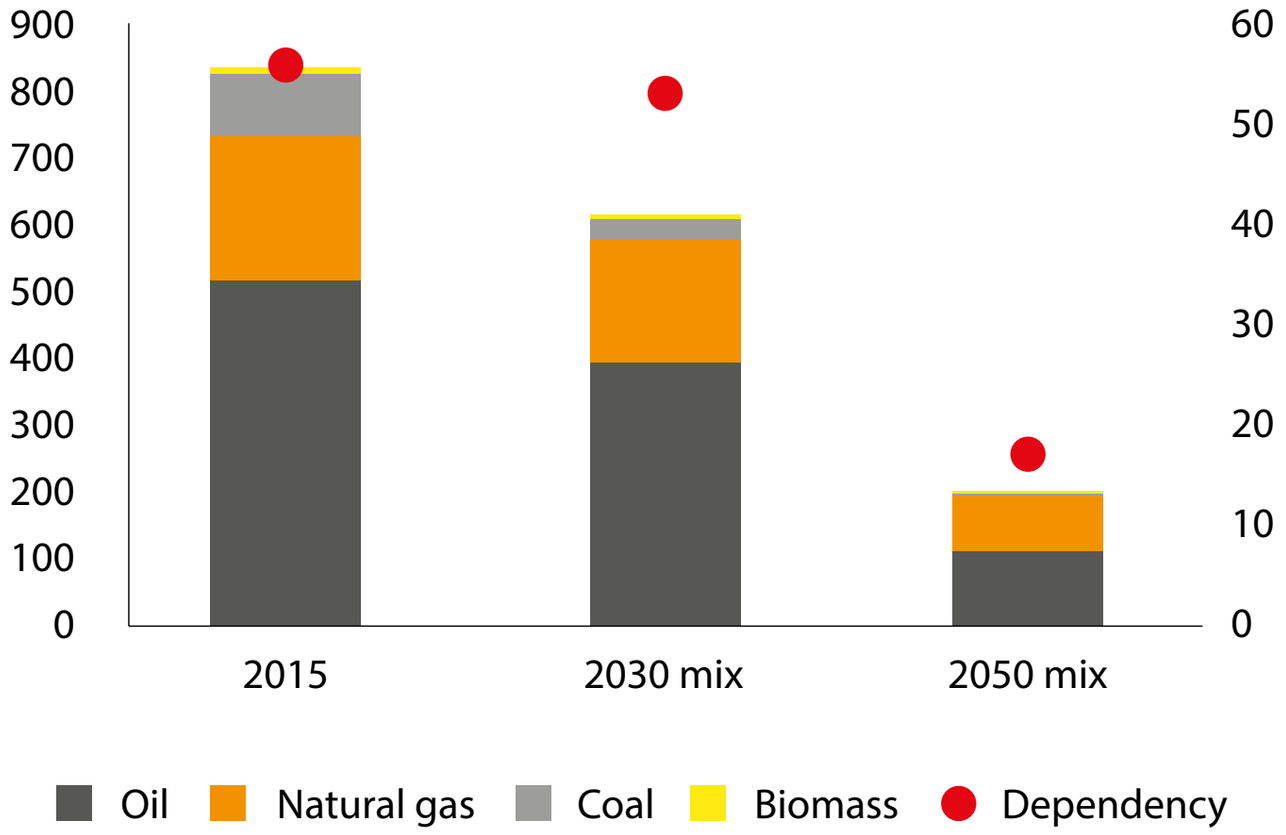
Discussions on the potential repercussions from global decarbonisation naturally focus on the impacts that reduced need for oil and gas in large markets could have on producing countries (IRENA, 2019).

For Europe, this is notably the case for its major gas supplier, Russia, but also for other suppliers, from the Middle East and North Africa, the Caspian and Central Asia, which base their economies on the fossil fuels rents, and mostly export their fossil fuels to Europe (Figure 3).

The anticipated decline in EU imports of oil and gas will have an almost immediate effect by reducing investment in new fossil fuel infrastructure and even reducing maintenance efforts for existing infrastructure. This will happen even though, as noted above, the EU is expected to keep importing oil and natural gas at more or less unchanged volumes for at least another decade.

It is important to note that for gas, in the 2030 timeframe, Europe's main energy supplier, Russia, could even benefit from the European Green Deal, as a coal-to-gas switch is necessary to quickly curb EU energy sector emissions. The role of natural gas as a transition fuel in the EU is likely to mean increased imports.

Figure 2. Evolution of EU energy imports (55 percent lower emissions in 2030 compared to 1990 and climate neutrality in 2050)



Source: Bruegel/ECFR based on European Commission (2020) MIX scenario.

Figure 3a. Fossil fuel exports to EU as % of total exports, selected countries

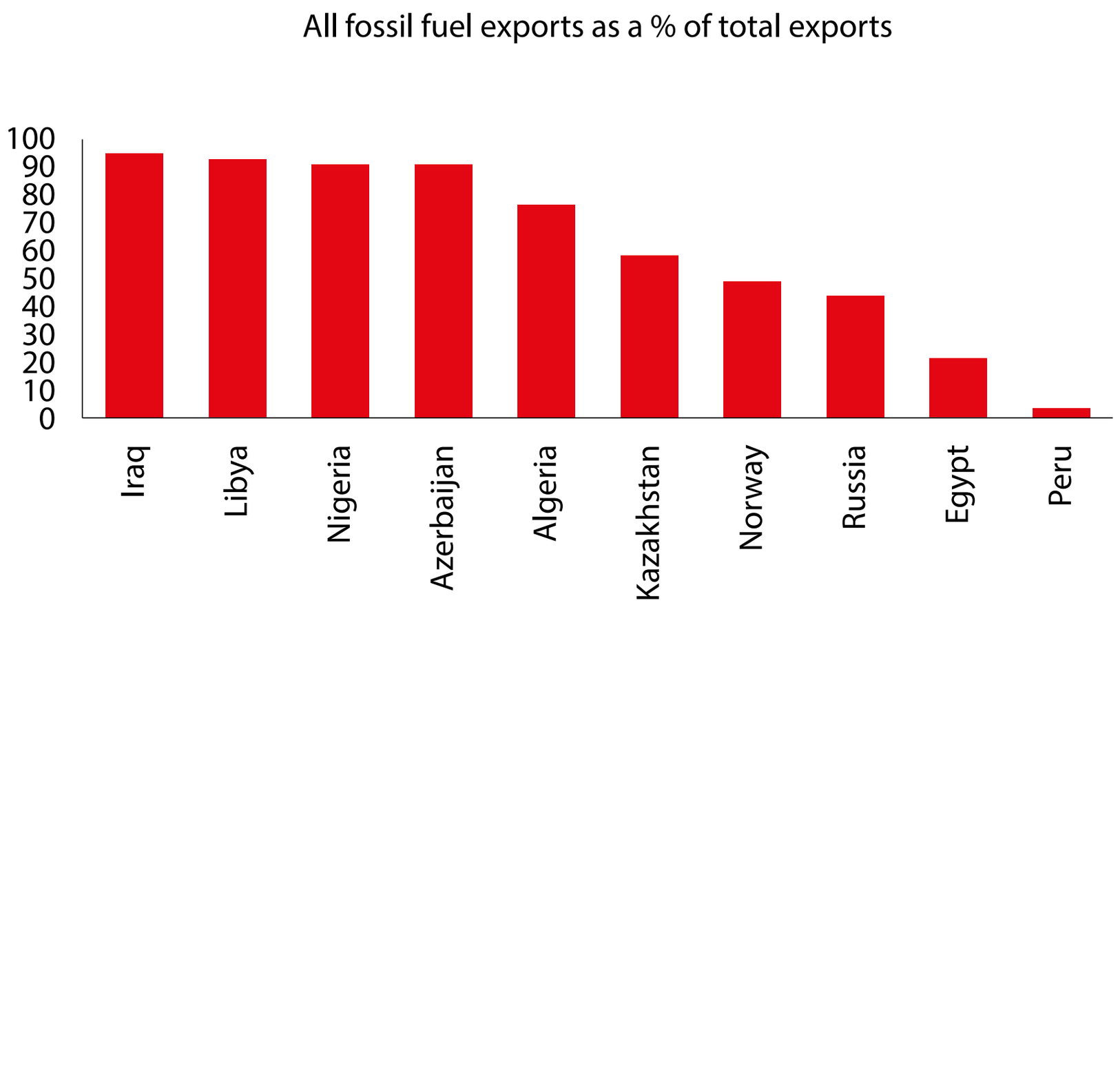
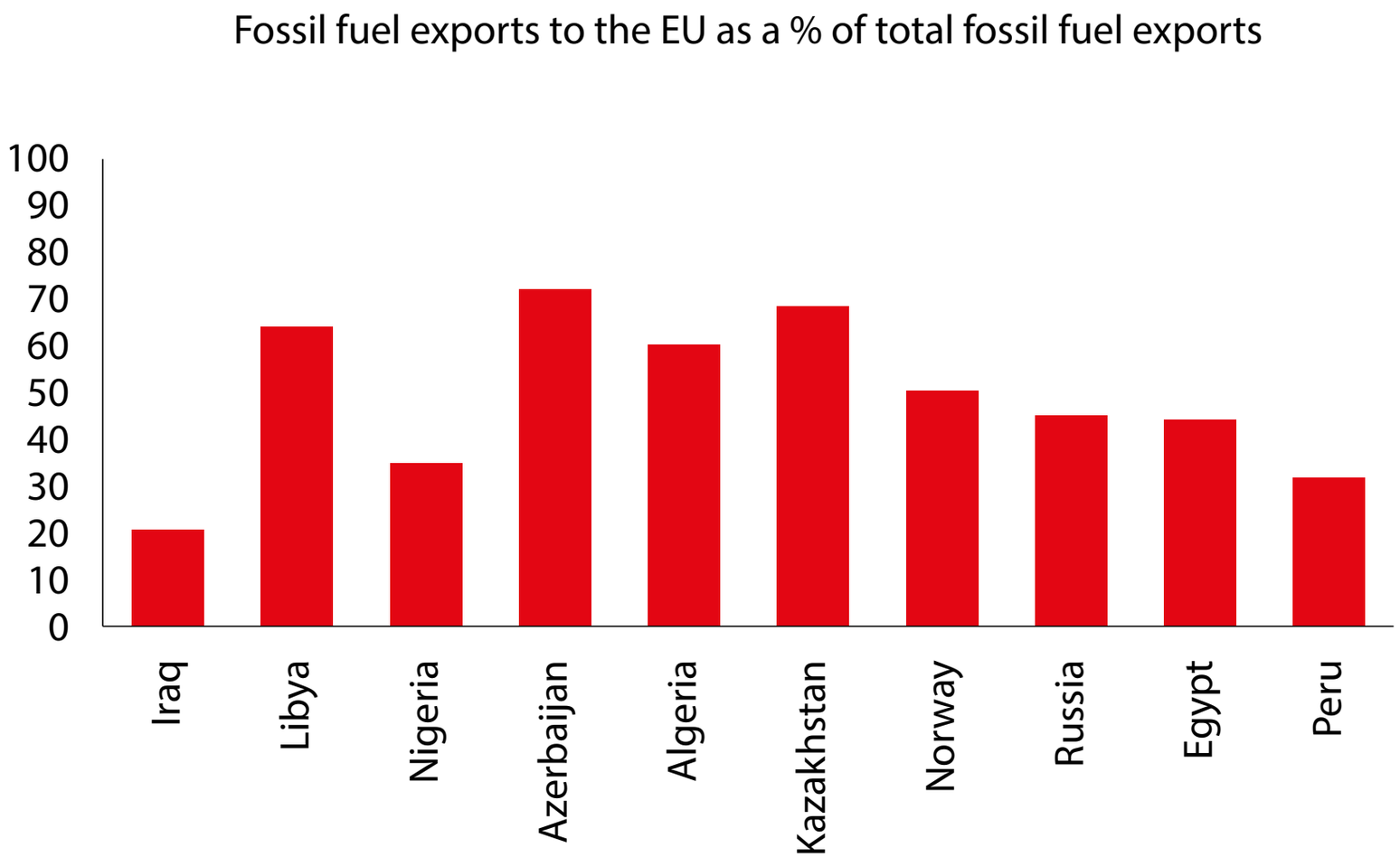


Figure 3b. Fossil fuel exports to EU as % of total exports, selected countries



Note: Trade values taken from 2018, as reported global and EU27 imports from each country presented. Fossil fuels are the sum of 2701, 2709, 2711.
Source: Bruegel/ECFR based on UN Comtrade.

It is also important to highlight another potential, long-term impact of the European Green Deal on the EU's neighbourhood: a possible surge in trade in green electricity and green hydrogen.

One of the major drivers to deliver the European Green Deal will be electrification. To meet its increasing need for renewable electricity, Europe might well rely over the next decades on imports of solar and wind electricity from neighbouring regions.

The Middle East and North Africa, in particular, benefits from some of the best solar irradiation in the world[2], and from world-class wind energy locations[3]. While these renewable resources will primarily be exploited to meet Middle East and North African countries' own rapidly growing energy demand, there might be a case for future exports to Europe.

Decreasing generation and transport technology costs might allow economies of scale that have so far prevented the implementation of such cooperation schemes[4].

While renewable electricity is expected to decarbonise a large share of the EU energy system by 2050, hydrogen is increasingly seen as a way to decarbonise parts of the energy system electricity cannot reach[5]. This is why the European Green Deal includes a hydrogen strategy (European Commission, 2020a), aimed at installing 40 gigawatts (GW) of renewable hydrogen electrolysers by 2030.

Considering North Africa's renewable energy potential and geographic proximity to Europe, the region is being considered as a potential supplier of cost-competitive renewable hydrogen to Europe. Germany, for example, has partnered with Morocco to develop Africa's first industrial plant for green hydrogen, with intention of future exports to Germany[6].

Future imports of renewable electricity and green hydrogen from the Middle East and North Africa (or other neighbours, such as Ukraine) could raise new energy security concerns, which will have to be mitigated with proper diversification.

Repercussions for global energy markets

Given the size of the European economy, the European Green Deal is also likely to have repercussions for global energy markets. Currently, Europe is the world's second largest net importer of oil after Asia Pacific (Figure 4).

The fall in global oil demand resulting from Europe's transition to clean energy will have an impact on the global oil market, notably by depressing prices. The extent of the price decline will, of course, also depend on other countries' decarbonisation trajectories.

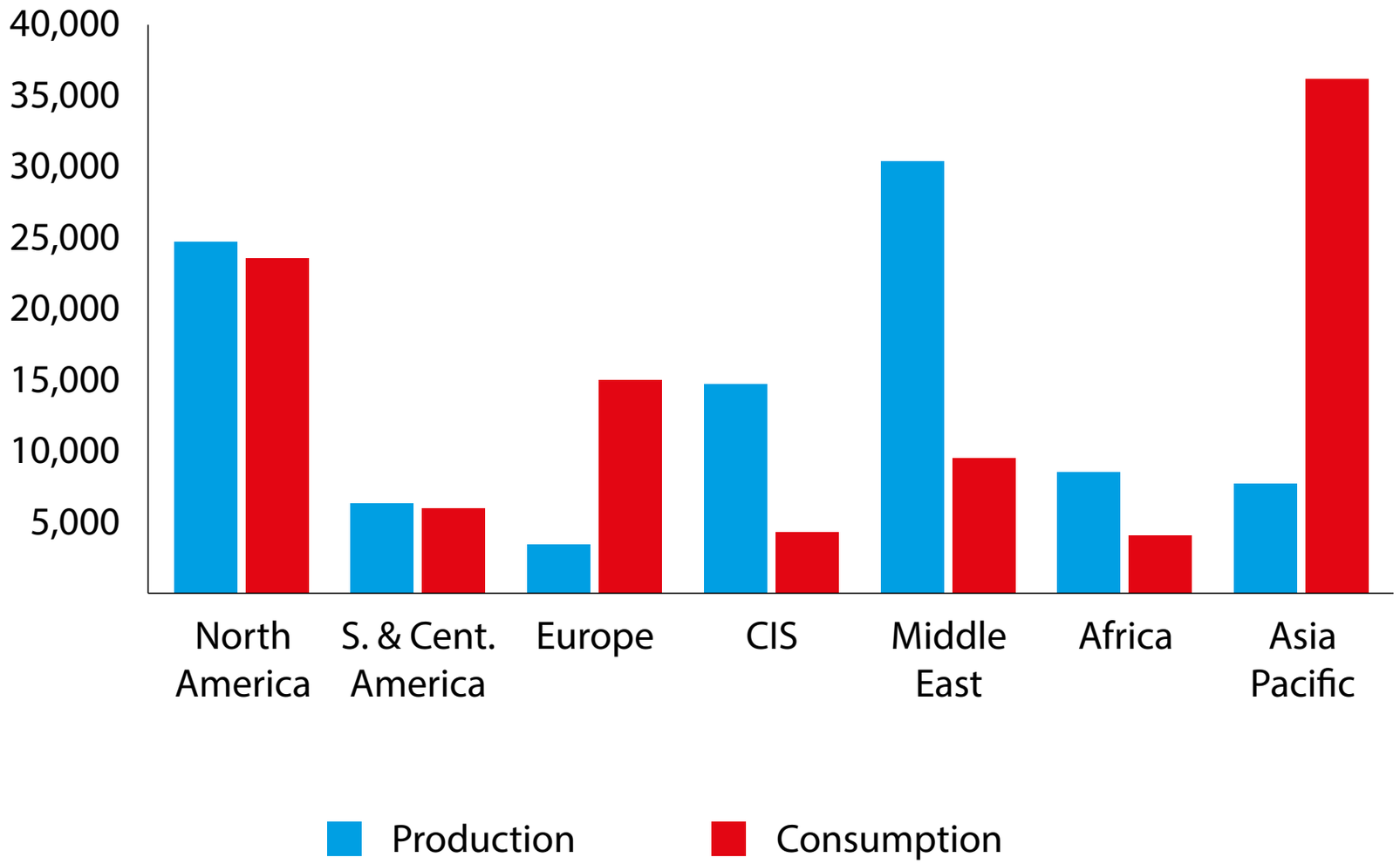
Should Europe be alone in significantly cutting oil consumption, while other economies continue to rely on fossil fuels in their growth, markets and demand in Asia, Latin America and Africa might partially – and temporarily – counterbalance Europe's withdrawal.

But overall, Europe's global share of oil imports is so significant that general equilibrium effects are likely to lead to a sizeable reduction in the value of oil assets.

Oil producers will be affected differently depending on how concentrated they are on oil exports, as well as their break-even oil price.

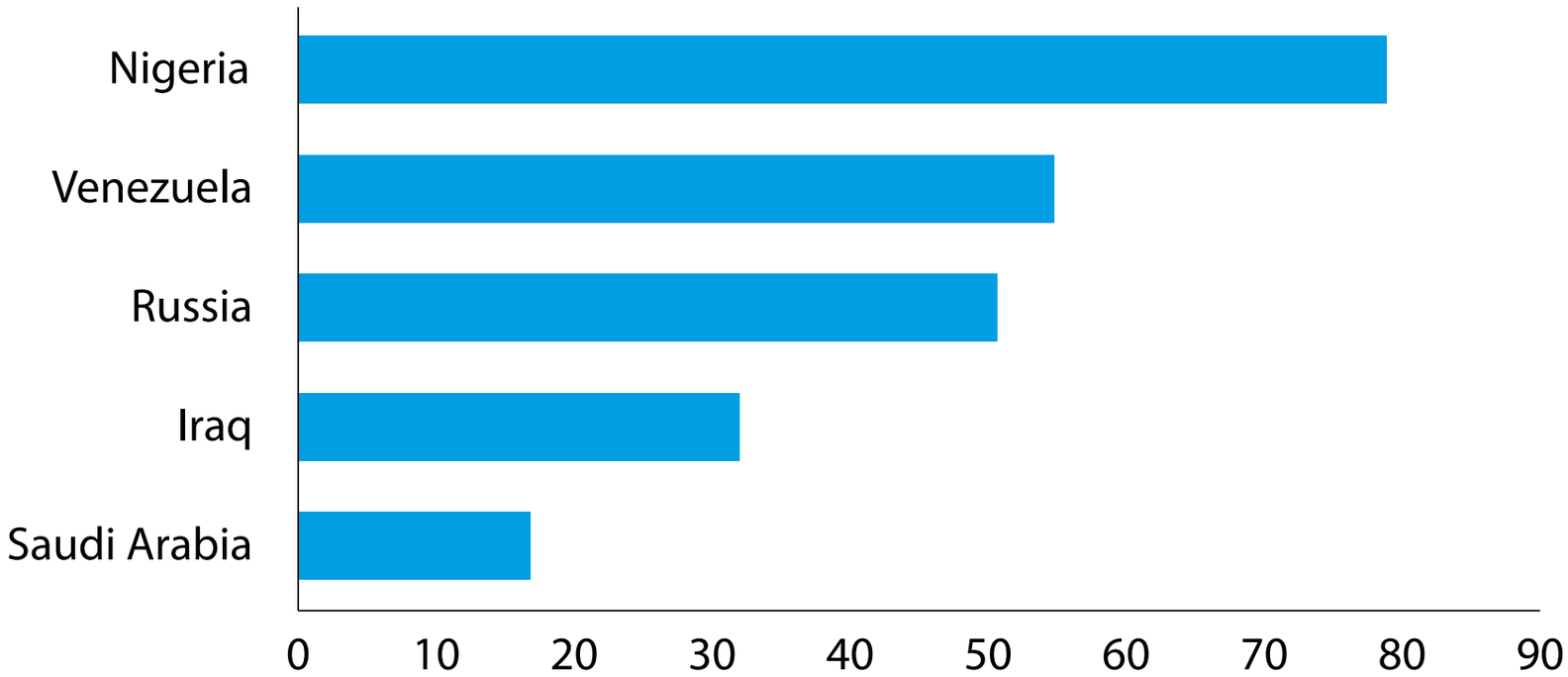
For instance, Saudi Arabia and Iraq can produce oil relatively cheaply, covering costs with a price of about $30/barrel or less, while countries including Russia, Venezuela and Nigeria need higher prices to break even (Figure 5).

Figure 4. Oil balance by region, 2019



Source: Bruegel/ECFR based on BP Statistical Review of World Energy (2020).

Figure 5. Break-even oil price, selected countries (2015)



Source: OECD (see https://read.oecd-ilibrary.org/view/?ref=136_136801-aw9nps8afk).

Low-cost oil producers, such as Saudi Arabia, are thus better positioned to deal with declining global oil prices resulting from the European Green Deal. In the medium term, they might even increase their market shares, as high-cost producers will be kicked off the market.

However, even low-cost oil producers will feel the impact of declining prices. Already, at the current oil price of $40/barrel, Saudi Arabia's budget deficit is at 12% of GDP. This implies that economic diversification away from the oil rent is a must for all oil-exporting countries, though to different degrees.

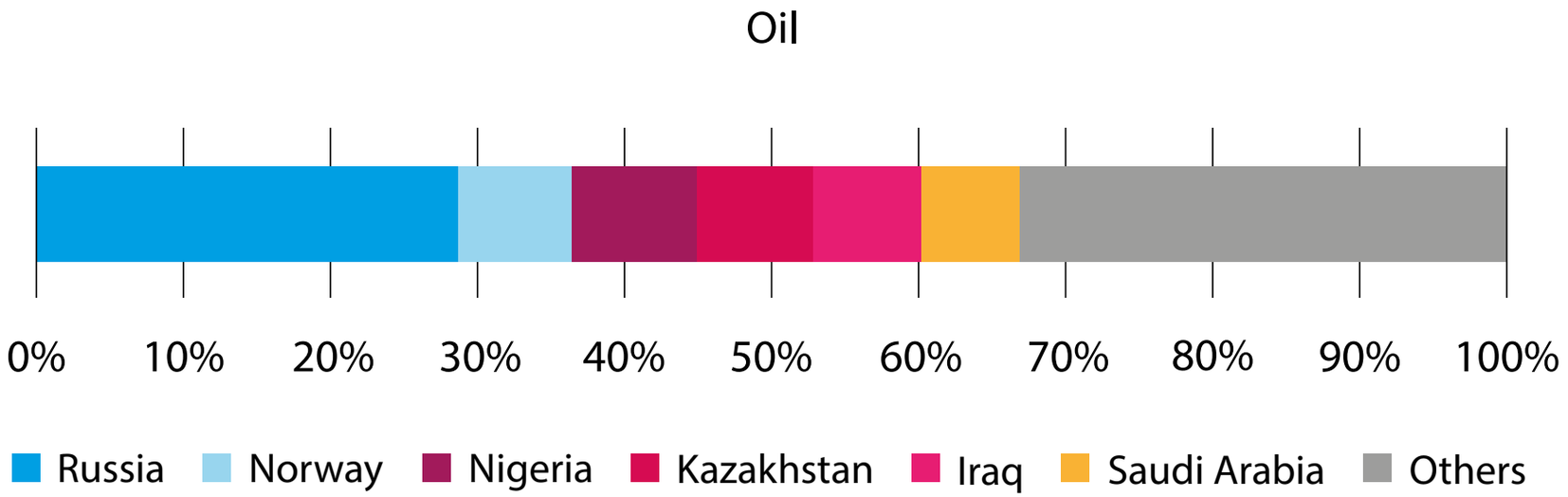
Repercussions for Europe's energy security

In Europe, energy security has traditionally been associated with the need to ensure sufficient oil and gas supplies in the short term. Being poorly endowed with domestic resources, the EU has to import 87 percent of the oil and 74 percent of the natural gas it consumes (Eurostat, 2019). Moreover, being reliant on a limited number of suppliers (Figure 6), the EU has developed over-dependency concerns.

This has particularly been the case for natural gas, given its rigidities arising from reliance on pipeline infrastructure and long-term contracts. These features contrast with the flexibility of the global oil market in which bilateral dependencies are limited by a global transport infrastructure (oil tankers).

Europe's core energy security concern has been its dependence on Russian natural gas. After the Russia-Ukraine-Europe gas crises of 2006 and 2009, Europe pursued a diversification strategy targeting infrastructure (liquified natural gas terminals in Poland and the Baltics; the Southern Gas Corridor) and legislation (including EU regulations on the security of gas supply, (EU) 2017/1938, and on risk preparedness in the electricity sector, (EU) 2017/1938).

Figure 6. EU imports of oil and natural gas by main trading partner, 2018



Source: Bruegel/ECFR based on Eurostat (2020).

These efforts have already greatly strengthened the security of supply for natural gas imports into the EU. By reducing the continent's gas import requirements between 2030 and 2050, the European Green Deal will definitively solve Europe's oil and gas security concerns – and will also reduce Europe's oil and gas import bill, estimated at €296 billion in 2018 (Eurostat, 2020).

However, the European Green Deal can also create new energy security risks, most notably from the import of the minerals and metals needed for the manufacturing of solar panels, wind turbines, li-ion batteries, fuel cells and electric vehicles. These minerals and metals have particular properties and few to no substitutes.

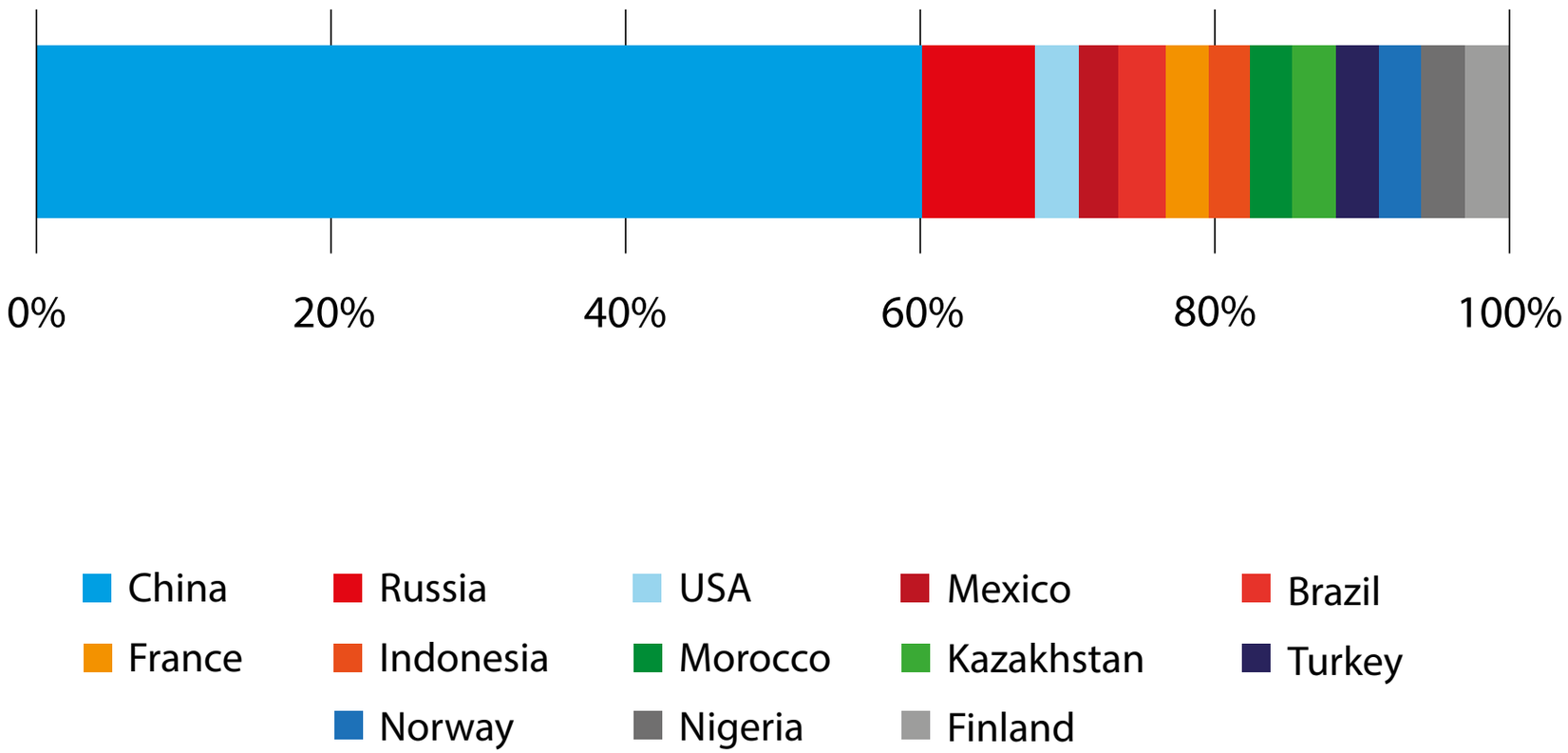
While some of these minerals and metals are widely available and relatively easy to mine, others are either geographically concentrated in a few resource-rich countries, or treated and processed in a few countries. Europe itself has no significant mining and processing capacities for these critical raw materials. For instance, it produces only around 3 percent of the overall raw materials required in li-ion batteries and fuel cells (JRC, 2020).

In 2011, the European Commission produced a first list of critical raw materials, which has been updated every three years[7]. At time of writing it includes 27 materials judged critical because of their importance for high-tech and green industries, their scarcity and/or the risk of supply disruption.

China is a leading producer and user of most critical raw materials. The import of rare earths from China is probably the most critical issue in this area, also because Europe has no mining or processing activity for these important minerals (Figure 7).

For Europe, dependence on China will further increase as demand for green technologies increases. For example, the JRC (2020) estimated that the EU's annual critical raw material demand for wind turbines will increase between

Figure 7. Main suppliers to the EU of critical raw materials, average from 2010-2014



Source: Bruegel/ECFR based on European Commission (2017).

2 and 15 times over the next three decades. Overall, the European Commission (2020) expects Europe's demand for raw materials to double by 2050.

Repercussions for global trade, notably from carbon border adjustment measures

Taxing the carbon content of domestic production without taxing imports in a broadly similar way in principle disadvantages domestic production. Consumers would have an incentive to continue buying the same products but shift to foreign suppliers rather than switching to more efficient domestic producers.

The European Commission has therefore said it will introduce a border carbon adjustment. The rationale is clear: if Europe puts in place a stringent climate policy while other parts of the world do not, there is a risk that emissions-intensive companies might leave the EU with its high carbon prices and relocate to places with significantly lower or no carbon prices (see Wolff, 2019, for an illustration).

This leakage issue is set to become more relevant with the EU pursuing a more ambitious climate policy, even if the exact order of magnitude of carbon leakage is unclear (Claeys *et al*. 2019).

A carbon tariff would have a double aim: i) preventing carbon leakage by ensuring that all goods consumed in the EU, whether imported or produced domestically, are treated the same; ii) incentivising other countries across the world to also decarbonise. The tax or tariff would be based on the emissions embedded in imported products.

In addition, EU exporters might reclaim the cost of the emissions embedded in their products to ensure that European companies are not at a competitive disadvantage when selling abroad. Given that the EU already imports significantly more carbon than it exports, the issue of carbon leakage cannot be ignored[8].

But introducing a carbon tariff would be a substantial practical and political challenge – and indeed no country in the world has so far adopted such a tariff[9]. The initiative will face two main difficulties.

The first, of technical nature, relates to the difficulty of calculating the emissions content of imports, as all emissions along the entire value chain would need to be considered.

The second, of a geopolitical nature, relates to the risk of retaliation by trade partners. The European Commission has made clear that a carbon tariff should be compatible with the rules of the World Trade Organisation (WTO), to ensure that countries cannot retaliate based on WTO rules (Horn and Sapir, 2019, explain how this can be done)[10].

But even if the carbon tariff is safeguarded against formal objections, trade partners might still perceive it as overreach and threaten or adopt retaliatory measures. Something similar happened in 2012 when the EU directive on aviation emissions (2008/101/EC) went into effect. The directive entailed a form of carbon border adjustment by extending the EU emissions trading system (ETS) to all flights entering or leaving the EU.

A group of 23 countries – including the United States, China, India, Japan and Russia – strongly opposed the EU move and listed retaliatory measures they would take unless the EU changed the rule. Because of this forceful reaction, and in view of some developments in international negotiations on emissions controls, the EU withdrew the measure for intercontinental flights.

International reactions to the introduction of an EU carbon border tax are likely to be very diverse. Countries that strongly emphasise action to tackle the climate problem are likely to be supportive of the initiative, and might replicate it. However, countries that export emissions-intensive goods to Europe (Figure 8) are likely to oppose it.

Figure 8. EU27 imports of carbon-intensive goods by country of origin (share of imports)

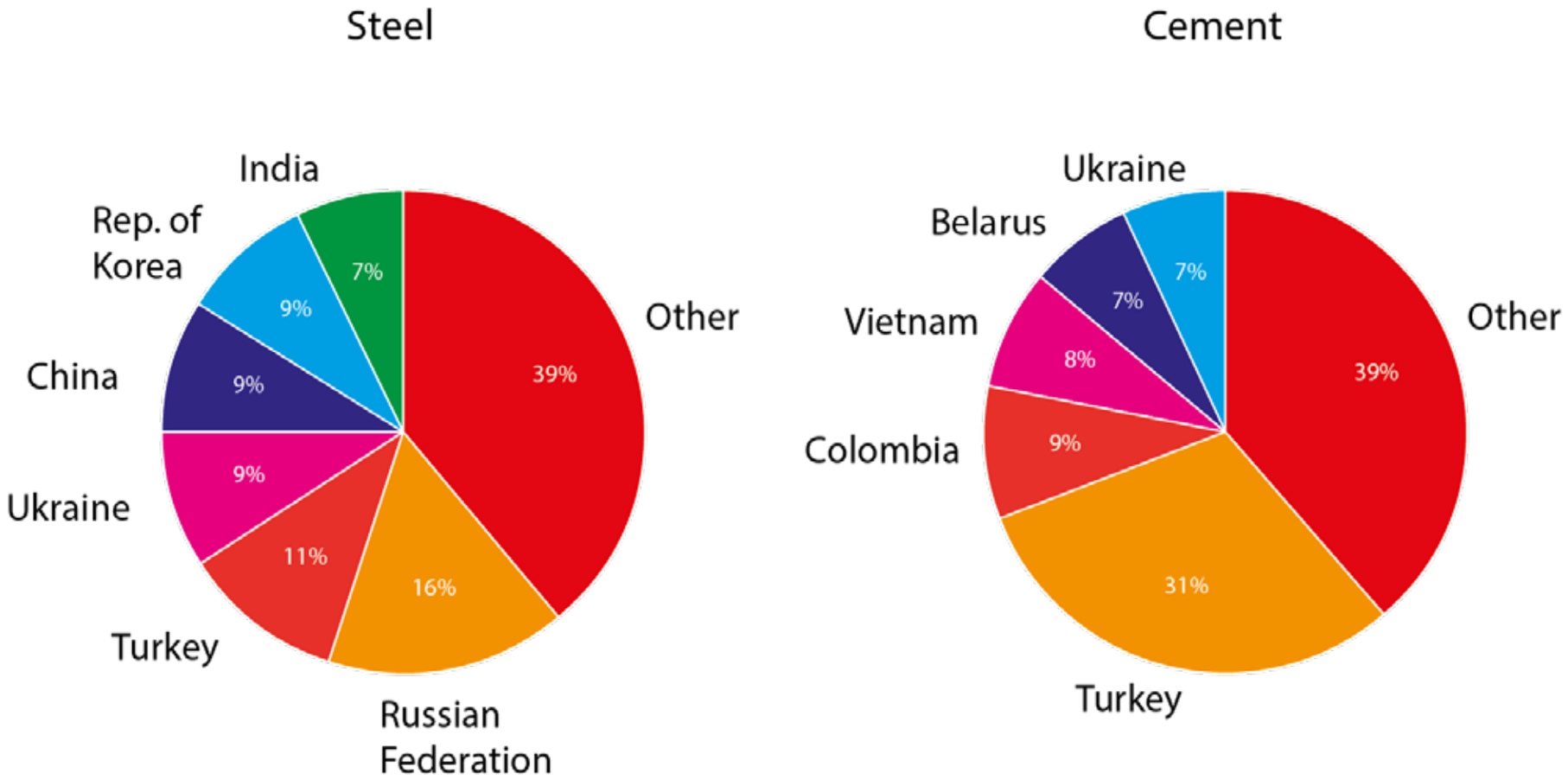
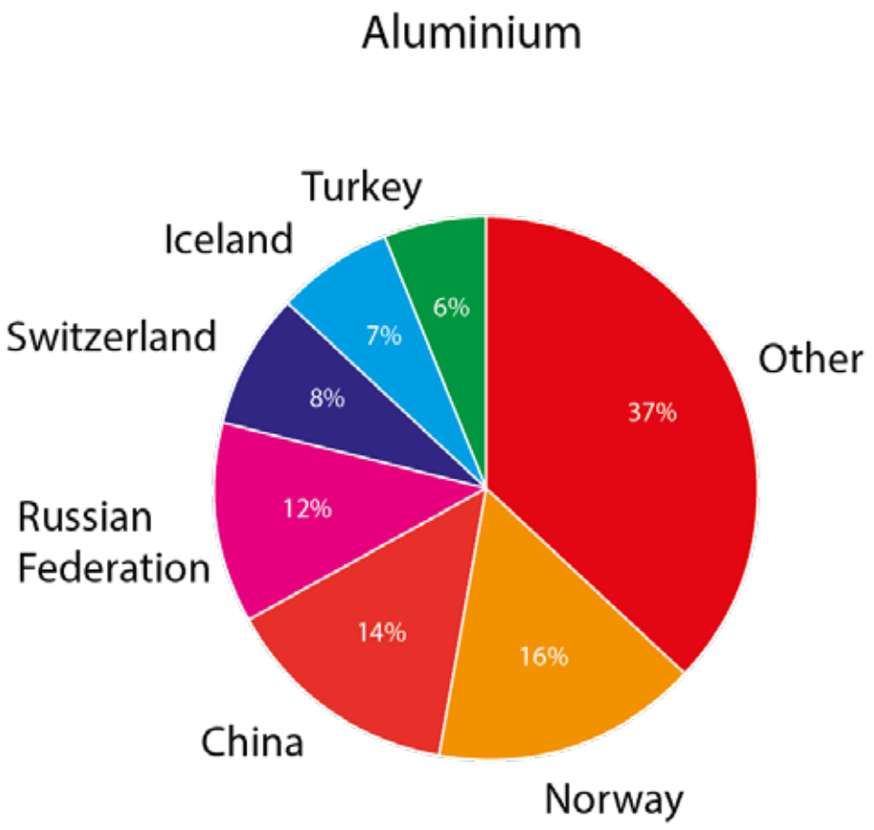


Figure 8. EU27 imports of carbon-intensive goods by country of origin (share of imports) continued



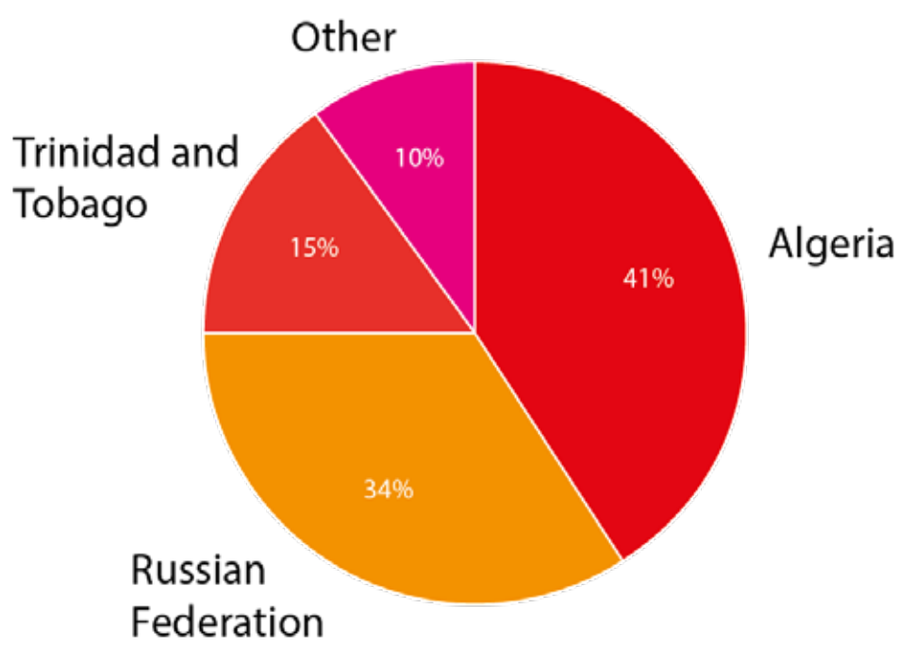
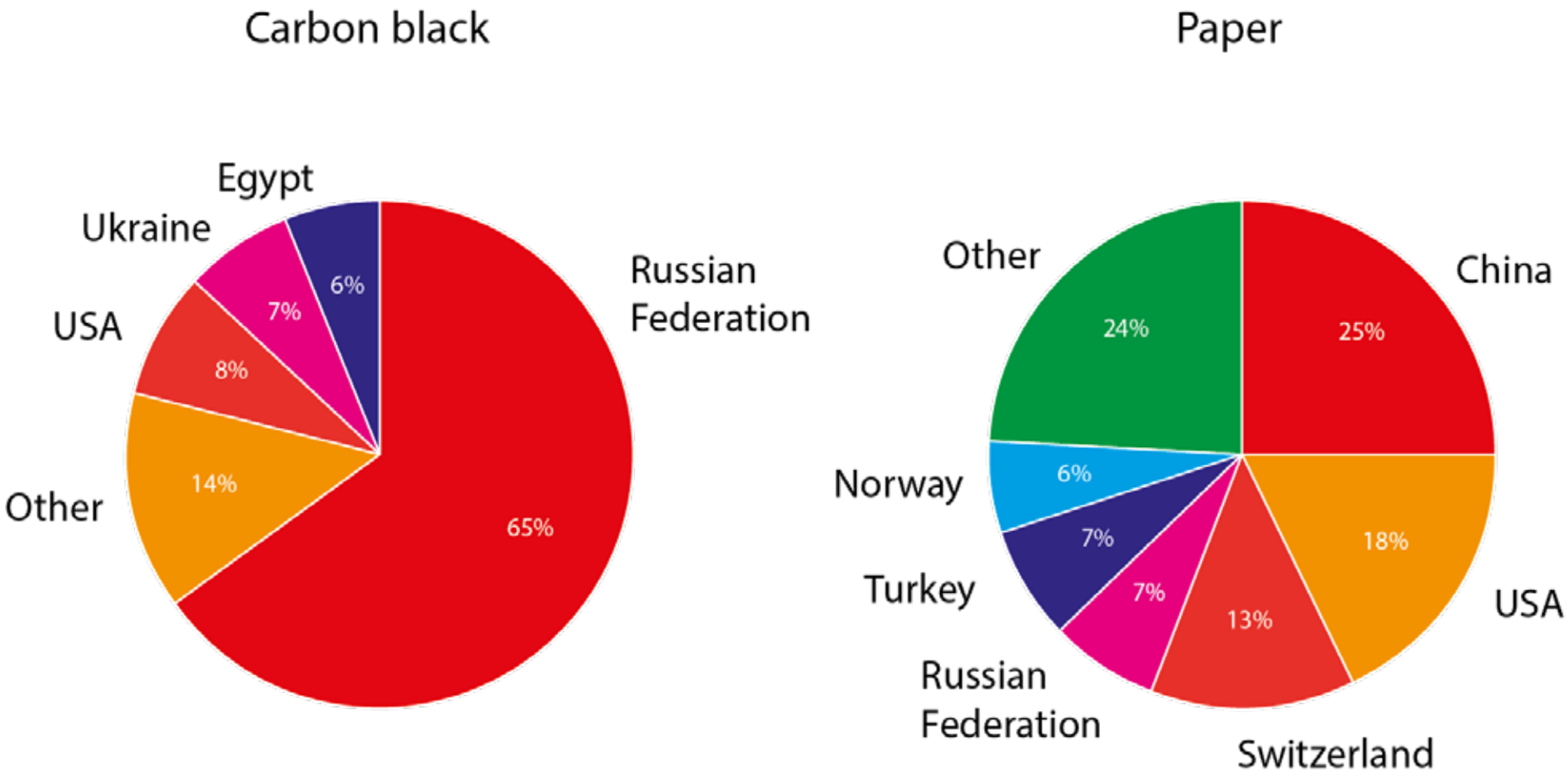


Figure 8. EU27 imports of carbon-intensive goods by country of origin (share of imports) continued



Note: trade data for 2018.
Source: Bruegel/ECFR based on UN Comtrade.

Reviewing the geopolitical context

The four channels through which the Green Deal will have a geopolitical impact will affect the EU's geopolitical partners differently, depending on how they relate to the EU.

Countries in the European neighbourhood, such as Russia and Algeria, will mostly feel the effect of changes to the European energy market and European approach to energy security.

Global players, including the United States, China and Saudi Arabia, will feel the impact more strongly through the Green Deal's effect on global energy markets and trade. This section analyses those five countries to assess how they might understand and respond to the initiative.

Neighbouring countries: Russia

Russia is the world's fourth largest emitter of greenhouse gases and it has long been resistant to the idea of environmental policies that would reduce fossil fuel use: *"The country's environmental doctrine – and even its ratification of the Paris Agreement – are more of an international PR strategy than anything else. Its domestic climate policy documents are vague declarations that often contradict other projects"* (Paramonova, 2020). Except for monitoring carbon output, all emissions regulations remain voluntary.

Russian President Vladimir Putin continues to deny that climate change is caused by human activity and insists that Russia has *"the greenest energy system in the world."*[11]

Meanwhile, Russia remains enormously dependent on hydrocarbons. Russia failed to meet Putin's goal of reducing the share of fossil fuels in the country's economy by 40 percent between 2007 and 2020 (it decreased by only 12

percent)[12]. Russia's coal development programme for 2035 was revised upward in 2019, setting a new target of a 10 percent to 20 percent growth in coal output.

There remains strong opposition in Russia to any regulatory effort to limit carbon emissions, particularly from the Russian Union of Industrialists and Entrepreneurs.

In context, the Green Deal could have a major impact on Russia. In 2016, oil and gas revenues contributed 36 percent of the country's government budget[13] and Europe absorbed 75 percent of Russian natural gas exports and 60 percent of its crude oil exports[14].

Introducing a carbon tariff would be a substantial practical and political challenge, facing technical and geopolitical difficulties

Over the next decade, the EU-Russia oil and gas trade will not be substantially impacted, as Europe would only marginally reduce its oil and gas imports by 2030 even in a 55 percent emissions reduction scenario, but the situation will radically change after 2030 when Europe is expected to substantially reduce its oil and gas imports.

The EU will possibly shift from suppliers such as Russia where extraction is emissions-intensive to suppliers such as Saudi Arabia where extraction has roughly half the carbon footprint it has in Russia[15].

Moreover, a carbon border adjustment mechanism (on EU imports other than oil and gas) would also reduce Russian goods exports as they tend to be very carbon intensive (Makarov and Sokolova, 2017). It is not clear how much Russia will seek to resist these efforts.

Ruslan Edelgeriev (Putin's climate adviser) told companies in February 2020 to prepare for the EU border tax, noting that *"the EU wants to push through these regulations not because they don't like our companies, but so that their own companies don't overstep emissions targets."*[16]

Russia's inefficient energy system implies many opportunities to reduce carbon intensity in its economy. There is ample scope for European cooperation with Russia on increasing the use of renewables, reducing methane leakage and boosting energy efficiency.

Russia's most likely geopolitical response will be to seek diversification of its energy customer base. An effort to pivot energy sales to China has been underway since at least the 2007-2009 financial crisis, accelerating after the 2014 Ukraine crisis soured Russia's political relationship with Europe.

In 2016, Russia displaced Saudi Arabia as China's largest crude oil supplier and, in 2018, Russia sent 1.4 million[17] barrels/day of crude oil to China, accounting for more than 25 percent of Russian oil exports.

Until recently, Russia only supplied China with very small amounts of natural gas, but the Power of Siberia gas pipeline opened in December 2019 and is expected to supply 38 billion cubic metres of gas/year to China by 2024, or about 15 percent of Russian 2018 natural gas export volumes.

Despite these advances, however, China has proved unwilling to support the Russian energy industry for geopolitical purposes. In an environment of falling energy prices, China has taken advantage of Russia's lack of options and has forced continually lower prices on Russia (*The Economist*, 2020).

The long-term risk for Russia is that if this effort to move towards the Chinese market is not paired with a green transformation that will allow continuation in serving the European market, Russia will grow increasingly dependent on China.

Neighbouring countries: Algeria

Algeria will be something of a test case for the foreign policy aspect of the Green Deal. As the third largest supplier of natural gas to Europe, most of the country's energy infrastructure is oriented toward the European market and the country is highly reliant on Europe for its hydrocarbon revenues. And this is relevant, as hydrocarbon revenues account for 95 percent of its exports by value and pay for 60 percent of its national budget (Africaoilandpower.com, 2020).

Algeria clearly needs to rethink its economy and be prepared for when – possibly well after 2030 – European demand for its natural gas supplies will progressively disappear. Diversifying the Algerian economy away from

hydrocarbons while developing a strong renewable energy sector would soften the blow of a green Europe. There are reasons to be optimistic that this will happen.

There have, for starters, been some signs of international cooperation. A 2017 agreement setting out Algeria's and the EU's common priorities emphasised the considerable potential of Algeria[18] in the renewable sector and included proposals to transfer green energy technology across the Mediterranean.

This was not the only attempt to engage with European partners. In 2015, the German-Algerian Energy Partnership was created, aiming to *"develop and implement a national energy policy for an environmentally sustainable energy supply."*[19]

Despite this, Algeria also presents formidable challenges. The country remains ruled by an insular gerontocracy, the so-called 'pouvoir', which prioritises the regime's precarious survival well above any economic consideration. With the price of hydrocarbons falling, the country urgently needs a more diversified economy and foreign investment to keep up with its growing population and infrastructure requirements.

But the powers behind the scenes also understand that it is the government's tight control over hydrocarbon resources that sustains the regime. The government remains extremely wary of foreign financial assistance. It refused to approach the IMF20 for loans in 2020 despite a financial crisis caused by the collapse in oil prices and the coronavirus lockdown, fearing for its financial sovereignty[21].

Adding to this problem, Algeria and other hydrocarbon exporters suffer from what economists call the Dutch disease: as their currency appreciates with the large amounts of exports of hydrocarbons, other economic sectors cannot develop and industrialisation is held back.

This is certainly not the only reason why agriculture, manufacturing and services have remained underdeveloped in Algeria, but oil exports have not helped.

When it comes to its energy transition, wind and solar energy capacity in Algeria only rose from 1.1 MW in 2014 to 354.3 MW by June 2018, about 1.6 percent of its 2030 target of 22,000 MW (Bouraiou, 2019). But so far, the country has few viable alternative markets for its energy or other potential exports.

It joined China's Belt and Road Initiative in 2018 but its potential to sell energy into the Chinese market is very limited. In any case, even the Algerian government recognises the benefit of developing a renewables sector and more diversified economy in the current global environment.

Rather than confrontation or resistance, the Algerian government will likely seek to channel Green Deal inspired reforms so that they do not affect, or even so they reinforce, the government's ability to maintain the rentier state.

In this sense, the Green Deal represents yet another variant of the enduring EU effort to use financial levers to achieve political and economic liberalisation in its neighbourhood. This effort has had mixed results at best and practically no success in Algeria.

But the Green Deal effort strikes right at the heart of the government's control over society – the rentier economy based on hydrocarbons that, as elsewhere in the world, facilitates centralised control, enables corruption among regime cronies, and fund subsidies that grants the regime some degree of popular acceptance.

Chances are therefore high that the current leadership will delay diversification and aim to continue maintaining strong control over rents.

In the long term, this could present the EU with a dilemma. If the Algerian government, fearing loss of control, fails to make a transition away from hydrocarbons, the Algerian economy could lapse into nearly terminal decline.

The possibility of such instability on Europe's periphery would create incentives for Europeans to relax conditionality and foster an energy transition in Algeria that sustains the current regime.

Global players: Saudi Arabia

Saudi Arabia is the world's biggest oil exporter. Oil and gas revenues amounted to 80 percent of Saudi Arabia's total exports in 2018 and accounted for 67 percent of its government revenues in 2017 (Tagliapietra, 2019).

More fundamentally, Saudi Arabia's long dependence on the rent from hydrocarbons has created an economy that relies on public sector employment (30 percent of the workforce) and expensive and economically inefficient subsidy schemes (costing $37 billion in 2017), particularly in the energy market (Tagliapietra, 2019).

Unlike in Algeria, however, the European Green Deal does not directly threaten this model. Saudi Arabia exports less than 10 percent of its oil to Europe. Its main markets, now and likely even more in the future, are in Asia to which it already exports over 70 percent[22] of its oil.

A European transition to renewables is not per se a major problem for Saudi Arabia. Indeed, the European Green Deal may even increase short-term demand for Saudi oil which has a lower carbon footprint than oil from Russia or the United States. Saudi Arabia could face 30 percent to 50 percent less in EU carbon tariffs than most competitors[23].

Overall, the Saudi approach so far has been to say little about the Green Deal, privately encourage the Europeans to develop new renewable technology, and focusing their energies on making fossil fuels cleaner. Saudi Arabia used,

for example, its 2020 chairmanship of the G20 to promote the idea of a circular carbon economy, an effort to make the use of oil and gas more climate friendly.

However, the broader transition away from fossil fuels, of which the Green Deal is a part, presents a serious long-term threat to the Saudi model of a rentier state. As demand and prices for hydrocarbons fall, Saudi Arabia's ability to afford its large public-sector wage bill and domestic energy subsidies will erode, perhaps even threatening Saudi domestic stability. Already Saudi foreign exchange reserves are in decline[24], in line with oil revenue declines since 2014.

The Saudi regime, led by the crown prince, Mohammed Bin Salman, appears very aware of this threat and has adopted a strategy to deal with it. Most publicly, it launched in 2016 the Vision 2030 programme, a broad-ranging development plan to diversify the economy away from hydrocarbons, develop private small- and medium-enterprises, and create a non-oil export sector.

The idea of global peak demand for oil being reached soon has inspired Saudi Arabia to increase its export capacity in order to produce as much oil as possible and seize market share before demand fades away[25]. Saudi Arabia's relatively low-cost production means that it can sustain low prices that might drives competitors such as Russia, Venezuela and Iran out of the market.

This low-cost strategy threatens the entire climate change effort embodied in the Paris Agreement, as it makes it more difficult for renewable energy resources to compete with hydrocarbons.

The outcome will depend on the evolution of green technology and the ability of the European Green Deal and other efforts to get global energy consumers to internalise the cost of carbon emissions.

In the context of a long-term fall in demand, increased market share, even at lower prices, offers Saudi Arabia the prospect of greater total revenues from its vast oil reserves. This logic inspired the Saudi oil price war with Russia in the middle of the COVID-19-caused price collapse in April 2020, which briefly drove US oil prices below zero[26] (indicating that the cost of storage was more than the oil was worth).

None of this is inherently at odds with the EU's ability to implement the Green Deal. The EU has every incentive to encourage Saudi Arabia's economic diversification effort, and some Saudi displacement of higher-carbon oil for other sources will ease Europe's transition.

Through its massive sovereign wealth fund, Saudi Arabia will be an eager investor and customer for renewable-energy technology that might come from European sources. However, Saudi Arabia's Vision 2030 plan has had little success thus far in diversifying the country's economy (Grand and Wolff, 2020). Four years in, the regime's erratic governance and the deep rentier state give foreign investors little confidence that it will have the capacity to make the often-painful choices inherent in an economic diversification strategy.

A Saudi failure to make this transition could, as the world slowly moves away from fossil fuels, threaten stability in the Persian Gulf. Europeans have an interest in assisting this transition, but Saudi Arabia's human rights record makes cooperating with its regime difficult. Saudi Arabia's substantial reserves and tight relationship with the United States mean that the EU lacks the leverage to force difficult changes.

An effective strategy to encourage both better governance and economic diversification in Saudi Arabia will thus clearly require close cooperation with the United States, which may be possible now with a new US administration that also has greater awareness of the demands of energy transition.

Global players: the United States

The US has at times rivalled the EU for global climate change leadership. The Trump administration, however, pulled back from global negotiations and broadly refused to accept any responsibility for combatting climate change.

Trump withdrew from the United Nations Paris Agreement, rolled back many Obama administration regulations that limited carbon emissions and called climate change a Chinese hoax devised to secure unfair trade advantage.

However, roughly two-thirds of Americans believe in climate change[27]. They think the federal government is not doing enough to reduce its impacts and see environmental protection as a top policy priority. Many of US states are pushing forward with regulations that are as tough or tougher as those in Europe[28]. Fires and floods across the United States in 2020 increased concerns about climate change.

Part of the reason for this disconnect is that climate change has become a highly partisan issue in the United States – perhaps the single starkest policy divide between the two parties. This means that the Democrats have become the party aiming to do something about climate change. US policy on this issue will thus change dramatically under a Biden presidency.

During the election campaign, Biden proposed[29] policies similar to the European Green Deal, including net-zero emissions by 2050, an electricity sector fully powered by renewables by 2035, carbon pricing and border adjustment mechanisms.

It remains unclear though if more similar US and European climate policies under Biden will necessarily be more harmonious. Even for the incoming Biden administration, the European Green Deal presents some geopolitical

challenges. For example, the European Green Deal implies stricter emissions standards[30] for US automobiles than the US will have in place.

As the US exports more than €5.5 billion (2018)[31] worth of passenger cars to Europe, this could have a large impact on a politically sensitive industry. Similarly, the Green Deal may include stricter agricultural policy based around sustainable practices, which could negatively affect the 13 percent of US agricultural exports that go to the EU (CRS, 2020).

It is, however, the carbon border adjustment mechanism (CBAM) proposal that generates the most concern in the United States. A carbon tariff could dramatically impact US exports of coal, natural gas and many manufactured products.

The US exported[32] over 1.5 million barrels of day of petroleum products to Europe in 2019, about 19 percent of its export market[33]. The Trump administration viewed the Green Deal threat to this important industry as an unacceptable infringement on US sovereignty and pure protectionism.

Wilbur Ross, the US Secretary of Commerce, promised retaliation, noting that *"depending on what form the carbon tax takes, we will react to it – but if it is in its essence protectionist, like the digital taxes, we will react."*[34]

A Biden administration will want to pursue its own version of a green deal and seek climate neutrality by 2050 as the US re-joins the Paris Agreement. But opposition in the US Congress means that, compared to the EU, the US effort will likely adopt less-ambitious targets and rely more on promised developments in technology than foreseen by the European Green Deal.

This means that, particularly up to 2030, when the EU may be more aggressive in its climate targets, measures such as the CBAM could introduce trade tensions with the United States. Managing those tensions could prove very complex, particularly under a future Republican administration.

For the next few years, however, the Biden administration will likely seek a cooperative approach to dealing those tensions. Meanwhile, the Democrats' desire to take a global lead in climate negotiations may, as Obama occasionally did[35], create conflict with the EU's similar aspiration.

As during the 2009 climate negotiations in Copenhagen, the US might decide that it can more easily reach agreement with China than with the EU, and that Europeans will simply accept whatever the US and China decide.

The increased tensions in the US-China relationship make this less likely, but Biden[36] sees scope for cooperation with China on climate change.

The Green Deal also contains more than a hint of a new environmental justification for industrial policy. A Council of the EU paper[37] on the Green Deal asserts that the EU needs *"climate and resources frontrunners to develop commercial applications of breakthrough technologies"* and advocates *"new forms of collaboration with industry and investments in strategic value chains"* in areas including battery technology and digital technologies.

Any US administration will likely see such government subsidies as a protectionist European effort to use state aid to capture the green technology industries of the future. Despite these challenges, a cooperative US response to the Green Deal is possible depending on the EU's willingness to compromise and negotiate a package deal with the US. The EU and the US will likely see that they face similar challenges in implementing their climate ambitions.

Global players: China

At a time when it has become increasingly difficult to define the positive, constructive elements in the Europe-China relationship, climate change has become the single most important topic for the cooperative agenda with Beijing.

Almost like a mantra, when European policymakers debate the market-distorting practices of Chinese state capitalism, forced technology transfers, intellectual property theft or large-scale human rights violations in Xinjiang or Hong Kong, the conversation ends on the relatively obvious declaration *"but we need China for global challenges, such as climate change"* (See for example Oertel *et al*. 2020).

And it is true. For the European Green Deal and the Paris Agreement to work, China must be part of the equation. China is the world's second largest economy and its largest emitter of CO_2, as well as a major production hub for European products. Responsibly greening the European economy thus necessarily also implies greening the supply chains of which China is an essential part.

Notwithstanding the green narrative of its leaders, China continues to operate 3,000 coal plants[38] – more than in the US, the EU, Japan, Russia and India combined – and has more than 2,000 in construction. Chinese emissions have not yet peaked (China is still a developing country, by climate standards) and in fact the US has massively curbed emissions despite the federal government's unwillingness to be held accountable by global agreements.

These stark facts and a new, more climate-friendly US administration starting in 2021, mean that the informal China-EU climate alliance may not last very long.

Nevertheless, China also has an interest in pursuing a more sustainable and efficient path to prosperity. The effects of climate change on Chinese agriculture, water and food security are considerable and will grow. Coupled with air and soil pollution China's environmental situation has the potential to unsettle the careful balance of acceptance of Communist Party rule.

Beijing's general willingness to serve as a constructive force in global climate negotiations and its support for the Paris Agreement were indispensable, but adherence to an agreement that does not force Beijing to reduce emissions at all is no longer enough given China's role in global emissions.

More ambitious European targets on climate change, biodiversity and sustainability are not intrinsically problematic from Beijing's perspective. China itself claims global environmental and climate leadership. Xi Jinping has further advanced the use of the environmental catchphrase of the 'ecological civilization', environmental sustainability with Chinese characteristics.

The Chinese government, in part to show the Europeans that is working on the broad climate agenda, said in September 2020 that it *"aim[s] to have CO_2 emissions peak before 2030 and achieve carbon neutrality before 2060."*

China undoubtedly has a national strategy to move the economy gradually towards greater sustainability. It will however do so at its own pace and always with the caveat of stability with a strong focus on retaining high levels of economic growth and curbing any rise in unemployment.

A more energy-independent Europe has no major repercussions for relations with Beijing: China does not export energy to Europe. A reduction in European energy needs could in fact reduce global energy prices, which would be

beneficial for China, still a net importer of energy (mainly oil and gas), and would allow China to reduce the costs if running its economy.

China, however, is a major supplier of minerals such as rare earths that are of essential importance for the European Green Deal, though China's ability to use this dependence for strategic leverage is limited. China's previous effort to use its market dominance against Japan in 2010 inspired other nations to create stockpiles[39].

In the longer-term, rare earths, oddly, are not extremely rare. China had dominated this market largely because of subsidies to producers that kept prices too low for potential competitors to enter the market. This was a costly policy that caused unpopular environmental damage in those parts of China that processed these minerals.

The Chinese government already seems intent on reversing it, which is encouraging the development of foreign competitors in the US and Malaysia[40].

The idea of a carbon border adjustment mechanism for carbon-intensive products entering the European Union poses a more fundamental challenge to Beijing. Especially at the lower end of the value chain where margins are not particularly high, Chinese manufactured products could lose their comparative price advantage (and thus their appeal), making it more attractive for European industry to source from other 'greener' partners.

This could exert significant pressure on Beijing to adapt its own policies and serve at least temporarily as leverage in getting China to commit to an overall more ambitious climate change and sustainability agenda. Otherwise, current trends towards the greater diversification of global supply chains away from China, which started because of the US-China trade war and were accelerated by the COVID-19 crisis, could be further exacerbated.

Adding this extra price tag for importers of Chinese goods could help level the playing field. European companies are already considering greater localisation of their value chains and production processes, which could entail production specifically for the Chinese market within China. This would effectively decouple Europe's China business from other parts of the global economy.

With the Green Deal, the EU will push for an ambitious global climate agenda within the UN Framework Convention on Climate Change framework. At the COP26 (Conference of the Parties) in Glasgow in 2021, China will be in the spotlight in terms of specifying how it will peak its carbon emissions before 2030 and then reduce emissions.

To achieve carbon neutrality by 2060, the measures will have to be significant and start immediately. China seems to be moving closer to the European approach in terms of its commitments, while trying to buy as much time as possible to invest in its own green transition and in green or clean technology. China already leads on electric vehicles and is a major force in solar and wind energy.

Clean tech is a growth market with huge potential for China-Europe cooperation, but also for crowding out of European industry and achieving Chinese tech dominance.

COVID-19 meant that China experienced negative growth in the first quarter of 2020 for the first time since the end of the Cultural Revolution in the late 1970s. Emissions are down and Beijing is clearly determined to use its economic stimulus packages to jump start the Chinese economy with a specific focus on boosting its digital economy and continuing its effort to lead on renewable energy technology.

But despite the green-tech push, the stimulus packages feature heavy investment in coal-fired power plants, in part for purposes of job creation.

Climate change is one of the areas in which China still adheres to the developing country logic. It retains significant negotiating power through strong alliances with Brazil and Saudi Arabia (both needed to make an international agenda work) and with the G77 more broadly, which includes the majority of states most gravely affected by the effects of global warming and rising sea levels.

Europe can make a sustainable development policy offer to these countries within the Green Deal framework and compete with China's Belt and Road Initiative, which has already generated degrees of cynicism and opposition in recipient countries.

Whether developing countries are receptive to the European offer will to a great extent depend on the conditions attached to loans and investments. But in the countries in Europe's vicinity, greater European conditionality on accession financing in line with the Green Deal could effectively hamper Chinese investments in coal power plants and environmentally harmful resource extraction.

A foreign policy action plan for the European Green Deal

How should the EU manage the geopolitical repercussions of the European Green Deal, and the possible reactions of countries including Algeria, China, Russia, Saudi Arabia and the US?

From a conceptual perspective, answering this requires looking beyond traditional geopolitics and security considerations, while considering soft power issues. That is, the EU can strengthen its position as a norm- and standard-setter for the global energy transition, promoting transparent cooperation on technical and regulatory matters in different fields. This should also be considered as part of a foreign policy action plan for the European Green Deal.

From a policy perspective, a clear strategy and a foreign policy action plan are needed. We suggest dual approach: i) actions to manage the direct geopolitical repercussions of the European Green Deal; ii) actions to foster EU global leadership in the field (Figure 9).

Action to manage the direct geopolitical repercussions of the European Green Deal

#1 Help neighbouring oil and gas-exporting countries manage the repercussions of the Green Deal

The EU has a strategic interest in contributing to the stability of its neighbourhood, for a number of reasons, from migration to trade. In this context, helping oil and gas-exporting countries in the neighbourhood to manage the repercussions of the European Green Deal will be a crucial item in the foreign policy agenda.

The EU should not adopt a one-size-fits-all approach here. It should rather adopt an approach that fits the specific context of each partner country and focuses on the most promising local competitive advantages. Europe's past experiences of promoting abstract regional energy cooperation projects should not be repeated.

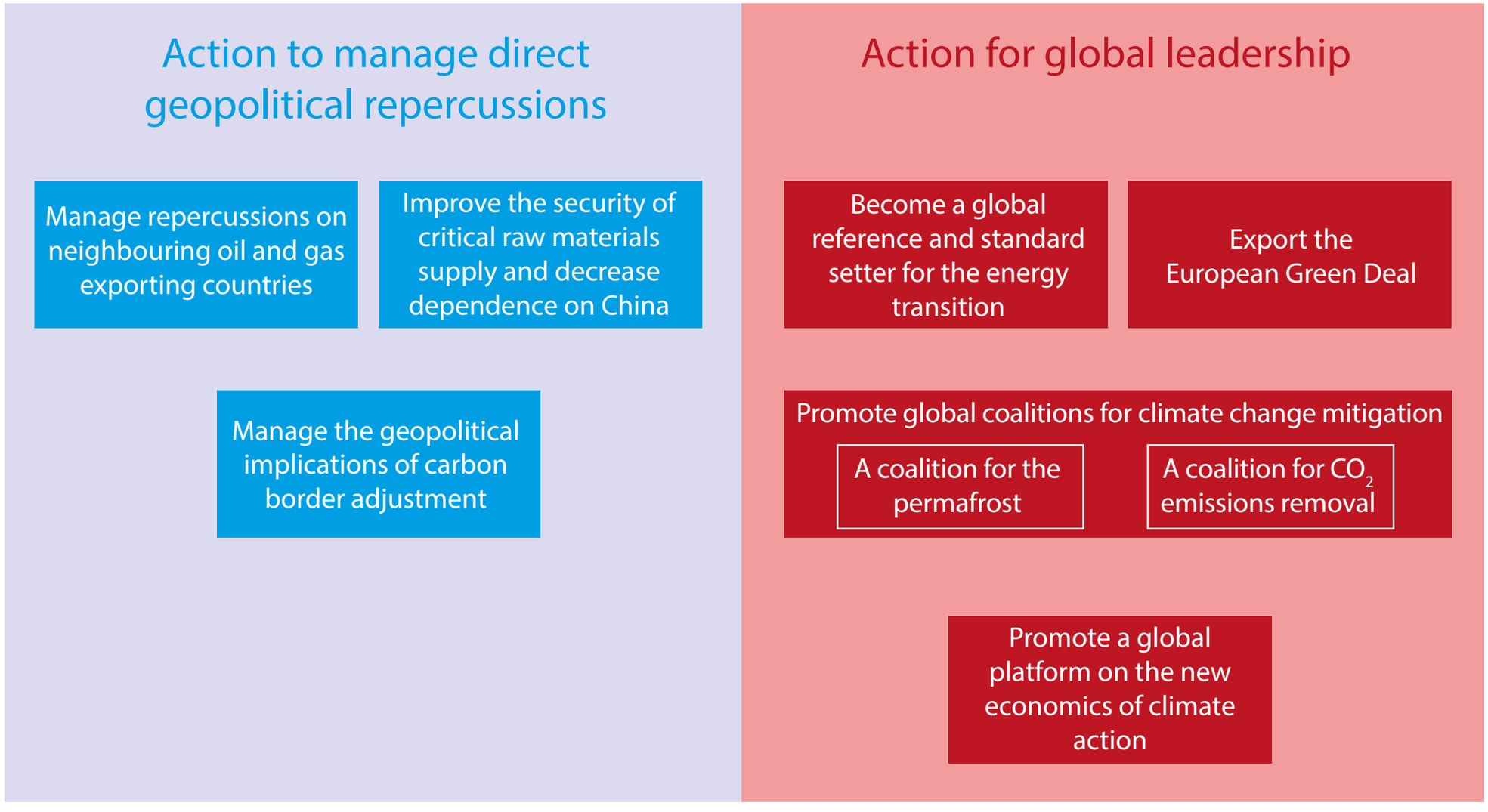
The EU and its oil and gas-exporting neighbours have time to properly plan this transition. Up to 2030, the EU will continue to import oil and gas from neighbours, and significant declines will only start after 2030.

The decade to 2030 should be used to prepare for what will come afterwards. Revenues from oil and gas exports should be increasingly utilised by oil and gas-exporting countries to diversify their economies, also including into renewable energy and green hydrogen that could in the future also be exported to Europe. The EU should support such initiatives, including through a stronger and more coherent approach to climate finance (see #5).

#2 Improve the security of critical raw materials supply and decrease dependence on China

Securing access to the critical raw materials that underpin green technologies is essential to safeguard the

Figure 9. A foreign policy action plan for the European Green Deal



Source: Bruegel/ECFR.

implementation of the European Green Deal and to ensure reliable industrial development in Europe. This will ensure 'Europe's strategic autonomy' (European Commission, 2020).

This can be done through supply diversification, increased recycling volumes and substitution of critical materials. Where possible, increasing the domestic supply of critical raw materials could alleviate Europe's reliance on imports.

Likewise, diversifying the import portfolio represents a sensible strategy to avoid risks of over-dependency on a single supplier. Trade agreements or contracts with different supplier countries could help reduce the threat of supply shortages.

Alongside diversification, Europe should pursue recycling and substitution strategies. While several critical raw materials have a high technical recycling potential, their recycling rate remains generally low. Increasing the cost competitiveness and efficiency of sorting and recycling technologies is thus a priority.

In this field, the EU can provide support for research and innovation (through Horizon Europe) and for technology demonstration (for example, via the Innovation Fund).

#3 Work with the United States to establish a common carbon border adjustment mechanism

As noted in previously, even if the introduction of a carbon border adjustment mechanism is done in a way that prevents formal objections at the WTO, trade partners might still perceive it a protectionist measure and threaten or adopt retaliatory measures.

The challenge for the EU will be to design a carbon border tax *"in such a way that it minimises the potential costs to the international system, while maximising the chances that it reduces global carbon emissions"* (Horn and Sapir, 2020).

President Biden's climate plan pledges similar carbon border adjustment measures, opening an avenue for the formation of a joint EU-US approach. The EU should take the initiative and propose to the US president the creation of a climate club whose members would apply similar common carbon border adjustment measures.

The club would function as an open partnership, and membership would be subject to criteria on the level and implementation of emissions reductions. All countries, including China, would be welcome to join if they commit to abide by the club's objectives and rules.

To succeed, a climate club should be initiated by a group of countries that are (a) committed to emission reduction targets compatible with the goals of the Paris Agreement, and (b) significant enough economically to create a strong incentive for third countries to join. This is why a joint EU-US initiative, possibly in partnership with developing countries, would be a major boost to climate action.

Together, the two economies still account for over 40 percent of global GDP and nearly 30 percent of global imports[41]. The size of the transatlantic economy means that, if the carbon border adjustment is constructed to comply with WTO rules, trade retaliation from third countries would not be possible.

In this way, a climate club would put the enormous transatlantic economy at the core of global efforts to reduce greenhouse gas emissions, effectively complementing the UNFCCC process.

During the Trump presidency, cooperation between the EU and China was instrumental in avoiding the collapse of the Paris Agreement. If only for this reason, the EU should in parallel intensify its dialogue with China on climate action with the aim of letting China join the climate club as soon as possible.

Action to foster EU global leadership in the field

#4 Become the energy transition's global standard setter

The EU can become the global standard-setter for the energy transition. One of the EU's biggest strengths is its internal market of 450 million people. Requiring compliance with strict environmental regulations as a condition to access the EU market is a strong incentive for exporting countries to green their production processes.

Furthermore, the EU can become a standard setter for the nascent hydrogen market. By quickly developing a benchmark for euro-denominated hydrogen trades, the EU could create the basis for an international hydrogen market based on EU standards. Moreover, it could try to consolidate the role of the euro the sustainable energy trade.

Finally, the EU can become a standard setter for green bonds. The global green, social and sustainability-related bond market reached €270 billion in 2019. The segment currently remains a niche, representing about 5 percent of the total bond market.

However, it is rapidly expanding. Between 2018 and 2019, it expanded by 50 percent, and it is expected to have reached €338 billion in 2020. The EU is not only the biggest player in the market with 45 percent of global issuance in 2019, but is also the market experiencing the strongest increase, with a 74 percent jump between 2018 and 2019.

In a survey, 67 percent of respondents indicated a lack of adequate supply of green bonds (TEG, 2019). Moreover, respondents specified that regulation is the most effective way to scale-up the green bond market, with the development of a clear taxonomy being a priority.

Considering, the current relatively small size of the green bond market, its expected rapid growth, the EU's substantial share and investors' needs for standardisation, the EU could well become a global standard-setter.

#5 Internationalise the European Green Deal

The EU produces less than 10 percent of global greenhouse-gas emissions. This implies that to have an impact on global warming, the EU needs to push the green transition beyond its borders. It has two main instruments for this: i) the EU budget and Next Generation EU, and ii) EU development policy.

The EU budget and Next Generation EU

The EU adopted in 2020 its budget – in jargon, the Multiannual Financial Framework (MFF) – for the period 2021-2027, the overall size of which is €1,074.3 billion.

On top of this, the EU established in 2020 its post-COVID-19 recovery fund – named Next Generation EU (NGEU) – for 2021-2023, with an additional €750 billion of resources. The whole package thus amounts to around €1.8 trillion. The EU has pledged to devote 30 percent of MFF spending and 37 per- cent of NGEU spending to climate action[42].

This means that between 2021 and 2027 around €600 billion of 'fresh' EU resources will be made available for the green transition. There are of course many demands on this money, but the EU could agree to devote 10 percent of the resources earmarked for climate action – €60 billion – to internationalise the European Green Deal to neighbouring countries and beyond.

Such an approach, entailing the provision of grants, loans and guarantees for sustainable energy projects in partner countries, would help meet global climate objectives more efficiently, as countries in the EU neighbourhood and in the developing world have lower marginal emissions abatement costs than European countries.

Second, it would help EU industry enter new, rapidly growing, markets – turning into a formidable EU green industrial policy tool. Third, it would help economic development and diversification in the EU's partner countries (and most notably in oil and gas-producing countries), providing an invaluable foreign policy dividend for the EU.

EU development policy

The EU and its members are the world's leading Official Development Assistance donors, with €75.2 billion[43] disbursed in 2019, or 55 percent of global assistance. In the 2021-2027 budget, the EU has a new tool designed to bring together EU funds for external policies: the Neighbourhood, Development and International Cooperation Instrument (NDICI). The introduction of NDICI – the budget of which is set at €79.5 billion for 2021-2027 – will help increase the EU's visibility and leverage in developing countries.

One problem related to EU development policy has been the fragmentation of its instruments, which leads to overlaps, gaps and inefficiencies. A further step towards the consolidation of Europe's development policy would be to create a single entity, such as a European Climate and Sustainable Development Bank (Council of the European Union, 2019).

NDICI and a new climate bank could become the primary tools for exporting the European Green Deal to the developing world, starting with Africa.

#6 Promote global coalitions for climate change mitigation: a coalition for the permafrost

Around a quarter of the Northern hemisphere is covered in permanently frozen ground (permafrost). As a result of rising global temperature, the Arctic permafrost is not thawing gradually, as scientists once predicted, but at an unprecedented speed. This is a major problem for climate change, because the permafrost is a massive reservoir of greenhouse gases.

As these soils thaw they release ancient organic materials – and masses of greenhouse gases – that have been frozen underground for millennia. The potential magnitude of the problem is shown by the up to 1,600 gigatonnes of carbon dioxide held in permafrost globally: nearly twice what is currently in the atmosphere.

Scientists have pointed to the urgent need to avoid a tipping point that would see global warming release the gases from the permafrost, making global warming much worse.

The EU should initiate and lead a global coalition for the permafrost, aimed at funding research to better assess the current status of the problem and at funding measures to urgently contain the permafrost thaw, such as restoring grassland by reducing forests and increasing grazing by large animal herds (Macias-Fauria *et al.* 2020).

This is a global common good, and as such it requires international cooperation.

#7 Promote global coalitions for climate change mitigation: a coalition for CO_2 emissions removal

Another global common good requiring international cooperation is carbon sequestration. Removing CO_2 from the atmosphere will be necessary to reach climate neutrality by the middle of the century and subsequently to achieve net negative emissions.

CO_2 can be removed from the atmosphere through both nature-based and technological solutions. Nature-based solutions include afforestation and reforestation. Technology-based solutions include carbon capture and storage and geoengineering solutions such as direct air capture.

The EU should establish a global coalition for CO_2 emissions removal aimed at promoting international cooperation in the field. The coalition should include countries, companies and international organisations willing to invest

jointly in afforestation and reforestation activities across the world, and to invest jointly in research, innovation and demonstration projects for technology-based solutions.

The preservation of rainforests as major sinks of CO_2 is essential. With carbon pricing currently far from delivering the necessary investment signals, there is an absence of incentives to pursue both solutions. This makes international cooperation of paramount importance.

The EU should use trade, development and financial policy to pursue this agenda.

#8 Promote a global platform on the new economics of climate action

The EU should become a global reference on the socio-economic implications of decarbonisation. Being at the forefront of global decarbonisation efforts, the EU is among the first to deal with its socio-economic impacts.

The aim of the European Green Deal is to intelligently promote decarbonisation by tackling the distributional effects of the economic and industrial transformation it necessarily implies, and by ensuring the social inclusiveness of the overall process.

Issues such as just transition and addressing the distributional effects of climate policies are key for the successful unfolding of the decarbonisation process. Likewise, green industrial policy and green investments are key to seize the industrial opportunities of decarbonisation, promoting jobs and economic growth.

The EU could establish multilateral forums to share with international partners lessons learned and good practices. This could replicate the approach of EU carbon market cooperation with international partners, which has, for instance, provided a significant contribution to the launch of China's nationwide emissions trading system.

Together, these actions would provide foreign policy support for the European Green Deal. They respond to the geopolitical challenges that other countries are likely to face from the Green Deal and from increasing global warming more generally, and offer ways to leverage European efforts and expand the decarbonisation push beyond the EU – which will be a necessary to the Green Deal's success. ■

ABOUT THE AUTHORS

Mark Leonard is Director of the European Council on Foreign Relations, Jean Pisani-Ferry is a Senior Fellow at Bruegel and the Peterson Institute, Jeremy Shapiro is Research Director of the ECFR, Simone Tagliapietra is a Research Fellow at Bruegel, and Guntram Wolff is Director of Bruegel

Endnotes

1. See https://ec.europa.eu/eurostat/statistics-explained/pdfscache/46126.pdf
2. From the Sahara to the Arabian Peninsula.
3. From Morocco's Atlantic coast to Egypt's Red Sea coast.
4. This was, for instance, the case of the failed Desertec project and of similar initiatives, such as the Mediterranean Solar Plan.
5. For example, some industrial processes such as steel and cement, and certain transport segments such as trucks, shipping and aviation.
6. See http://www.bmz.de/en/issues/wasserstoff/index.html
7. Other countries, such as the United States, Japan and Australia, have produced similar lists.
8. See Borghesi et al (2019). For France, for example, consumption of carbon dioxide is 60 percent greater than production; see https://www.hautconseilclimat.fr/publications/maitriser-lempreinte-carbone-de-la-france/

9. California's emissions trading system, which applies a border carbon adjustment to electricity imports from neighbouring states, is the only context in which border adjustment has been tried.
10. Horn and Sapir (2019) showed that under certain conditions carbon border adjustment mechanisms can be implemented without endangering the multilateral trading system.
11. See https://www.themoscowtimes.com/2019/12/19/putins-end-of-year-press-conference-in-quotes-a68686
12. See https://www.themoscowtimes.com/2020/02/10/putins-top-climate-adviser-calls-for-urgent-climate-action-a69207
13. See http://stats.oecd.org/wbos/fileview2.aspx?IDFile=09aac246-c7ef-4159-898e-2a287deb3341%20%20
14. See https://www.eia.gov/international/analysis/country/RUS
15. See https://www.bcg.com/en-gb/publications/2020/how-an-eu-carbon-border-tax-could-jolt-world-trade
16. See https://www.euractiv.com/section/climate-environment/news/eus-anti-climate-dumping-tool-worries-russia/1428225/
17. See https://www.cna.org/news/InDepth/article?ID=25
18. See https://www.consilium.europa.eu/media/24089/st03101-ad01fr17.pdf
19. See https://www.energypartnership-algeria.org/home/
20. See https://www.barrons.com/news/algeria-rules-out-imf-borrowing-to-ease-financial-woes-01588419903
21. See https://thearabweekly.com/algeria-borrow-abroad-first-time-15-years
22. See https://www.washingtonpost.com/world/2019/09/16/who-buys-saudi-arabias-oil/?arc404=true
23. See https://www.bcg.com/en-gb/publications/2020/how-an-eu-carbon-border-tax-could-jolt-world-trade
24. See https://www.ft.com/content/6825366f-92db-4473-b5b2-cacda032d8ee
25. This strategy is referred to as Green Paradox by economists. This is one reason why carbon prices should increase sharply early on, as otherwise oil extraction will be as much as possible anticipated to prevent stranded oil assets.
26. See https://www.ft.com/content/a5292644-958d-4065-92e8-ace55d766654
27. See https://www.pewresearch.org/fact-tank/2020/04/21/how-americans-see-climate-change-and-the-environment-

in-7-charts/

28. See for example https://www.gov.ca.gov/2020/09/23/governor-newsom-announces-california-will-phase-out-gasoline-powered-cars-drastically-reduce-demand-for-fossil-fuel-in-californias-fight-against-climate-change/

29. See https://joebiden.com/climate-plan/

30. See https://thehill.com/opinion/energy-environment/511367-biden-has-an-ambitious-climate-plan-but-it-needs-to-do-much-more

31. See https://www.acea.be/uploads/publications/EU-US_automobile_trade-facts_figures.pdf

32. See https://www.eia.gov/energyexplained/oil-and-petroleum-products/imports-and-exports.php

33. See https://www.eia.gov/dnav/pet/pet_move_expc_a_EP00_EEX_mbblpd_a.htm

34. See https://www.ft.com/content/f7ee830c-3ee6-11ea-a01a-bae547046735

35. See http://news.bbc.co.uk/2/hi/europe/8421935.stm

36. See https://joebiden.com/climate-plan/

37. See https://data.consilium.europa.eu/doc/document/ST-5430-2020-INIT/en/pdf

38. See https://www.ft.com/content/9656e36c-ba59-43e9-bf1c-c0f105813436

39. See https://www.scmp.com/comment/opinion/article/3012994/chinas-ban-rare-earths-didnt-work-japan-and-wont-work-trade-war-us

40. See https://www.ft.com/content/b13a3c4e-e80b-4a5c-aa6f-0c6cc87df638

41. See https://ec.europa.eu/eurostat/statistics-explained/index.php/International_trade_in_goods

42. See https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1657

43. See https://ec.europa.eu/commission/presscorner/detail/en/IP_20_674

References

Africaoilandpower.com (2020) Algeria: Invest in the energy sector of Algeria, Special Report, Africa Energy Series, available at https://www.africaoilandpower.com/wp-content/uploads/2020/02/AES_SR_ALGERIA_2-1.pdf

Borghesi, S, D Caro and P Fezzigna (2019) 'Revising Emission Responsibilities through Consumption- Based Accounting: A European and Post-Brexit Perspective', Sustainability 11(2)

Bouraiou, A, A Necaibia, N Boutasseta, S Mekhilef, R Dabou, A Ziane ... O Touaba (2019) 'Status of Renewable Energy Potential and Utilization in Algeria', Journal of Cleaner Production 246

BP (2020) Statistical Review of World Energy, available at https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html

Claeys, G, S Tagliapietra and G Zachmann (2019) 'How to make the European Green Deal work', Policy Contribution 2019/13, Bruegel, available at https://www.bruegel.org/2019/11/how-to-make-the-european-green-deal-work/

Council of the European Union (2019) Europe in the world: The future of the European financial architecture for development, available at https://data.consilium.europa.eu/doc/document/ST-14434-2019-INIT/en/pdf

CRS (2020) U.S.-EU Trade Agreement Negotiations: Trade in Food and Agricultural Products, CRS Report, Congressional Research Service, available at https://fas.org/sgp/crs/row/R46241.pdf

European Commission (2017) Study on the review of the list of Critical Raw Materials, available at https://op.europa.eu/en/publication-detail/-/publication/08fdab5f-9766-11e7-b92d-01aa75ed71a1

European Commission (2020) 'Stepping up Europe's 2030 climate ambition: investing in a climate- neutral future for the benefit of our people', SWD/2020/176, available at https://eur-lex.europa.eu/resource.html?uri=cellar:749e04bb-f8c5-11ea-991b-01aa75ed71a1.0001.02/DOC_1&format=PDF

European Commission (2020a) 'A hydrogen strategy for a climate-neutral Europe', COM(2020) 301

Eurostat (2019) 'Energy, transport and environment statistics', available at https://ec.europa.eu/eurostat/documents/3217494/10165279/KS-DK-19-001-EN-N.pdf/76651a29-b817-eed4-f9f2-92bf692e1ed9

Eurostat (2020) 'Energy production and imports', available at https://ec.europa.eu/eurostat/statistics-explained/index.

php/Energy_production_and_imports
Grand, S and K Wolff (2020) 'Assessing Saudi Vision 2030: A 2020 review', In-Depth Research & Reports, Atlantic Council, available at https://www.atlanticcouncil.org/in-depth-research-reports/report/assessing-saudi-vision-2030-a-2020-review/
Horn, H and A Sapir (2019) 'Border Carbon Tariffs: Giving Up on Trade to Save the Climate?', Bruegel Blog, 29 August, available at https://www.bruegel.org/2019/08/border-carbon-tariffs-giving-up-on-trade-to-save-the-climate/
Horn, H and A Sapir (2020) 'Political Assessment of Possible Reactions of EU Main Trading Partners to EU Border Carbon Measures', European Parliament Briefing PE 603.503, available at https://www.bruegel.org/wp-content/uploads/2020/06/EXPO_BRI2020603503_EN.pdf
IEA (2020) European Union 2020, available at https://www.iea.org/reports/european-union-2020
IRENA (2019) Global energy transformation: A roadmap to 2050 (2019 edition), available at https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Apr/IRENA_Global_Energy_Transformation_2019.pdf%20
JRC (2020) Study on the EU's list of Critical Raw Materials, available at https://rmis.jrc.ec.europa.eu/uploads/CRM_2020_Factsheets_critical_Final.pdf
Macias-Fauria, M, P Jepson, N Zimov and Y Malhi (2020) 'Pleistocene Arctic megafaunal ecological engineering as a natural climate solution?' Philosophical Transactions of the Royal Society B375: 20190122, available at http://doi.org/10.1098/rstb.2019.0122
Makarov, I and A Sokolova (2017) 'Carbon emissions in Russia's Trade: Implications for Climate policy', Review of European and Russian Affairs 11(2): 1-20
Oertel, J, J Tollmann and B Tsang (2020) 'Climate superpowers: How the EU and China can compete and cooperate for a green future', Policy Brief, 3 December, ECFR, available at https://ecfr.eu/publication/climate-superpowers-how-the-eu-and-china-can-compete-and-cooperate-for-a-green-future/
Paramonova, N (2020) 'Will EU Green Deal Force Russia to Clean Up Its Act?' EU-Russia Dialogue, available at http://eu-russia-expertnetwork.eu/en/analytics/eu-green-deal-paramonova

Tagliapietra, S (2019) 'The impact of the global energy transition on MENA oil and gas producers', Energy Strategy Review 26
TEG (2019) Report on EU Green Bond Standard, EU Technical Expert Group on Sustainable Finance, available at https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf
The Economist (2020) 'America's domination of oil and gas will not cow China', Briefing, 17 September
UNEP (2019) Emissions Gap Report 2019, United Nations Environment Programme, available at https://wedocs.unep.org/bitstream/handle/20.500.11822/30797/EGR2019.pdf
Wolff, G (2019) 'Why border carbon adjustment is important for Europe's green deal', Bruegel Blog, 27 November, available at https://www.bruegel.org/2019/11/a-value-added-tax-could-reduce-carbon-leakage/

This article is based on the Policy Contribution Issue n°04/21 | February 2021

Climate change and central banking

The ECB will contribute within its mandate to tackling climate change, acting in tandem with those responsible for climate policy, says Christine Lagarde

In the famous fable *Belling the Cat*[1] a group of mice gather to discuss how to deal with a cat that is eating them one by one. They hatch a plan to put a bell on the cat so they can hear it coming and escape before being caught. When it comes to who will actually do it, however, each mouse finds a reason why they are not the right mouse for the job, and why another mouse should do it instead. The cat never does receive a bell – and the story ends poorly for the mice.

In many ways, that fable describes mankind's reaction to the threats posed by climate change. Already in 1986, the front cover of *Der Spiegel* showed Cologne cathedral half-submerged by water and the headline declared a 'Climate Catastrophe'[2].

This is just one example, among many, that demonstrates that people were aware of the risks posed by climate change a generation ago. Yet, while many people agreed on the seriousness of the issue, and that something had to be done, concrete action has been much less prevalent.

It is with this history in mind that I want to talk about the role of central banks in addressing climate change. Clearly, central banks are not the main actors when it comes to preventing global heating.

Central banks are not responsible for climate policy and the most important tools that are needed lie outside of our mandate. But the fact that we are not in the driving seat does not mean that we can simply ignore climate change, or that we do not play a role in combating it.

Just as with the mice in the fable, inaction has negative consequences, and the implications of not tackling climate change are already visible. Globally, the past six years are the warmest six on record, and 2020 was the warmest in Europe[3].

The number of disasters caused by natural hazards is also rising, resulting in $210 billion of damages in 2020[4]. An analysis of over 300 peer-reviewed studies of disasters found that almost 70% of the events analysed were made more likely, or more severe, by human-caused climate change[5].

That said, there are now signs that policy action to fight climate change is accelerating, especially in Europe. We are seeing a new political willingness among regulators and fiscal authorities to speed up the transition to a carbon neutral economy, on the back of substantial technological advances in the private sector.

This increased action is often considered as a source of transition risk, which we need to take into account and reflect in our policy framework. This is not 'mission creep', it is simply acknowledging reality.

Climate change is one of the greatest challenges faced by mankind this century, and there is now broad agreement that we should act. But that agreement needs to be translated more urgently into concrete measures

Yet the transition to carbon neutral is not so much a risk as an opportunity for the world to avoid the far more disruptive outcome that would eventually result from governmental and societal inaction.

Scenarios show that the economic and financial risks of an orderly transition can be contained. Even a disorderly scenario, where the economic and financial impacts are potentially substantial, represents a much better overall outcome in the long run than the disastrous impact of the transition not occurring at all[6].

It now seems likely that faster progress will be made along three interlocking dimensions. Each of them lies outside the remit of central banks, but will have important implications for central bank balance sheets and policy objectives.

Including, informing and innovating

The first dimension along which we expect rapid progress is including the true social and environmental cost of carbon into the prices paid by all sectors of the economy.

Appropriate pricing can come via direct carbon taxes or through comprehensive cap and trade schemes. Both are used to some extent in the EU. It is likely, though, that the next steps in Europe will come mainly via the EU's Emissions Trading System (ETS), a cap and trade scheme.

The ETS is an essential infrastructure, although it has not always been successful in the past at delivering a predictable price of carbon. Moreover, it currently covers only around half of EU greenhouse gas emissions and a significant amount of allowances continue to be given for free.

The effective price of carbon is expected to rise if the EU's targets for reducing emissions are to be reached. Modelling by the OECD and the European Commission[7] suggests that an effective carbon price between €40-60[8] is currently needed, depending on how stringent other regulations are.

The introduction of the ETS Market Stability Reserve and the review of the ETS scheduled for this year should provide the opportunity to deliver a clear path towards adequate carbon pricing.

The second dimension where we expect to see progress is greater information on the exposure of individual companies. At present, information on the sustainability of financial products – when available – is inconsistent, largely incomparable and at times unreliable.

That means that climate risks are not adequately priced[9], and there is a substantial risk of sharp future corrections. Yet for an open market economy to allocate resources efficiently, the pricing mechanism needs to work correctly.

This requires a step change in the disclosure of climate-related data using standardised and commonly agreed definitions. While TCFD-based[10] disclosures have underpinned public/private efforts to better inform, disclosure needs to be at a far more granular level of detail than is currently available.

In Europe. climate disclosures are governed by the Non-Financial Reporting Directive (NFRD), which is currently under review[11]. The Eurosystem has advocated for mandatory disclosures of climate-related risks from a far greater number of companies, including non-listed entities.

Moreover, disclosures should be complemented by forward-looking measures that assess the extent to which both financial and non-financial firms are aligned with climate goals and net zero commitments.

The European Taxonomy Regulation[12] that entered into force last year is also an important milestone along this path. But it still needs to be fleshed out with concrete technical criteria and complemented by an equivalent taxonomy for carbon-intensive activities. A further essential step is the consistent and transparent inclusion of climate risks in credit ratings. Here, again, we have high hopes that progress will now speed up.

While adequate carbon prices and greater information on exposures will help provide incentives to decarbonise, that economic transformation cannot take place without the third dimension: substantial green innovation and investment.

Both, however, require a complex ecosystem of which finance is a key element[13], so we expect to see increasing availability of green finance. Green bond issuance by euro area residents has grown sevenfold since 2015, reaching €75 billion in 2020 – this represents roughly 4% of the total corporate bond issuance[14].

We need to see funding for green innovation increasing from other market segments as well, especially as recent analyses point to the beneficial role of equity investors in supporting the green transition[15]. Assets under management by investment funds with environmental, social and governance mandates have roughly tripled since 2015, and a little more than half of these funds are domiciled in the euro area.

Completing the capital markets union should provide a further push to support equity-based green finance by fostering deep and liquid capital markets across Europe.

Simultaneous progress along each of these three dimensions increases the likelihood of substantial economic change in the near term. That is so because movement along each dimension reinforces progress along the others and magnifies the effectiveness of climate policy.

For example, the economic impact of higher carbon prices depends on the availability of alternative green technologies. In the past, a sudden and substantial increase in carbon taxes could have resulted in an economic downturn, substantial stranded assets and threats to financial stability. Today, however, solar power is not only consistently cheaper than new coal or gas-fired plants in most countries, but it also offers some of the lowest cost electricity ever seen[16].

Green finance and innovation are also developing rapidly. Introducing well-signalled carbon pricing therefore becomes more feasible and could further sharpen incentives both to develop new technologies and to carry out the substantial investment required for the widespread adoption of the green technologies that already exist.

Climate change and central banks

Today, then, central banks face two trends – more visible impacts of climate change and an acceleration of policy transition. Both trends have macroeconomic and financial implications and have consequences for our primary objective of price stability[17], for our other areas of competence including financial stability and banking supervision, as well as for the Eurosystem's own balance sheet. Central banks are both aware of those consequences, and determined to mitigate them. Much has already been accomplished and more is under way.

The founding of the Network for Greening the Financial System (NGFS), with membership including all major central banks, is testament to that collective engagement with climate change.

At the ECB, we are now launching a new climate change centre to bring together more efficiently the different expertise and strands of work on climate across the Bank. Climate change affects all of our policy areas. The climate change centre provides the structure we need to tackle the issue with the urgency and determination that it deserves.

In the area of financial stability and banking supervision, the ECB has taken concrete steps towards expanding the financial system's understanding of climate risks and its ability to manage them. We have issued a guide on our supervisory expectations relating to the management and disclosure of climate-related and environmental risks[18].

A recent survey of the climate-related disclosures of 125 banks suggests there is still a way to go. It evaluated climate disclosures across several basic information categories. Only 3% of banks made disclosures in every category, and 16% made no disclosure in any category[19]. ECB Banking Supervision has requested that banks conduct a climate risk self-assessment and draw up action plans, which we will begin assessing this year. We will conduct a bank-level climate stress test in 2022.

The ECB is also currently carrying out a climate risk stress test exercise to assess the impact on the European banking sector over a 30-year horizon. Preliminary results from mapping climate patterns to the address-level location of firms' physical assets show that in the absence of a transition, physical risks in Europe are concentrated unevenly across countries and sectors of the economy.

But there is more: climate change also impacts our primary mandate of price stability through several channels. This is why climate change considerations form an integral part of our ongoing review of our monetary policy strategy. Climate change can create short-term volatility in output and inflation through extreme weather events[20], and if left unaddressed can have long-lasting effects on growth and inflation.

Transition policies and innovation can also have a significant impact on growth and inflation. These factors could potentially cause a durable divergence between headline and core measures of inflation and influence the inflation expectations of households and businesses.

The transmission of monetary policy through to the interest rates faced by households and businesses could also be impaired, to the extent that increased physical risks or the transition generate stranded assets and losses by financial institutions. According to a recent estimate by the European Systemic Risk Board, a disorderly transition could reduce lending to the private sector by 5% in real terms[21].

And climate change can also have implications for our monetary policy instruments. First, the Eurosystem's balance sheet itself is exposed to climate risks, through the securities purchased in the asset purchase programmes and the collateral provided by counterparties as part of our policy operations.

Furthermore, several factors associated with climate change may weigh on productivity and the equilibrium interest rate, potentially reducing the space available for conventional policy. For example, labour supply and productivity may diminish as a result of heat stress, temporary incapability to work and higher rates of mortality and morbidity[22].

Resources may be reallocated away from productive use to support adaptation, while capital accumulation may be impaired by rising destruction from natural hazards and weaker investment dynamics related to rising uncertainty[23].

And the increase in short-term volatility and accelerated structural change could hamper central banks' ability to correctly identify the shocks that are relevant for the medium-term inflation outlook, making it more difficult to assess the appropriate monetary policy stance.

Our strategy review enables us to consider more deeply how we can continue to protect our mandate in the face of these risks and, at the same time, strengthen the resilience of monetary policy and our balance sheet to climate

risks. That naturally involves evaluating the feasibility, efficiency and effectiveness of available options, and ensuring they are consistent with our mandate.

The ECB is also assessing carefully, without prejudice to the primary objective of price stability, how it can contribute to supporting the EU's economic policies, as required by the treaty. Europe has prioritised combating climate change and put in place targets, policies and regulations to underpin the transition to a carbon-neutral economy. While the Eurosystem is not a policy maker in these areas, it should assess its potential role in the transition.

We recognise that our active role in some markets can influence the development of certain market segments. The ECB currently holds around a fifth of the outstanding volume of eligible green bonds. Standardisation helps nascent markets gain liquidity and encourages growth. And our eligibility criteria can provide, in this context, a useful coordination device.

For example, since the start of this year, bonds with coupon structures linked to certain sustainability performance targets have been eligible as collateral for Eurosystem credit operations and for outright purchases for monetary policy purposes.

We have also taken action with regards to our non-monetary policy portfolio, namely our own funds and pension fund. The ECB raised the share of green bonds in its own funds portfolio to 3.5% last year and is planning on raising it further as this market is expected to grow in the coming years. Investing parts of the own funds portfolio in the green bond fund of the Bank for International Settlements marks another step in this direction.

A shift of all conventional equity benchmark indices tracked by the staff pension fund to low-carbon equivalents last year significantly reduced the carbon footprint of the equity funds. Other central banks are also aligning decisively their investment decisions with sustainability criteria[24].

Conclusion

Climate change is one of the greatest challenges faced by mankind this century, and there is now broad agreement that we should act. But that agreement needs to be translated more urgently into concrete measures. The ECB will contribute to this effort within its mandate, acting in tandem with those responsible for climate policy.

Unlike the mice in the fable, not only do we have to recognise that we cannot keep waiting for someone else to act, we also must recognise that the burden cannot fall on one party alone. There is no single panacea for climate change, and combating it requires rapid progress along several dimensions.

Relying on just one solution, or on one party, will not be enough to avoid a climate catastrophe. And here we can actually learn something from mice. As the Roman playwright Plautus wrote, *"How wise a beast is the little mouse, who never entrusts its safety to only one hole."*[25] ■

Christine Lagarde is the President of the European Central Bank

Endnotes

1. Also known as the Council of Mice.

2. Der Spiegel (1986), 11 August.

3. Source: Copernicus Climate Change Service.
4. Source: MunichRe.
5. See https://www.carbonbrief.org/mapped-how-climate-change-affects-extreme-weather-around-the-world
6. See recent climate scenario analysis, including: Vermeulen, R, Schets, E, Lohuis, M, Kölbl, B, Jansen, D-J and Heeringa, W (2018), "An energy transition risk stress test for the financial system of the Netherlands", Occasional Studies, Vol. 16, No 7, De Nederlandsche Bank; Allen, T et al. (2020), "Climate-Related Scenarios for Financial Stability Assessment: An Application to France", Working Paper Series, No 774, Banque de France; European Systemic Risk Board (2020), "Positively green: Measuring climate change risks to financial stability", June.
7. OECD (2019), "Taxing Energy Use 2019"; European Commission (2020), "Stepping up Europe's 2030 climate ambition", Staff Working Document, 17 September.
8. Per tonne of CO_2.
9. See the Eurosystem's reply to the European Commission's public consultations on the Renewed Sustainable Finance Strategy and the revision of the Non-Financial Reporting Directive.
10. Task Force on Climate-related Financial Disclosures.
11. European Commission (2020), "Consultation Document – Review of the Non-Financial Reporting Directive".
12. Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (OJ L 198, 22.6.2020, p. 13).
13. See Lagarde, C (2020), "Fostering sustainable growth in Europe", Keynote speech at the European Banking Congress, Frankfurt, 20 November.
14. The majority of this issuance – €67 billion – is denominated in euro, representing 6% of euro-denominated issuance by euro-area residents.
15. See De Haas, R and Popov, A (2019), "Finance and carbon emissions," Working Paper Series, No 2318, ECB, September; and Popov, A (2020), "Does financial structure affect the carbon footprint of the economy?", Financial Integration and Structure in the Euro Area, ECB, March.

16. International Energy Agency (2020), "World Energy Outlook 2020".
17. Lagarde, C (2020), Opening remarks at the ECB Conference on Monetary Policy: bridging science and practice, Frankfurt, 19 October.
18. ECB Banking Supervision (2020), Guide on climate-related and environmental risks, November.
19. ECB (2020), ECB report on institutions' climate-related and environmental risk disclosures.
20. Parker, M (2018), "The Impact of Disasters on Inflation", Economics of Disasters and Climate Change, Vol. 2, No. 1, pp. 21–48.
21. ESRB, (2020), "Positively green: measuring climate change risks to financial stability", European Systemic Risk Board, June.
22. See, eg. Hsiang et al. (2017), "Estimating economic damage from climate change in the United States", Science, Vol. 356, Issue 6345, pp. 1362-1369.
23. Dietz, S and Stern, N (2015), "Endogenous Growth, Convexity of Damage and Climate Risk: How Nordhaus' Framework Supports Deep Cuts in Carbon Emissions", The Economic Journal, Vol. 125, No 583, pp. 574-620; Benmir, G, Jaccard, I and Vermandel, G (2020), "Green asset pricing", Working Paper Series, No 2477, ECB, October.
24. See, for example, Jordan, T (2020), Introductory remarks, Swiss National Bank, 17 December; Sveriges Riksbank (2020), Sustainability strategy for the Riksbank; Banque de France, Responsible investment policy: reinforcing exclusions with regard to fossil fuels, Press Release, 19 January 2021. NGFS (2019), A Sustainable and Responsible Investment Guide for Central Banks' Portfolio Management, Network for Greening the Financial System; NGFS (2020), Progress report on the implementation of sustainable and responsible investment practices in central banks' portfolio management, Network for Greening the Financial System.
25. "Cogito, mus pusillus quam sit sapiens bestia, aetatem qui uni cubili nunquam committit suam." Plautus, Truculentus, Act IV, scene iv.

This article is based on a keynote speech delivered at the ILF conference on Green Banking and Green Central Banking, Frankfurt am Main, 25 January 2021

Much ado about nothing?

Fraser Cameron considers the political and economic context of the EU-China Investment Deal

Introduction

Rarely has a deal aroused so much controversy as the EU-China comprehensive agreement on investment (CAI) that was signed on 30 December 2020. Its defenders argue that it was the culmination of seven years of tough negotiations and achieved the EU's main objectives, further opening the fast-growing Chinese market to EU companies and strengthening commitments on labour rights and sustainable development.

They also point out that the EU had little real leverage as its economy was already much more open than the Chinese market. But what was important was a rebalancing of market access.

The deal has been strongly supported by EU leaders and business. Critics of the deal, including many in the European Parliament, argue that it should have included more stringent conditions on labour rights and that the timing was wrong, coming after China's crackdown in Hong Kong and Xinjiang, and just a few weeks before the start of the Biden presidency.

There are also those who suggested that Merkel pushed the CAI through under strong domestic business pressure, especially the automobile sector, and to have another achievement under the German EU presidency.

Many critics wrongly described the CAI as akin to a free trade agreement (FTA) which it is not. The EU has made clear that an FTA with China will not be on the agenda for years to come. Brussels argues that if the CAI works well for a number of years, then one could consider a scoping exercise for an eventual FTA.

But that process would take at least a decade and would depend on China sticking to its commitments and further substantial changes to the Chinese economy.

The political and economic context

It is important to set the CAI against the overall geopolitical context as well as the EU's own tripartite strategy towards China. On the geopolitical front the main trend is towards increased US-China rivalry which was most apparent in the US tariff war on China and President Trump's sharp criticism of China over the COVID-19 pandemic.

While the Biden administration is currently formulating its policy towards China, initial statements suggest that it will also pursue a tough line regarding Beijing more as a threat than a partner.

Any assessment of the deal will probably have to wait for the first few year's implementation and whether or not China sticks to its promises and whether or not EU businesses see a significant increase in their access to the Chinese market

As Merkel and Macron have made clear, the EU does not wish to be involved in any new Cold War between the US and China. The EU regards China as a partner, a competitor and a rival according to different issues. It thus has an array of different policies and instruments in dealing with China.

These include new mechanisms for screening FDI and state subsidies, autonomous trade defence instruments (anti-dumping), and projected new instruments dealing with procurement and human rights.

The EU argues that the CAI is not the right place to deal with human rights but is rather a *sui generis* agreement with the aim being to rebalance the economic relationship which is taken as increasing market access and improving the conditions for a level playing field.

China, it is argued, will now be bound by rules that it did not previously accept. The EU also defends the deal on the grounds that it is seeking the same concessions granted to the US in the China-US first phase agreement of January 2020, a deal it is argued, detrimental to the interests of the EU.

The EU further rejects the argument that it should have waited to consult the Biden administration as it had no idea how long it would take the new administration to formulate its overall trade policy, especially towards the WTO and China.

The EU argues it needed to bank the concessions offered by China rather than wait. It also argues that CAI is a stepping-stone to discuss China and WTO reform with the US. In contrast to the US-China first phase deal, which was a bilateral accord, the EU secured concessions open to all under MFN rules.

It also believes that acceptance of greater transparency and information sharing were important advances.

China has welcomed the CAI as a major step to strengthen EU-China relations and the multilateral system. It wanted to seal the deal before the new US administration came into office and some Chinese commentators applauded the deal as an indication of the EU taking a different approach from that of the US.

It also wanted to ensure that the EU would not restrict Chinese investment in Europe as some politicians had demanded. It was also a natural progression after the signature of the RCEP and Chinese efforts to conclude a trilateral trade deal with Japan and South Korea.

On the geoeconomics side, the EU recognises the huge importance of the Chinese economy to its own growth prospects. China was the only major country to achieve growth in 2020, despite the COVID-19 disruption, and its prospects for 2021 are far ahead of the projections for the EU or US.

According to Eurostat, in 2020 exports of EU goods to China increased by 2.2% and imports went up 5.6%, while EU trade with the rest of the world dramatically dropped (down 9.4% in exports, and down 11.6% in imports compared with 2019).

The pandemic severely hit transatlantic trade, with exports of European goods to the US falling by 8.2% and imports down 13.2%. As a result, the US is no longer the bloc's top trade partner in goods and has been replaced by China. EU exports to China in 2020 amounted to €202.5 billion while imports reached €383.5 billion.

China also attracted more FDI in 2020 than any other country in the world. The cumulative FDI flows from the EU to China over the last 20 years have reached more than €140 billion. But this figure is relatively modest with respect to the size and the potential of the Chinese economy.

The EU-China comprehensive agreement on investment (CAI) was signed on 30 December 2020

© European Union, 2020

For Chinese FDI into the EU, the figure is almost €120 billion. Many European countries continue to seek Chinese investment in their economies despite restrictions in some areas such as 5G.

The IMF and World Bank predict that within the next few years China will have the world's largest economy and if current growth rates continue then withing two decades its economy will be bigger than the US and EU combined.

It is thus not surprising that despite the criticism over China's human rights record, European business is unwilling to forego the opportunities of the Chinese market.

In a January survey of business sentiment, the EU chamber of commerce in China found that 75% of respondents expected to increase their investments in China during 2021 and only 4% were considering leaving.

Reacting to the uncertainty induced by the threat of decoupling and disruptions caused by COVID-19 pandemic, over half of EU companies are localizing their China operations in order to increase their supply chain resilience and adapting their core technologies to Chinese standards.

It is a similar story with US business. Instead of decoupling financially, the US and China now have one of the largest and fastest-growing bilateral investment relationships in the world. American investors held $1.1 trillion in equity issued by Chinese companies at the end of 2020.

The importance of FDI to China was emphasised by its performance last year, when it attracted $163 billion in inflows and eclipsed the $134 billion attracted by the pandemic-hit US to become the world's largest recipient of foreign inflows for the first time. Japan FDI into China is also increasing at a fast pace.

Benefits of CAI

The EU argues that the main value of CAI is improved market access for European businesses, especially by removing obstacles for investments such as the forced transfer of technology, establishment of joint ventures and IP rights.

There are also provisions on increasing regulatory transparency and non-discriminatory treatment of foreign investors, in particular regarding licensing, standards and subsidies.

Sectors most likely to benefit include manufacturing, new energy vehicles, financial services, healthcare (private hospitals), R&D (biological resources), telecommunications/cloud services, IT services, international maritime and air transport, business, environmental and construction services.

The EU also plays up the commitments regarding state-owned enterprises (SOEs) which play an important role in China's economy. The text states that SOEs 'shall act in accordance with commercial considerations' in their purchases or sales of goods or service and shall treat European enterprises no less favourable than domestic ones.

The EU argues that it secured further commitments on sustainability, climate and the environment, CSR and labour rights. It means that the CAI also exceeds what China committed to in RCEP and the US-China first phase trade deal. The EU notes that these concessions are available to all countries under the MFN process.

It also argues that the CAI will also help in the US-EU-Japan trilateral process pressing China to limit steel output, something it appears to accept in its latest five-year plan.

Criticisms

Critics of the deal argue that China has largely repackaged existing market access openings e.g., financial services, automotive sector, abolition of joint venture requirements, etc., and that many of its market access obligations are partially restricted or conditional.

For example, in the telecommunications and cloud services sectors, EU investors still have a 50% maximum participation limit. Investments in private hospitals are limited to eight cities and the island of Hainan.

In the aviation sector, China will open some areas (computer reservation systems, ground handling and marketing services), but aviation rights will not be included and foreign holdings in public air services will not exceed 25% of the total market share.

Another criticism is that the provisions contained in the agreement on the obligation to disclose information about subsidies are limited to subsidies in certain service sectors.

It seems that the CAI will also favour larger EU companies rather than SMEs as the levels of investment required in the sectors covered are substantial.

Critics also allege that the provisions on CSR are weak with China simply recognising 'the important contribution of corporate social responsibility … in enhancing the positive role of investment for sustainable growth.' Reference is also made to the voluntary CSR codes of the UN and the OECD.

Interestingly the CAI foresees specific panels of experts monitoring these provisions and even allows a limited role for NGOs to participate in the proceedings, eg. by submitting amicus curiae briefs.

Mr Butikhofer, MEP, has questioned what these Chinese commitments mean 'in a country where there are no trade unions and where there is no freedom of expression and organization?'The same critic has damned the agreement for the weak commitments on the labour front. China has only agreed to undertake 'on its own initiative, continuous and sustained efforts' to ratify the ILO conventions (C29 and C105) on forced labour.

There is no fixed timetable for ratification. The language on sustainable development is essentially a reiteration of previous commitments under the Paris climate change agreements.

On the EU side, the CAI grants Chinese companies greater access in the areas of energy and renewable energies but there remain restrictions on the sensitive areas of agriculture, fishing, audiovisual, public services, etc.

Dispute settlement

The actual text of the CAI is relatively short, less than 50 pages, reflecting the fact that the agreement does not contain any investment protection standards, such as fair and equitable treatment nor any investor-state dispute settlement provisions.

The EU has said that both parties need more time to agree on these issues, including the creation of a possible multilateral investment court, and will make best endeavours to complete a further agreement within two years.

The agreement provides for arbitration tribunals, composed of persons nominated by the parties, to resolve disputes within 180 days, taking account of WTO rules. If one party fails to accept the decisions of the tribunal, the other party can retaliate by suspending benefits equal to the losses sustained.

Until there is an agreement on investment protection and ISDS, the current bilateral investment treaties between EU member states and China remain in force thus providing on-going legal certainty for both sides.

Institutional framework

A high-level Investment Committee, co-chaired by a European Commissioner and a Chinese Vice-Premier will meet annually to monitor the implementation of the CAI. Decisions are to be taken by consensus and shall be binding on the parties.

Essentially, this Committee will be the main forum for the parties to discuss any major issues and develop the agreement further.

Next steps

The agreement is currently undergoing legal scrubbing before being sent to the Council (qualified majority) and European Parliament (simple majority) for approval. A schedule for the ratification is not yet known, but most likely the CAI will be voted on in autumn 2021.

The legal service of the European Commission indicated that the CAI will be a pure EU agreement without ratification by the national parliaments of the EU. The market access offer will only be agreed in March after further consultations with member states.

Conclusion

The political fallout resulting from the conclusion of the CAI will rumble on during most of 2021. It should not be overblown as EU FDI into the US is ten times more than EU FDI into China. But it is the potential of the huge Chinese market that attracts EU business and financial companies.

Most EU governments and European business circles support the deal. The leading cheerleader is Chancellor Merkel but she is scheduled to retire in September.

Her likely successor, Armin Laschet, is equally committed to the deal but if the CDU has to form a coalition with the Green party which is strongly critical of the CAI, then there may be problems with the ratification.

Many MEPs will also maintain a critical stance towards the deal but in the end the economic arguments relating to increased employment prospects are likely to carry the day. Assuming the CAI is ratified, then the proof of the pudding will be in the eating.

Any assessment of the deal will probably have to wait for the first few year's implementation and whether or not China sticks to its promises and whether or not EU businesses see a significant increase in their access to the Chinese market. ■

Fraser Cameron is a Senior Advisor to the European Policy Centre

Will 2021 in CEECs look better than 2020?

Mehmet Burak Turgut is optimistic about CEE growth in 2021 following the successful development of COVID vaccines

Introduction

The COVID-19 outbreak in the early 2020 has dramatically affected societies and economies all over the globe. It has already claimed two million lives worldwide and lead to an unprecedented contraction of the world's economies. The successful development of the vaccines in late 2020 and the expected ease of the containment measures coming ahead give rise to optimistic projections for the economic rebound in 2021.

2020 in a nutshell

As the International Monetary Fund (IMF) projections show, it is expected that the global economy shrunk significantly in 2020 with an estimated 4.4% negative GDP growth rate. The EU economy was not an exception as economic activity almost halted and real GDP fell at double-digit rates in the first half of 2020.

European Commission forecasts predict a negative real GDP growth of 7.4% for 2020. Employment has also suffered from a continuous drop in economic activity, with the unemployment rate in the EU set to hit 7.7% in 2020, an increase of one percentage point over 2019.

Central and Eastern European (CEE) countries

The downturn of economic activity in 2020 is expected to be slightly less pronounced in the CEE countries. The recent CASE projections show that the fall of annual real GDP in any CEE country will not reach the EU average.

The Czech Republic and Slovakia will suffer the most from the negative impact of COVID-19 on the regional economy, with an expected 6.8% contraction in GDP. Poland and Lithuania, on the other hand, are the two economies forecast to decline at a relatively low pace with negative growth rates of 1.9% and 3.5%, respectively.

A sharp decline in economic activity could also be observed in the labour markets as the unemployment rates are expected to range from 2.7% to 8.6%, the lowest in the Czech Republic and the largest in Latvia and Lithuania.

The measures undertaken by the Czech government, the pre-crisis tight labour market, and low share of temporary employment contracts are the main contributing factors to the lowest expected unemployment rates in the Czech Republic.

... it is crucial that the economies in the region succeed in containing infection rates and effectively implement national recovery strategies

The governments of CEE countries responded to the COVID-19 pandemic through various fiscal measures such as social security contributions, wage subsidies, increased loan guarantees for medium and large companies, additional loans from micro firms, increased unemployment benefits, interest rate subsidies, and public investment supports.

These measures are expected to increase government expenditures by on average 4.8% y/y in 2020. Along with decreased tax revenues, elevated expenditures will likely lead to large gaps in government financing.

Poland in the spotlight

The year 2020 is set to mark the worst performance of the Polish economy in nearly three decades. In response to the COVID-19 pandemic and restrictions imposed on economic activity, Polish GDP went down by nearly 9% q/q in the second quarter of 2020 with respective 10.5% and 9% q/q decline in private consumption and fixed investment.

In the third quarter of 2020, with the ease of containment restrictions, the Polish economy sharply rebounded, and the GDP soared by 7.9% q/q. The surge in new infections and reintroduction of containment measures were expected to bring a halt to the recovery of the economy in the last quarter of 2020, with the expected annual real GDP growth at negative 3.5% and unemployment rate at 3.8% for 2020.

Thanks to the emergency support measures the increase in the unemployment rate following the pandemic did not go one-to-one with the decrease in the economic growth. The main employment-related measures included subsidies for employee remuneration costs and social security contributions for companies that experienced sharp decline in their turnover.

As of March 2020, the Polish Parliament started adopting legislation packages titled 'Anti-Crisis Shields' that, as of January 2021, have already amounted to PLN 312 billion support in a form of credit guarantees, micro loans, and liquidity programs for the businesses. Coupled with the dropdown in economic activity, these measures are expected to significantly deteriorate Polish public finances.

CASE projects that the budget balance will reach -9.2% of the GDP in 2020, which could be the largest deficit among the CEE countries. The budget deficit will also push up the public debt in Poland. As a result, the public debt-to-GDP ratio is expected to hit 58.4% in 2020, whereas in 2019 it stood at 45.7%.

2021 outlook

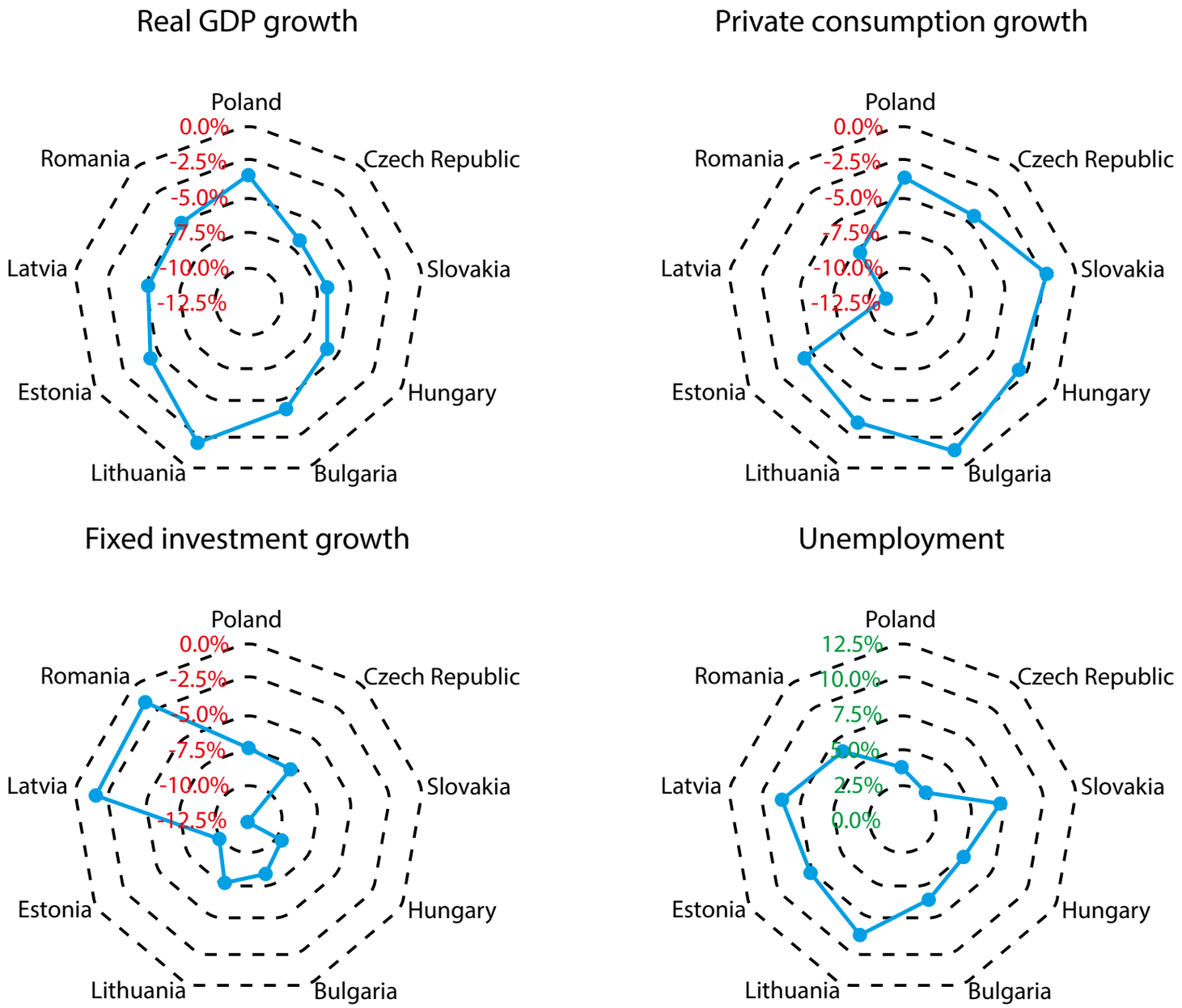
CEE

The 2021 GDP in real terms is projected to remain below the levels observed in 2019 with the full recovery of the CEE economies being expected no earlier than 2022.

Among the CEE economies, the highest GDP growth in 2021 is projected for Slovakia – at 5.4% y/y. As Slovakia ranks first in terms of trade openness in the region, the anticipated restoring of international trade in 2021 is expected to support the recovery. In addition, the forecast 10.9% y/y growth in fixed investment – the highest among the nine CEE countries – will be the main engine of 2021 growth in Slovakia.

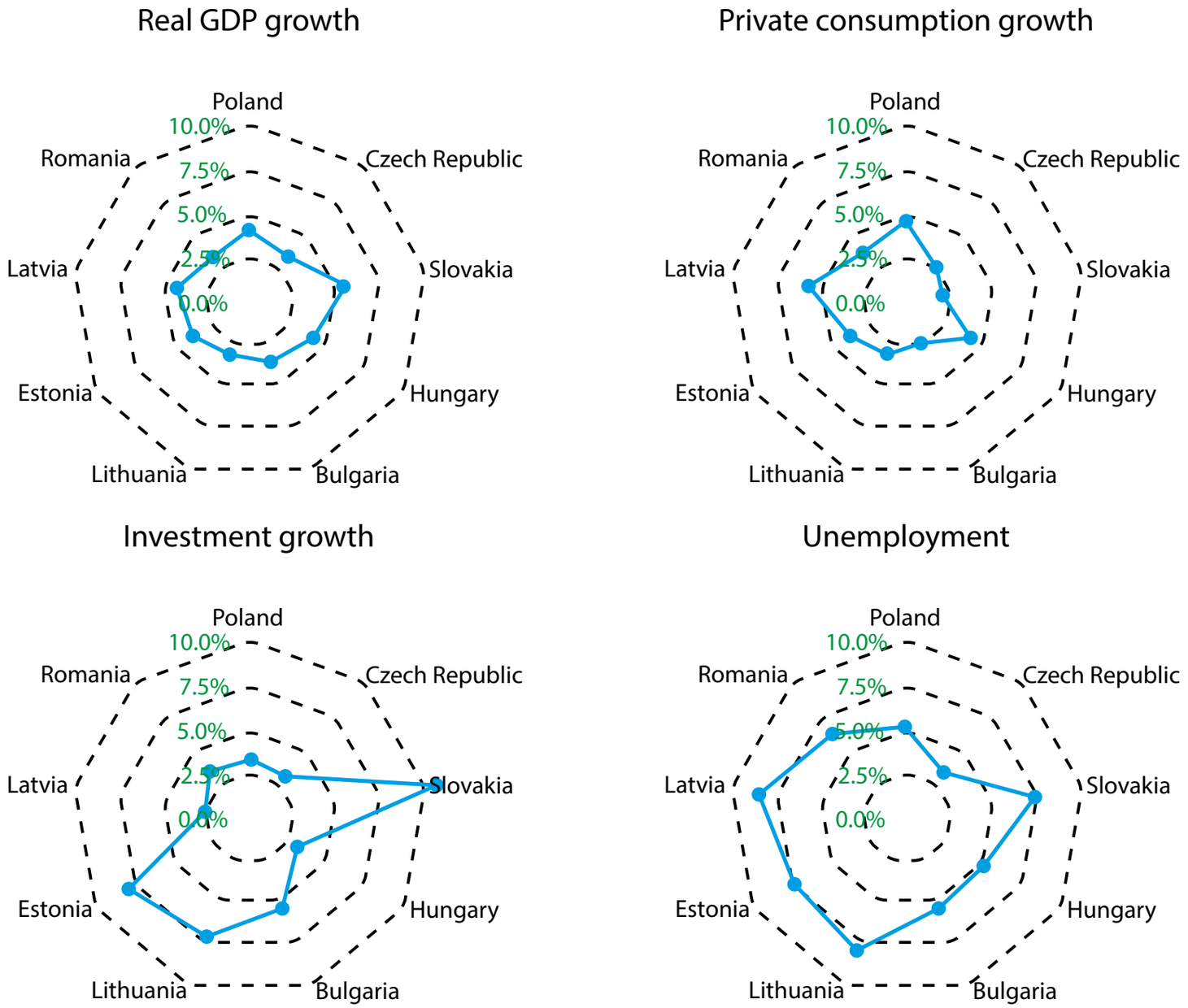
Poland, Hungary, and Latvia are the other economies expected to grow at a fast pace of over 4% y/y in 2021. The rebound will mostly be driven by private consumption that is expected to increase by 5.7%, 4.5%, and 4.2% y/y in Latvia, Poland, and Hungary, respectively.

Figure 1. CEE economies forecast for the year 2020



Source: Own elaborations based on the CASE projections

Figure 2. CEE economies forecast for the year 2021



Source: Own elaborations based on the CASE projections.

On the other hand, the growth of fixed investment is anticipated to be relatively slow in these countries with a projected rate of around 3% y/y.

The other factors that contribute to the GDP growth in Hungary and Latvia diverge. The anticipated recovery in international trade coupled with the recent depreciation in the forint will support Hungary's positive trade balance which will contribute the 2021 GDP growth.

However, the opposite is true for Latvia – an expected negative trade balance will constrain the GDP growth, while the projected positive growth in public consumption is expected to stimulate the 2021 recovery of the Latvian economy. In the case of Hungary, an expected cut in public spending will have negative impact on growth.

The growth rates of the other countries in the region are expected to fluctuate between 3% and 4% y/y. Estonia will lead this group with an estimated 3.7% y/y GDP growth, mostly driven by the prospect of the solid fixed investment performance expected to grow by 7.9% y/y in 2021.

Although the Czech Republic is expected to have the lowest unemployment rate in the region (3.5%), the anticipation of modest increases in private consumption (2.7% y/y) and fixed investment (3.2%) will help the Czech Republic to have a 3.5.% y/y GDP growth in 2021.

Lithuania is forecast to have the lowest GDP growth among the CEE countries in 2021 – at 3.1% y/y. Although the projections for private consumption and fixed investment are not the lowest in the region (3.0% and 7.0% y/y, respectively), the expected negative trade balance in 2021 will pull down the GDP growth rate.

The Romanian economy will also follow a similar path with private consumption and fixed investment growth at 3.8% and 3.5% y/y, respectively, yet only 3.3% y/y GDP growth due to the expected negative trade balance and cuts in public consumption.

Poland in the spotlight

The assumed easing of the COVID-19 restrictions not only in Poland but also in the rest of the EU is expected to help Polish economy to recover in 2021. The annual GDP growth for the years 2021 and 2022 is thus forecast at 4.1% and 4.0%, respectively. These figures are approaching the average annual growth rates enjoyed throughout 2014-2019 (ie. 4.2%); hence, even in the short-term recovery, the Polish economy is expected to restore its pre-crisis growth trend levels.

Considering the current dynamics, it appears that the 2021-2022 economic rebound in Poland will be primarily fuelled by private consumption which is expected to increase by 4.5% y/y (supported by the build-up of savings and positive consumer moods). The government consumption, fixed investment, and trade balance are also expected to have a positive contribution to the growth in the next two years, albeit at a lower extent.

The government consumption is forecast to grow at a decreasing rate – 3.1% in 2021 and 2.8% in 2022, which, nonetheless, is set to be compensated by the increase in fixed investment – from a 7.4% decline in 2020 to a projected 3.3% and 6.5% growth in 2021 and 2022, respectively.

Conclusions

The forecasts for 2021 are made under the assumption of easing containment restrictions. Thus, for the positive forecasts to be realised it is crucial that the economies in the region succeed in containing infection rates and effectively implement national recovery strategies.

In the case of a high rate of active cases that would require an extension of the containment restrictions, economic activity risks to drop further which may once again pull down consumer and business confidence and exacerbate the pressure.

In a closer look, the additional downside risks for the Polish economy in 2021 are the phasing-out of support measures that may put downside risk on unemployment, a generous social policy stance that would put pressure on public finances, as well as potential low interest rates and disputes with the European Commission that may stagnate private investment. ■

Mehmet Burak Turgut is a Senior Economist at the Center for Social and Economic Research (CASE)

The Brexit story has entered a new phase. The United Kingdom's exit from the European single market on 1 January was orderly in the financial sector, despite significant shifts of liquidity in shares and derivatives, and unlike the shift in trade for goods. In contrast to the past five years of radical uncertainty, the near-future policy framework is now fairly predictable, with the EU and UK taking separate regulatory paths.

The resulting financial 'decoupling' has left the City of London on the back foot, whereas the prospects for EU financial services will depend greatly on whether EU policy supports further financial market integration. The structural consequences of this new state of affairs will take years to unfold.

As with the Year 2000 problem, the orderliness of the transition was not to be taken for granted. That it went smoothly was down to a number of factors. First, financial firms on both sides of the Channel (and of the Irish Sea) worked hard and were able to pre-empt most of the operational challenges.

Second, despite all the recurring high-stakes drama between the UK government and the European Commission, the technical cooperation between the authorities actually in charge of financial stability, primarily the Bank of England and the European Central Bank (ECB), appears to have run smoothly.

Third, the aptly designed phasing of the Brexit discussions helped reduce uncertainty. The *Brexit Withdrawal Agreement* ensured that the UK government would meet its financial obligations to the European Union, avoiding a scenario that would have been akin to selective default. It also kept the UK in the single market beyond the country's formal exit from the European Union.

The decision by the UK not to extend that transition period allowed for six months of effective preparation from July, ahead of the exit from the single market. The fraught final stages at the end of 2020 of the talks on the Trade

and Co-operation Agreement (TCA) mattered comparatively little for financial services, since trade agreements typically barely cover them.

By one count, the TCA that was eventually approved (albeit still unratified on the EU side) contains only six pages relevant for the financial sector, or less than 0.5% of 1,259 pages.

Now, the City is an onshore centre only for the UK, and has become offshore for the rest of the European Union. That implies a different, in all likelihood less powerful, set of synergies across financial activities

Pause for breath

Now, the new legal environment is unlikely to change much any time soon. Contrary to occasional portrayals in the UK, there is no ongoing bilateral negotiation on financial services, except for a non-binding memorandum of understanding expected before the end of March.

The UK is now a third country and consequently UK-registered financial firms have lost the right, or passport, to seamlessly offer their services anywhere in the EU single market. They now have no better access to that market than their peers in other third countries such as Japan, Singapore, or the United States.

In some (though far from all) segments of the financial sector, firms from these other third countries currently have better single market access than British ones. This is because these market segments are covered by a category known in EU law as equivalence decisions, by which the European Commission allows direct service provision by firms in the third country whose regulatory framework of the market segment it deems 'equivalent'.

Equivalence decisions are at the Commission's discretion. Unlike the single market passport, equivalence is a privilege not a right, and can also be revoked at short notice. So far the Commission has not granted the UK any such segment-specific equivalence, except in a time-limited manner for securities depositories until mid-2021 and clearing services until mid-2022. For the moment the Commission appears to lean against making the latter permanent, but it is too early to be sure.

In most other market segments, it appears improbable that the Commission will grant equivalence to the UK in the foreseeable future. Although this may appear counterintuitive, since almost all current UK regulations stem from the existing EU body of law, the expectation is the UK authorities will diverge as they (not least the Bank of England) have declined to make commitments to the contrary.

Moreover, it would be understandable for the Commission to aim at reducing the EU's dependence on the City of London. There has been no comparable dependence on an offshore financial centre anywhere in recent financial history.

Keeping that level of dependence would entail financial stability risk, because in some crisis scenarios, the aims of UK authorities would not necessarily be aligned with EU aims.

Think of the Icelandic crisis of 2008, when Reykjavik protected the failing banks' domestic depositors but not foreign ones. An aim to reduce that concentrated risk is therefore defensible, even if – as appears to have happened with derivatives – some of the activity migrates to the United States or other third countries as a consequence.

Conversely, the economic case for the European Union to keep pooling its liquidity in London is made harder to support by the Union's own vast size. In addition, mercantilist impulses to gain activity from London unquestionably play a role, even though they generally do not make economic sense.

Altogether, there is no compelling policy incentive at this juncture for the European Commission to move towards more equivalence decisions. If it does, it will most probably be for high-level political motives that are not apparent right now.

Differentiated decoupling

The likely trend in the near future, then, is of EU-UK financial decoupling, albeit highly differentiated across market segments which respond to different dynamics and patterns of interests.

The corresponding regulatory competition may become a 'race to the bottom' or 'to the top', depending on particular circumstances, keeping in mind that such labels are somewhat more judgmental in financial regulation than in, say, tax competition.

As a point of comparison, the European Union is more demanding than the United States on some aspects of financial regulation, for example curbs on bankers' remuneration, but less in others, for example aspects of securities law enforcement or capital requirements for banks.

Similarly, differences between the EU and the UK will probably not follow a uniform pattern. In such an environment, it is implausible that UK financial regulatory decisions, no matter how agile, could offset the negative impact of the loss of single market passport on the bilateral financial relationship.

As a result, the medium-term outlook for the City of London appears unpromising, even though the COVID-19 disruption blurs all the signals. Until end-2020, thanks to the magic of the European single market, the City was an onshore financial centre for the entire single market, and a competitive offshore centre for the rest of the world.

Now, the City is an onshore centre only for the UK, and has become offshore for the rest of the European Union. That implies a different, in all likelihood less powerful, set of synergies across financial activities.

Relevant quantitative data is still hard to come by, but what is available is consistent with a bleak view. Job offerings in British finance, as tracked by consultancy Morgan McKinley, have followed an alarming downward course since the 2016 Brexit referendum.

Meanwhile, relevant licensing agencies on the EU side, primarily the European Central Bank (as bank supervisor) and national securities regulators coordinated by the European Securities and Markets Authority, are gradually tightening their requirements for key personnel to reside mainly on EU territory rather than in the UK.

As crisply summarised by *Financial Times* columnist Simon Kuper, many financial firms' Brexit policy until this year was to *"sit tight and do nothing until post-Brexit arrangements for finance forced [their] hand."*

That phase has ended. Firms that drag their feet face regulatory disruption, as happened to broker TP ICAP in late January. Such tussles between regulators and regulated entities, rather than between the European Commission and the UK government, are where most of the financial-sector Brexit action is likely to be in 2021. They typically happen behind closed doors, and the regulators typically hold most of the cards.

For all the talk of *"Big Bang 2.0 or whatever"*, then, the UK's comparative advantage as the best location for financial business in the European time zone is unlikely to recover to its pre-Brexit level.

The negative macroeconomic impact for the UK could turn out to be moderate thanks to offsetting effects, such as a cheaper currency and less onerous real estate costs in London, which may generate greater economic activity, especially in non-financial services sectors.

A specific concern is the financing of the UK government, which has been significantly dependent on financial sector-related tax revenue in recent years.

As for the 27 remaining EU countries, as a whole they are gaining financial activity as a consequence of Brexit. How much and where exactly is not yet quite clear.

As predicted, the leading contenders for the relocation of international (non-EU) firms appear to be, in alphabetical order, Amsterdam, Dublin, Frankfurt, Luxembourg and Paris, with respective specialisations in the imperfectly integrated EU single market – eg. Dublin and Luxembourg in asset management, Frankfurt in investment banking, and Amsterdam in trading.

But for future EU financial services competitiveness and stability, much will depend on further market integration, the pace of which remains hard to predict. The European banking union is still only half-built in the absence of a consistent framework for bank crisis management and deposit insurance; and the grand EU rhetoric on capital markets union has yielded little actual policy reform since its start in 2014.

Though a proactive approach would be preferable, any next steps towards market integration may be prompted by events, such as the still-unfolding Wirecard scandal. ■

Nicolas Véron is a Senior Fellow at Bruegel

This article was originally published on Bruegel

The double irony of the new UK-EU trade relationship

The TCA signed between the EU and the UK goes against UK efforts to avoid being economically disadvantaged. Tracking the evolution of the relationship can help in understanding this, André Sapir argues

On 1 January 2021 the United Kingdom left both the European customs union and the single market. Its trade relationship with the European Union is now governed by a Trade and Cooperation Agreement (TCA), which establishes a free-trade area in goods and services broadly comparable to recent trade deals between the EU and major, advanced non-European countries such as Canada and Japan.

To appreciate fully the significance of this new chapter in the EU-UK trade relationship – and the ironies it brings with it – it is useful to examine how that relationship has evolved over the past 60-plus years. The UK is now outside structures it helped create and that, indeed, were fundamental to UK efforts over six decades to avoid being economically disadvantaged in Europe.

It should be noted that what follows focuses solely on trade, which is the core of the TCA. This article does not delve into areas such as monetary integration or the EU budget, which were important when the UK belonged to the EU, but are marginal for the TCA.

During the 1950s, most European countries traded with one another (and with many countries outside Europe) on purely GATT (the General Agreements for Tariffs and Trade, created in 1947) terms, applying the same non-discriminatory MFN (most-favoured nation) tariff to imports from all sources.

This meant, for instance, that the United Kingdom applied the same tariff on imports from France, Sweden and any other GATT country, and that Germany applied the same tariff on imports from France, the UK or any other GATT member. This situation changed in 1958 with the creation of the European Economic Community (EEC) by the original six members, and the gradual introduction of the customs union, entailing the abolition of duties and quotas between member states and the establishment of a common external tariff vis-à-vis third countries.

Automatically, third countries found themselves at a disadvantage on the EEC market, with its members now applying the common external tariff on imports from the UK or from any other GATT member, but gradually imposing no tariff on imports from their EEC partners.

To gain an idea of the magnitude of the disadvantage caused by the EEC for third countries, one needs an estimate of two factors: the size of the EEC market compared to other markets, and how high its external tariff was. Both were relatively large.

The future will tell whether this fifth chapter in the UK-EU trade relationship is temporary or lasting, and what the short-, medium- and long-term consequences will be

In 1958, the EEC accounted for nearly two thirds of the GDP of Europe (excluding Soviet bloc countries, Yugoslavia and Albania), and the average tariff of the original six members was 13% for non-agricultural goods and much higher for agricultural products. The loss for European producers located outside the EEC was thus significant.

In response, the UK and six other European countries established in 1960 the European Free Trade Association (EFTA). Like the EEC's customs union, this free-trade agreement (FTA) involved the abolition of duties and quotas between its members, but, like all other FTAs, it did not adopt a common external tariff. Instead, each EFTA country continued to apply its own MFN schedule to imports from third countries.

By itself, the creation of EFTA did not eliminate the disadvantage that, for example, UK exports faced on the German market compared to French exports after the creation of the EEC. But it partly compensated for this loss through better market access to other EFTA markets, such as Sweden.

But the ultimate objective of the EFTA governments was to use EFTA as a bargaining chip to negotiate duty- and quota-free access to the EEC market in exchange for reciprocal access to the EFTA market (in 1960 the combined GDP of the EFTA members amounted to nearly 50% of the EEC's GDP, making agreement not unrealistic).

This attempt failed initially and, like producers in other countries in Europe and elsewhere, UK and other EFTA producers had to continue trading with the EEC on relatively disadvantageous GATT terms (Table 1, column (1)).

For the UK, the EEC's initial refusal to create a free-trade area with EFTA was more problematic than for any other EFTA member. As the largest EFTA country (about 60% of EFTA GDP), EFTA membership offered little compensation to UK exporters for the loss of access to traditional markets now inside the EEC.

Table 1. Trade regime within the EU and between the EU and other European countries

Countries	(1) 1958-72	(2) 1973-80	(3) 1981-85	(4) 1986-92	(5) 1993-94	(6) 1995-04	(7) 2004-20	(8) 2021-
EU6*	CU	CU	CU	CU	CU/SM	CU/SM	CU/SM	CU/SM
UK	GATT	CU	CU	CU	CU/SM	CU/SM	CU/SM	FTA+
DK, IE	GATT*	CU	CU	CU	CU/SM	CU/SM	CU/SM	CU/SM
EL	GATT	FTA	CU	CU	CU/SM	CU/SM	CU/SM	CU/SM
ES, PT	GATT	FTA	FTA	CU	CU/SM	CU/SM	CU/SM	CU/SM
AT, FI, SE	GATT	FTA	FTA	FTA	FTA	CU/SM	CU/SM	CU/SM
EU13*	GATT**	GATT***	GATT	GATT	GATT****	FTA	CU/SM	CU/SM
IS, NO, LI	GATT^{0}	FTA	FTA	FTA	FTA	FTA/SM	FTA/SM	FTA/SM
CH	GATT^{00}	FTA	FTA	FTA	FTA	FTA/SM*	FTA/SM*	FTA/SM*
TR	GATT	FTA	FTA	FTA	FTA	CU	CU	CU

Notes: Countries in red are the seven original EFTA members: Austria, Denmark, Norway, Portugal, Sweden, Switzerland and the United Kingdom; CU: customs union; FTA: free trade area; FTA+ free trade area in goods and services; SM: single market
EU6: the six original EEC members; Belgium, France, Germany, Italy, Luxembourg and the Netherlands.*
EU13: the 14 countries that have joined the EU since 2004; Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia (2004), Bulgaria and Romania (2007), and Croatia (2014).*
GATT: Ireland only joined GATT in 1967.*
*GATT**: only five EU13 countries had joined GATT by 1972; Cyprus (1963), Yugoslavia (1966), to which Croatia and Slovenia belonged, Poland (1967), and Romania (1971).*
*GATT***: a sixth EU13 country joined GATT during this period, Hungary (1973).*
*GATT****: three more EU13 countries joined GATT during this period; Czech Republic (1993), Slovakia (1993), and Slovenia (1994).*
GATT^{0}: Iceland only joined GATT in 1968, Liechtenstein only became a formal GATT member in 1994.
GATT^{00}: Switzerland only joined GATT in 1966.
SM: Switzerland does not fully belong to the single market.*
Source: Bruegel.

In a context of relatively poor domestic economic performance, this situation prompted the UK government to submit a first application to join the EEC in 1961. It was rejected in 1963, triggering a second UK application in 1967 that was again rejected. Finally, the UK joined the EU in 1973 after the departure from office of the main stumbling block, French President de Gaulle.

This marked the beginning of the second chapter in the relationship between the EEC and the UK. The UK's accession to the EEC had two ripple effects for other EFTA members and for Ireland, all of which were highly dependent on access to the UK market. The first consequence was the accession, also in 1973, of Denmark and Ireland to the EEC (Norway voted on it, but decided against).

The second was the creation of a free-trade area between the EEC's customs union and the remaining EFTA members, which now also included Iceland. Since the EEC had already established FTAs with Greece, Spain and Turkey, it meant that, by 1973, EEC trade with European countries (excluding socialist countries) was mostly duty- and quota-free (Table 1, column (2)). The accession of Greece to the EEC in 1981 barely changed the situation (Table 1, columns (3)).

The third chapter in the UK-EEC relationship opened in 1985 and closed in 2004. The EEC – joined by Portugal and Spain in 1986 (Table 1, column (4)) – and its custom union had been highly successful in abolishing tariffs and quotas among its members.

But it had done nothing to remove non-border measures, such as product conformity procedures, that continued to hamper trade in goods. Nor had it removed barriers to trade in services or the free circulation of capital and labour.

This task fell to the Delors Commission and one of its two British members, Lord Cockfield, sent to Brussels by Prime Minister Margaret Thatcher to eliminate bureaucratic barriers to trade within the EEC. Cockfield's 1985 White Paper on *Completing the Internal Market* and the accompanying 1986 Single European Act formed the foundations of the single market, as the common market was then renamed.

The central role of Thatcher and Cockfield in the creation of the single market is well known. Martin Sandbu has even suggested in the *Financial Times* (30 December 2020) that *"Thatcher was the political force behind a genuinely unified European market for goods, services, labour and capital; Arthur Cockfield …was its intellectual architect and bureaucratic engineer."*

The creation of the single market in 1993 didn't just boost trade and growth for the 12 EEC members (column (5) in Table 1). As argued by Baldwin (1995) and verified statistically by Sapir (2001), the single market programme also produced a 'domino effect' for EEC neighbours, whose access to the EEC market was threatened by its closer integration.

In the space of three years, five EFTA countries requested EEC accession: Austria (1989), Sweden (1991), and Finland, Norway and Switzerland (1992). Austria, Finland and Sweden ultimately joined in 1995 the European Union, the successor of the EEC founded in 1993. Meanwhile, Norway (whose citizens had rejected EU membership), Iceland and Liechtenstein joined the newly formed European Economic Area (EEA), giving them access to the EU's single market on terms equal to those of EU members.

Switzerland, whose citizens rejected accession to both the EU and the EEA, also gained access to the EU's single market, though on less equal terms than EEA members. Turkey, which had applied for EEC membership in 1987 but

was only declared eligible to join the EU in 1997, upgraded its FTA with the EU to a customs union in 1995. Finally, the former socialist countries of central and eastern Europe established FTAs with the EU.

By 1995, the EU counted 15 members. Nearly all other European countries had close economic ties with the EU, trading with it on better than World Trade Organisation (the successor to GATT, established in 1995) terms, a situation partly linked to the UK's decisions to join the EEC in 1973 and to help create the single market two decades later (Table 1, column (6)).

The fourth chapter in the UK-EU trade relationship came with the EU accession of eleven former socialist countries of central and eastern Europe, plus Cyprus and Malta, two former British colonies, starting in 2004. This fourth wave of EU enlargement, which was strongly supported by the UK, created the biggest customs union and single market in the world, made up of the 28 EU members, the only countries belonging to both the European customs union and single market.

Turkey also belonged to the customs union, but not to the single market; three of the EFTA members (Iceland, Liechtenstein, and Norway) belonged to the single market, but not the customs union; and the fourth EFTA member, Switzerland, belonged to large parts of the single market, but not the customs union (Table 1, column (7)).

This situation has now been modified profoundly by the decision of the UK to leave the EU and to leave both the European customs union and the single market. The UK-EU trade relationship is now governed by the TCA, which is fairly similar to the FTAs between the EU and major, advanced non-European countries, such as Canada (the Comprehensive Trade and Economic Agreement, CETA) and Japan (the EU-Japan Economic Partnership Agreement, EUJEPA).

These agreements also provide preferential access for trade in goods, though not completely duty- and quota-free as the TCA does, a difference which, together with the difference in geographical proximity, explains why only the TCA includes level-playing-field conditions.

Like the TCA, the agreements with Canada and Japan also provide some preferential access for trade in services and the removal of some non-border barriers to trade in goods and services, but considerably less so than within the single market.

Hence, the UK now finds itself in a trade relationship with the EU on terms that are far less favourable than those enjoyed by EU members or other EU neighbours like Norway or Switzerland, which enjoy duty- and quota-free access to the EU market for goods, and full or significant access to the EU single market for goods, services, capital and labour.

The TCA's terms are also less favourable than those of Turkey for trade in goods (since rules of origin are absent in the customs union but not in the TCA), though they are better for services (since the EU-Turkey customs union does not cover services; Table 1, column (8)).

The UK's decision to leave the European customs union and single market is doubly ironic.

The first irony is that this decision is indirectly related to the single market programme and the fourth enlargement, two EU policies spearheaded by successive UK governments. The single market birthed the single currency in which the UK refused to participate and which left it frustrated at being excluded from important decisions, especially during the euro area sovereign debt crisis, as Ivan Rogers, a former UK ambassador to the EU has vividly explained.

Moreover, the single market in conjunction with the eastern enlargement brought large inflows of foreign workers to the UK who were initially welcomed but eventually generated a backlash because of perceived pressure on certain public services.

The second irony is that the decision runs completely counter to the UK's efforts during the past 60 years to avoid being economically disadvantaged in Europe, starting with its decision to create EFTA in 1960.

Today, the UK finds itself outside the EU and with less favourable access to its market than any other European country. All its former EFTA companions have either joined the EU, or remain outside the EU but inside the European single market.

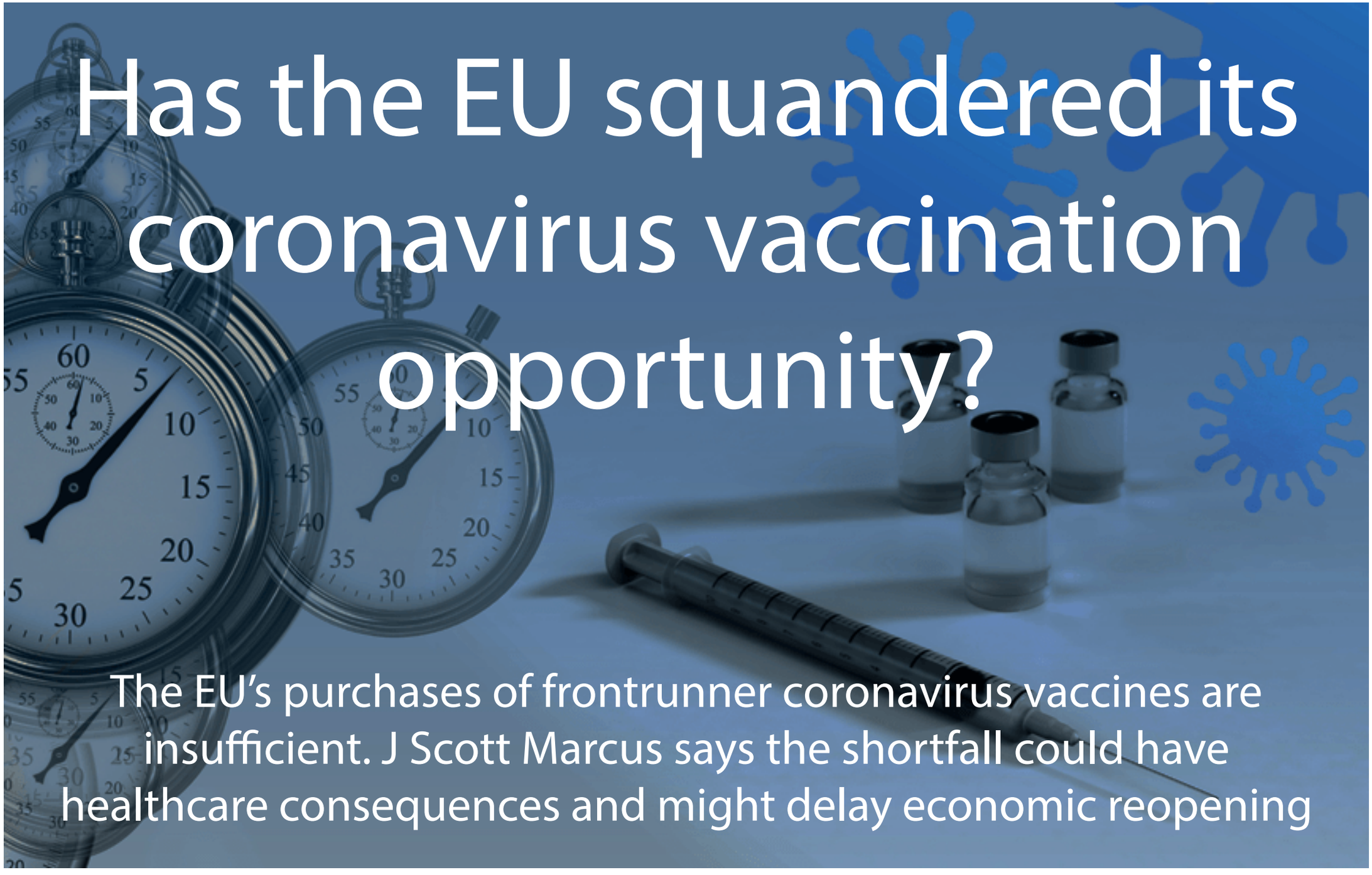
True, by staying outside the EU, the UK will be free to set its own rules, but it will have to continue to adhere to EU rules in order to retain access to the EU market, which combines size and geographical proximity like no other market in the world.

The future will tell whether this fifth chapter in the UK-EU trade relationship is temporary or lasting, and what the short-, medium- and long-term consequences will be. ■

André Sapir is a Senior Fellow at Bruegel

This article was first published on Bruegel

Has the EU squandered its coronavirus vaccination opportunity?



The EU's purchases of frontrunner coronavirus vaccines are insufficient. J Scott Marcus says the shortfall could have healthcare consequences and might delay economic reopening

Worldwide progress on the development on safe, effective vaccines against the coronavirus has been impressively fast. Three vaccines have been approved in the EU, the United Kingdom or the United States (Table 1). Given the lack of effective medication against the virus, the vaccine provides by far the most promising means of getting the pandemic under control.

Approval, however, is only one of many steps that need to be taken. For the vaccines to have the desired public health effects, they need to be procured, distributed to national governments, and administered to the population.

The European Union has been slower than the US or the UK to approve vaccines. This is, however, only a matter of days so far, and is thus a secondary concern. The far greater concern is that to date, the EU appears to have neglected to procure adequate supplies of the only vaccines that are likely to obtain near-term approval. This could lead to delays of many months, causing needless human suffering and economic loss.

In the long run, supply of multiple vaccines should be more than adequate. In the near to medium term (say, six to nine months), however, there could be serious shortages. How serious is the near-term problem in the EU and what can be done about it?

EU-wide procurement of coronavirus vaccines

Table 1 shows the vaccines approved to date in the United States, the United Kingdom and the European Union, together with the quantity already procured by the EU (US approval for another vaccine, developed by Johnson & Johnson could be applied for in February). The US approvals are provisional Emergency Use Authorizations (EUAs), as are the UK approvals, while the EU approval is a full authorisation.

Table 1. Vaccines approved to date

Manufacturer	US approval	UK approval	EU approval	EU, number of doses ordered (initial purchase/option)
BioNTech/Pfizer	11 December	2 December	21 December	200/100 million
Moderna	18 December	None	6 January	80/80 million
Oxford/Astra Zeneca	Not yet applied for	29 December	Status uncertain*	300/100 million

Note: See https://www.thejournal.ie/oxford-vaccine-eu-approval-5313515-Dec2020/. Public sources are inconsistent in reporting whether the application has been made, but if so, it is either incomplete or problematic. EU approval is not expected in January.
Source: Bruegel

Table 1 also shows the number of doses ordered by the EU and additional doses provisionally ordered by the EU. For each of these three vaccines, two doses per person are required.

A major success of the European institutions to date has been to enable joint EU-level procurement. The use of the Emergency Support Instrument (ESI) helps to ensure a fair distribution across the EU, avoids the risk of individual member states bidding the price up by competing with one another, and also reduces the risk of larger EU countries hindering smaller countries in accessing vaccines.

The ESI has €2.7 billion in funding from the EU budget – far too little in our judgment, particularly when one considers that the funding has to cover multiple programmes, not just the acquisition of vaccines.

According to the European Commission, in addition to the orders for approved/approval pending vaccines shown in Table 1, supplies of other vaccines have been secured under the ESI:

- Sanofi-GSK: 300 million doses
- Johnson & Johnson: 200 million doses
- CureVac: 225 million doses

For future pandemics – and we should not doubt that there will be future pandemics – there are lessons to be learned from the coronavirus experience

Together, the EU orders of current and future vaccines would appear to be more than enough in the long run. However, in the shorter term, only 380 million doses are available of the two vaccines that are approved or, in the case of Moderna, that can be expected to be approved shortly (with an option for 80 million more doses from Moderna, thus a total of 460 million potential doses).

Even for these, delivery schedules are uncertain, but are thought to be in the first half of the year. In the near term, there appears to be a serious shortfall.

Vaccinations to date

Vaccinations in most of Europe are only just beginning. What can we learn from experience elsewhere?

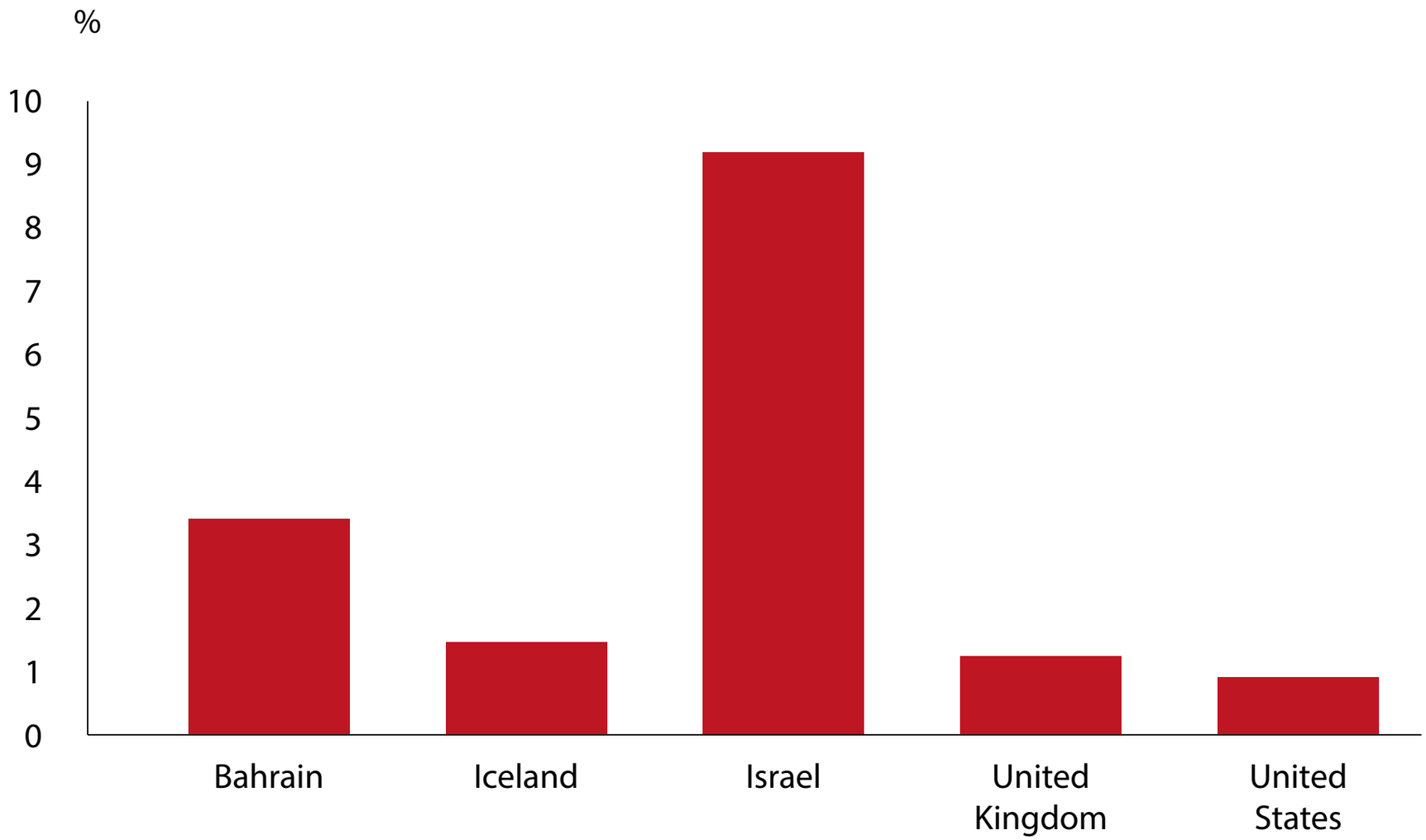
The United States, despite a generally ineffective national response to the pandemic, has placed great weight on a fast immunisation programme; even so, there have been delays.

Instead of vaccinating 20 million Americans by the end of the year as planned, as of 31 December just under 2.6 million people had been vaccinated (less than 1% of the US population), even though 12.4 million doses had been distributed.

A range of logistical and teething problems appear to have emerged, which is hardly surprising in a programme of this size, and the December holidays did not help.

A number of small countries have made much faster progress (Figure 1), including Israel and Bahrain (neither of which is much impacted by the December holidays).

Figure 1. Percent of the population vaccinated (as of 30 December)



Note: The UK data is as of 24 December; other data as of 30 December.
Source: Bruegel based on https://ourworldindata.org/covid-vaccinations.

Still, it should be noted that no large country has yet vaccinated substantially more than 1% of its population. Even in countries where the vaccination programme is most effective, this process will extend over many months.

Too much weight should not be placed on results to date. Committed and effective delivery over many months will ultimately determine which countries and continents achieve an effective vaccination response to COVID-19.

How many doses are really required?

What the EU's medium to long-term goal ought to be seems fairly clear: every EU person for whom a vaccine is authorised, and for whom there are no medical contra-indications, and who is willing to be vaccinated, should be vaccinated as soon as possible.

The EU population as of 1 January was about 448 million, so one might expect that 2 x 448 = 996 million doses will be required to vaccinate all European with the current vaccines, each of which requires administering of two doses.

But do we really need nearly a billion doses? In terms of immediate need, it turns out that this simple analysis is a bit too simple for at least three reasons.

First, the vaccines have not yet been tested on the young. The Phase 3 trial of the BioNTech Pfizer vaccine did not include subjects younger than 16. The Moderna Phase 3 trial did not include subjects younger than 18 (though a younger age group study has started).

The Oxford AstraZeneca Phase 3 trial did not include subjects younger than 18 or older than 55. It is unlikely that any Western country will be vaccinating individuals younger than 16 in the near term. Thus, for now, no vaccine is needed for roughly one sixth of the EU population.

Second, a significant fraction of Europeans are expected to refuse vaccination, and there is evidence that resistance to vaccination is growing.

The fraction of adult respondents who said that they would take a vaccine for COVID-19 dropped from 69% to 67% in Germany between August and October 2020, from 67% to 65% in Italy, from 72% to 64% in Spain, and from 59% to 54% in France.

It is unfortunate that public acceptance of vaccination is not higher, but the practical reality is that vaccine doses for these individuals will not be needed until and unless there is a substantial change in sentiment.

These two factors suggest that about 550 million doses are needed to vaccinate all EU adults who wish to be vaccinated in the near term, assuming no wastage and that the number of adults willing to be vaccinated remains stable. This number is a lower bound, however. If the vaccination programme produces good results with few side effects, and as the public witnesses the roll-out, public support could grow.

Older individuals, or those at risk because of pre-existing conditions or frequent contact with possibly infected individuals, are likely to place a greater priority on being vaccinated (see for example here on individual risk perception during the pandemic). There is thus a strong argument for procuring an additional buffer of doses, either as firm orders or else on a contingent or optional basis.

Third, some phasing over time is going to be necessary in any case. If all 550 million doses were available today, it would still take many months to administer them because of logistics and staffing limitations. The crucial question is not, then, whether sufficient vaccine is available today, but rather whether sufficient vaccine can be made available as quickly as it is feasible to administer it?

In the context of global demand for supplies of the few vaccines that are approved and effective, it is far from certain the EU can secure additional supply quickly enough. The EU's collective purchasing power is very substantial, but the bloc must compete with countries that are also willing to make substantial investments.

The shortfall

As previously noted, the EU has secured supplies of 380 million doses of the BioNTech Pfizer and Moderna vaccines, or 460 million if the optional 80 million Moderna doses are included, compared to an eventual need of at least 550 million doses.

The overall delivery schedule has not been published, but Germany has been forthcoming with some key details. To put these numbers in perspective, and following the logic we have sketched out, it would take about 90 million doses to vaccinate all adult Germans who are willing to be vaccinated.

German Health Minister Jens Spahn has said that in the near term there would probably only be 400,000 vaccine doses for Germany, with another 11 to 13 million to follow by March. The German government will vaccinate those aged over 80 first, along with high-risk healthcare workers, followed in a second group by those over 70 and various high-risk individuals.

There are 7.7 million Germans between 70 and 80 years old, and 5.4 million Germans older than 80 years, for a total of 13.1 million. A large fraction of these can be expected to be willing to be vaccinated.

Thus, the 11 to 13 million available doses of BioNTech Pfizer and Moderna vaccine are unlikely to be sufficient to vaccinate both the elderly and the other high-risk groups currently targeted, including care-givers and those with other health conditions. Delay can be expected – delay that could have been avoided with better planning.

Press estimates suggest that supplies of the vaccines available to Germany for the first half of the year should be some 45 million BioNTech Pfizer doses and an additional 15 million Moderna doses, for a total of about 60 million.

This represents only about two thirds of the 90 million doses that we estimate will be needed to vaccinate all adult Germans who wish to be vaccinated, which once again represents the minimum that should be sought.

For the end of 2021, the situation in Germany might look better if all goes as planned. The German Ministry of Health claims that a total of 136.3 million BioNTech/Pfizer and Moderna doses have been secured, almost all of which could be delivered in 2021.

That should be sufficient to vaccinate 68 million out of 83 million Germans. If willingness to be vaccinated is high, a third approved vaccine might be needed to vaccinate the rest.

If it can be approved quickly, the Oxford-AstraZeneca vaccine could potentially fill this gap in the near term. There are, however, multiple concerns.

The first is that the application for EU authorisation appears, at time of writing, either to have not been made, or else not made to the satisfaction of the European Medicines Agency, the agency that must assess the authorisation application. The date for EU authorisation consequently cannot be predicted with confidence, but press reports suggest that January is not possible. The second has to do with errors in the Phase 3 test, and what they imply.

Results have been reported for the Phase 3 tests that were conducted in the UK and Brazil, but, according to *The Lancet*, *"a subset (LD/SD cohort) in one of the UK trials inadvertently received a half-dose of the vaccine (low dose) as the first dose before a change in dosage quantification methodology."*

Paradoxically, the cohort that received the incorrect dosage showed effectiveness of 90%, where those who received the planned dosage showed effectiveness of only 62%. It is unclear (and also somewhat inconsistent with other results from the Phase 3 trial) why the lower initial dose should lead to greater effectiveness.

The combined results imply an effectiveness of 70%, which is fairly good compared to many conventional vaccines but rather poor compared the 95% effectiveness of the BioNTech and Moderna vaccines. How should policymakers decide who gets the less-effective vaccine?

In a concerning report, *Der Spiegel* said that the Commission concluded contracts with Sanofi, Johnson & Johnson and AstraZeneca between August and July 2020, even though it was already fairly clear since July that the BioNTech and Moderna vaccines were the frontrunners.

In addition, according to *Der Spiegel*, the EU did not place firm orders with BioNTech and Moderna until mid-November (after both firms claimed 95% effectiveness), and even then failed to order as much as it could have. The Moderna CEO said the company could have delivered up to 300 million doses but the Commission wanted only 80 million.

The magazine also alleged it was politically impossible for the Commission to order more doses from a German firm (BioNTech) than from the French firm Sanofi, though the Commission has disputed this claim (Sanofi has subsequently reported that its vaccine will not be ready for authorisation before 4Q2021).

Whether closing the gap will actually confer herd immunity remains uncertain. Estimates to date have typically assumed that 50% to 70% of the population needs to be vaccinated (or a combination of vaccinated and infected) for herd immunity to be effective, but this estimate is heavily dependent on R0, the rate of spread.

If for instance the new COVID-19 variant reported in the UK has a higher rate of spread, then the percentage of vaccinations needed to achieve herd immunity will obviously be higher.

Nevertheless, if a large fraction of the population can be vaccinated, and an especially large fraction of those at risk, many lives can be saved and the risk of overloaded healthcare systems will be reduced.

The populations at greatest risk are those between 70 and 80 years of age, and especially those over 80 years of age. These cohorts represent 8.6% and 5.8% of the total EU population, for a total of 14.5%, or 64.6 million individuals.

Extrapolating from Minister Spahn's statement (the allocation of vaccines to EU countries is based on population; thus Germany obtains 18.6% of available supplies), the EU expects to have between 59 and 70 million doses by the end of March, suggesting that as of March there will not be enough doses to cover both the elderly and the other high-risk groups, including care-givers.

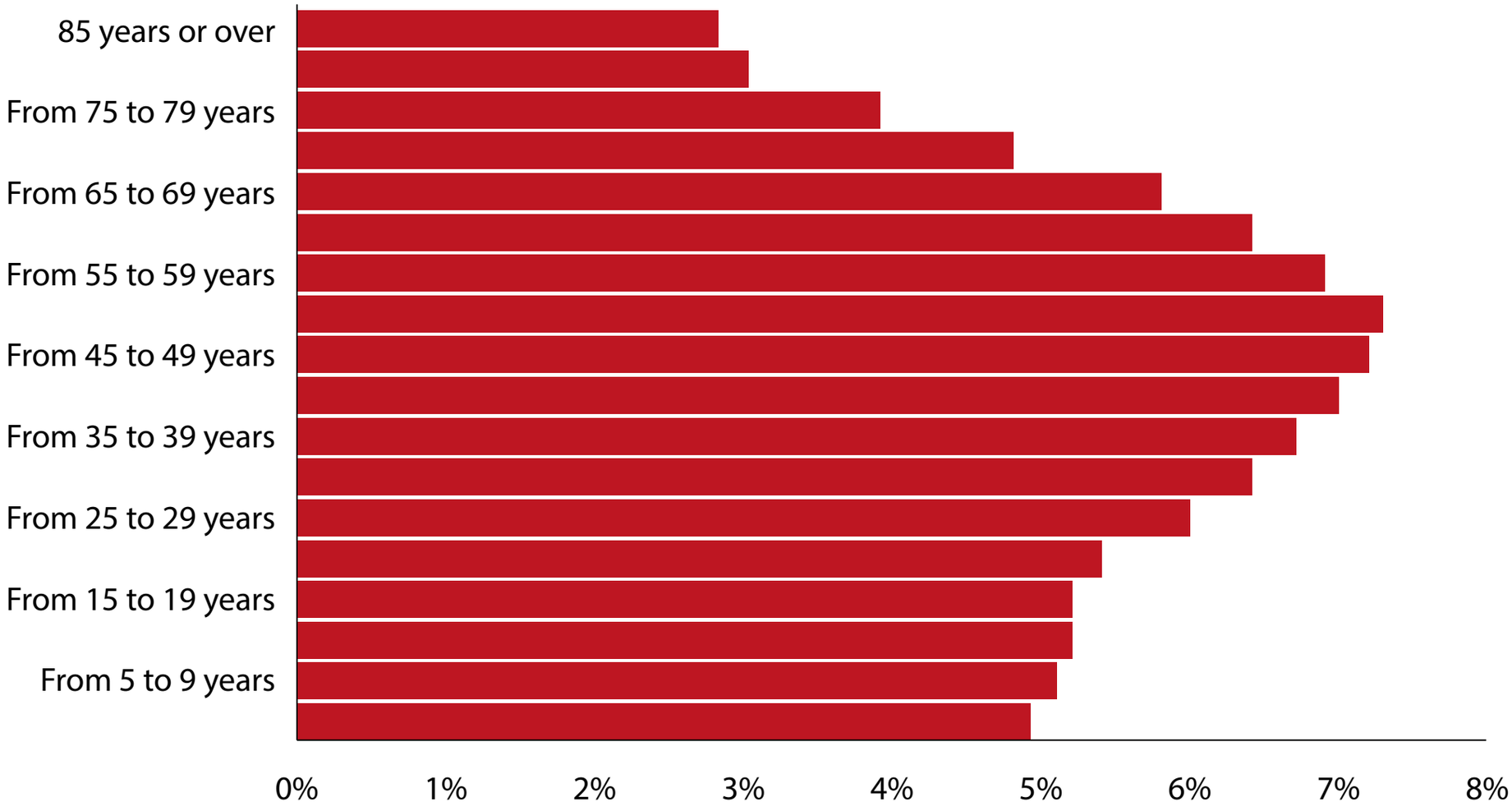
The situation will differ slightly in different countries as a function of their demographic breakdowns and the willingness to be vaccinated, but all countries can be expected to have a short-term shortfall.

What can the EU or its members do today?

A key element of the solution to the near-term shortfall would be for the EU to revisit its arrangements with Moderna. It has been reliably reported that the price of the Moderna vaccine to the EU is $18 per dose, which is the highest price of any of the vaccine prices that the EU has negotiated.

The cost of purchasing the full 220 million doses of vaccine that the EU declined to purchase in November would have been about €3.3 billion at current exchange rates.

Figure 2. EU population by age group (percent as of January 2020)



Source: Bruegel based on Eurostat.

When one considers that the EU is looking at a pandemic relief package of €750 billion, it becomes obvious that paying up to €3.3 billion to accelerate a return to something approaching normality by even a few months is an exceedingly good investment.

If BioNTech/Pfizer has any uncommitted capacity, then buying more of their vaccine would be more cost-effective than purchasing the Moderna vaccine. BioNTech is reportedly attempting to bring more production capacity online in various ways. One way or another, the EU would be well advised to purchase enough of one of the two highly-effective vaccines quickly enough, in order to avoid significant supply shortfalls.

If neither is possible, then the Oxford-AstraZeneca vaccine represents the best currently available alternative. Steps should to be taken on an accelerated basis to clarify the very strange results of the Phase 3 tests and to determine the most appropriate dosage to apply; to grant authorisation on an expedited basis if warranted; to determine who should receive the Oxford-AstraZeneca vaccine (perhaps populations that are at lower risk), if it is truly less effective at proper dosage.

The Johnson & Johnson vaccine may represent another alternative, but it will become available a few months later if all goes well.

Meanwhile, practical experience with the BioNTech Pfizer vaccine indicates that the amount of vaccine in each vial is often enough for six doses instead of the intended five, and that this is not a question of administering too little vaccine in the first five doses.

There is simply a bit extra. Health authorities on both sides of the Atlantic appear to be concluding that it is safe to take advantage of this unexpected benefit, which may ease the shortage a bit.

The exact scale of the additional doses needed requires careful planning. Every effort should be made to ensure that additional supply can be obtained if the number of individuals willing to be vaccinated increases over time, as seems likely.

Arranging for contingent supply could be the answer. The Commission has put in place options for additional quantities of vaccine. It will be important to try to ensure delivery commitments for quantities that have not been firmly committed; however, as a matter of good global citizenship, the EU should not needlessly tie up supplies that it cannot use, thus raising prices and decreasing availability for other regions of the world.

No matter what approach is taken, all vaccine suppliers must be monitored to ensure that they can meet committed delivery schedules at suitable quality.

An equally important consideration for both the EU and its members is to ensure efficient and effective administration at all levels. Procurement is only one stage in a complicated logistics chain. The vaccines must be distributed to countries, further distributed to health facilities within each country, and administered to as many people as possible.

Lessons to be learned

For future pandemics – and we should not doubt that there will be future pandemics – there are lessons to be learned from the coronavirus experience.

All indications are that the Commission was lax in its planning during the past few months. Funding a variety of vaccines early in the process in order to make sure that at least one or two successful vaccines would emerge was appropriate.

Once it became clear, however, that a small number of candidates were likely to prove safe and effective, and would be ready much sooner than others, the EU's purchasing strategy should have shifted to ensure a sufficient supply of frontrunners. This was apparently not done, and still has not been done.

In November, after the two frontrunners had been shown to be safe and highly effective, a course correction was still possible but was not made. This was a mistake – the cost of securing a sufficient supply of one of the two leading vaccines was minimal compared to the cost of delaying vaccination of a significant fraction of the population.

As a practical matter, this possibility could have been anticipated, and some reserve cash set aside in advance – a consideration for future pandemics.

What this demonstrates is that the ESI, the chosen instrument for funding vaccines, was substantially under-funded at €2.7 billion (not all of which was for vaccines). This reflects poor planning on the part of the Commission. The need to 'pivot' once the front-runner vaccines had clearly established themselves was foreseeable, but was not foreseen.

Nevertheless, the EU has made major strides in strengthening its joint response to this pandemic. But it seems clear that continued vigilance to ensure both good planning and solidarity in the EU approach across the member states will be needed in future crises, just as it has been essential in the current crisis. ■

J Scott Marcus is a Senior Fellow at Bruegel

This article was first published on Bruegel

What do vaccination passports mean for Europe?

Fundamental freedoms should not be limited unnecessarily, say Lionel Jeanrenaud, Mario Mariniello and Guntram Wolff. Nevertheless, vaccination passports have to be considered

The sudden reappearance of national borders within the European Union because of travel restrictions, self-quarantine and test requirements – all differing depending on the country – has underlined the importance of a right that Europeans sometimes take for granted: the free movement of people. Both the EU Treaty and the Schengen agreement, which define and guarantee this basic principle of EU citizenship, allow border checks to be re-established for health reasons.

Restrictions of movement rights as well as severe domestic restrictions on fundamental rights have of course been tools to limit the spread of COVID-19. These policies are justified because every individual could impose possibly major costs on others (negative externalities, in economists' jargon) by spreading the virus.

The availability of vaccines and the logistics of organising mass vaccination will be key determinants of the post-COVID-19 economic recovery, and also the ability to increase mobility and reduce restrictions within and between countries.

So far, the vaccine rollout in the EU has been slow, and vaccines may only become widely available in Europe after mid-2021. Here, we explore to what extent vaccination should allow restrictions on the individual to be lifted in the interim.

The first question is whether a vaccinated person can still be infectious. Even if research on this is not yet conclusive, it may be reasonable to assume that vaccination can reduce the externality: vaccinated individuals will be less likely to spread the virus. If so, there seems to be no reason to continue to deprive those individuals of their fundamental rights.

Worse, doing so would be akin to what occurs in freedom-denying authoritarian states. How can one force an individual into quarantine after foreign travel if he or she is not infectious?

As a result, a growing number of countries, including in the EU, have been considering the introduction of so-called 'vaccination passports' which should provide their holders with easier access to certain services including travel. In the EU, Greek prime minister Kyriakos Mitsotakis has been the most vocal proponent of such a solution, calling for the adoption of common EU standards to ease travel.

European Commission president Ursula von der Leyen has stated that she is in favour of vaccination certificates, while leaving open the question of whether this certificate alone should enable unhindered travel. Many EU heads of government have already come out in favour (Denmark, Cyprus, Poland, Belgium, Estonia, Spain). But there has also been resistance.

It is not a question of privileges but rather of fundamental rights, the removal of which only grave externalities can justify

Figure 1. Vaccine mandates in the EU

In France, the idea was quickly ruled out, challenged both by popular opposition and legal hurdles. Some legal experts have argued that, as long as the vaccine is not truly accessible to all, conditioning access to certain services would be discriminatory. And doing so would require clearly laying out exemptions for individuals who cannot be vaccinated (such as pregnant women or individuals with potentially severe allergic reactions).

These legal hurdles are by no means insurmountable. For a variety of diseases, many European countries already enforce some form of mandatory vaccination rule, meaning that access to certain services (most frequently, schools) is conditional on inoculation against listed diseases. Figure 1 summarises these vaccination requirements.

In 2020, Germany joined the ranks of countries with mandatory vaccination rules in an effort to contain a new measles outbreak. Italy and France have both increased the number of mandatory vaccines in recent years.

The most compelling objection to an immunity passport might be the possible loss of social cohesion. A vaccination passport could be perceived as unfair as long as vaccines

have not become available to everyone. Countries are able to restrict access to school for children who are not vaccinated against measles because the measles vaccine is widely available.

Thus, acceptance of the idea that those who are vaccinated first should immediately recover their fundamental rights depends on whether the vaccination allocation timeline is perceived as fair. The Indonesian vaccination strategy for instance, prioritising the younger, working-age population (supposedly because the vaccine has not been tested in Indonesia on the elderly), has attracted much criticism, bringing into question tolerance for the fragmentary recovery of fundamental freedoms.

That may seem extreme by European standards. And yet, local administrators have reportedly suggested that richer regions should get larger shares of vaccines to prompt economic recovery. Empirical models may indicate that super-spreaders should be vaccinated first, rather than the vulnerable.

In the EU, national authorities are in charge of developing vaccination priorities. While these have not always been vetted by national parliaments, they have been decided by elected officials and presumably are democratically and politically accepted. If the public perceives these priorities as fair, it could open up the possibility of reducing restrictions for those who have already been vaccinated, while maintaining them temporarily for the rest of the population.

One possible counterargument is that in EU countries, vulnerable individuals are unfortunately not treated in the same way. While the European Commission has led EU efforts to procure vaccines through a centralised scheme, the distribution of vaccines to EU countries is being done on a per-capita basis, ignoring the different age structures, in other words the main drivers of vulnerability, of each country.

Table 1. Share if EU vaccines vs. share of over-65 population

Country	Share total EU population	Share over 65
Italy	13.51	15.23
Germany	18.58	19.76
Poland	8.50	7.41
Spain	10.50	10.06
Romania	4.34	3.97
Ireland	1.10	0.76
Slovakia	1.22	0.97
Greece	2.40	2.61
Netherlands	3.87	3.66
Portugal	2.30	2.48
Belgium	2.56	2.39

Note: Countries marked in italics receive lower shares of vaccines than their share of the EU population aged over 65, while Treceive vaccine shares that exceed their shares of the over-65 population.
Source: Bruegel based on Eurostat.

Table 1 summarises, for selected European countries, the share of total EU population and the share of total EU population above 65. Based on its total population, Italy is receiving 13.51% of the vaccines procured by the European Commission. But if distribution was done on the basis of the share of the EU population aged over 65 (a major risk factor with COVID-19), Italy would receive 15.2% of vaccines.

Meanwhile, with its younger population, Poland is significantly better off with the current distribution scheme. Assuming similar vaccination rates and within an immunity passport framework, this suggests that young Polish citizens will be free to travel before young Italian citizens, simply because of their country's population age structure.

This issue is even more striking on a global level. Rich countries have been able to begin their vaccination campaigns much sooner than poor countries and everything indicates that the correlation between higher GDPs per capita and higher shares of vaccinated individuals will only strengthen in the months to come.

Will rich countries only allow travellers to enter if vaccinated, essentially excluding individuals from poor countries? Will global air travel depend on vaccination certificates?

There are no easy answers to these questions, and policymakers will likely struggle to strike the right balance. To the extent that vaccination prevents individuals from being infectious, restrictions on rights could be lifted.

To ensure social acceptability, the distribution of vaccines should be based on democratic support. Decisions on distribution are fundamentally important, affecting life and death and social acceptability. Continuing to restrict the freedoms of non-infectious individuals seems unacceptable.

It is not a question of privileges but rather of fundamental rights, the removal of which only grave externalities can justify. ■

Lionel Jeanrenaud is a Research Assistant, Mario Mariniello a Senior Fellow, and Guntram Wolff is the Director, all at Bruegel

This article was first published on Bruegel

Regulating big tech

The EU's proposed Digital Markets Act will attempt to control online gatekeepers by subjecting them to a wider range of upfront constraints. Julia Anderson and Mario Mariniello consider the implications

Digital market forces drive huge efficiency gains. But they also create winner-take-all dynamics that can, left unchecked, lead to monopolistic markets and hurt consumers in the long run. Slow-moving competition policy tools are ill-equipped to fully address these digital concerns.

In December 2020 the European Commission proposed the Digital Markets Act (DMA)[1] to regulate the gatekeepers of the digital world by imposing direct restrictions on the behaviour of tech giants. While the Commission has not named any companies, it has proposed criteria that are sure to catch Google, Facebook, Amazon, Apple, Microsoft and SAP, among others.

This blog unpacks the different provisions of the DMA and explains why the Commission chose to regulate big tech.

What is a digital gatekeeper?

A gatekeeper is a company that acts as an important nexus between two or more groups of users – say buyers and sellers. When they attract a large share of users on one side of the platform (say buyers) gatekeepers can become unavoidable tolls on routes to certain markets or customers. Users on the other side of the platform (say sellers) may have little choice but to use the gatekeepers' infrastructure.

The EU has thought in terms of 'digital gatekeeper' for as long as Google has existed[2]. In the DMA, it defines a gatekeeper as a platform that operates in one (or more) of the digital world's eight core services (including search, social networking, advertising and marketplaces) in at least three EU countries and:

- Has a significant impact on the internal market (defined quantitatively as an annual turnover of €6.5 billion or a market capitalisation of €65 billion);

- Serves as an important gateway for business users to reach end-users (user base larger than 45 million monthly end-users and 10,000 business users yearly); and

- Enjoys an entrenched and durable position or is likely to continue to enjoy such a position (meets the first and second criteria over three consecutive years).

A platform that meets these quantitative thresholds is labelled a gatekeeper. However, the Commission would retain the right to remove (or confer) 'gatekeeper' status by qualitative assessment. The Commission would also be empowered to alter the thresholds as technologies change, and to conduct market investigations to look for new gatekeepers.

The Commission does not propose to regulate big tech as natural monopolists, but rather to make sure it never has to

Why big tech is big

Digital hubs are a time drain. In December 2019 (pre-COVID-19), the average Italian[3] spent 45 hours a month on Facebook, and 24 hours on Google. The same may be true for physical marketplaces and social venues, but online, the hubs are controlled by only a handful of global players.

British internet users spend 40%[4] of their online time on sites owned by just two providers (Google and Facebook). These same two providers are frequented by 96% and 87% of British users each month. 58% of Germans[5] book their holidays through just one site (Booking.com).

For a long time, policymakers were not especially worried about high concentration in digital markets. They assumed digital champions faced competition 'for the market', that is, competition from outside players keen on becoming tomorrow's winners. After all, Facebook outcompeted MySpace. Google overtook AltaVista. Nokia once looked unassailable.

But the competitive dynamics of the early days of the internet no longer seem to apply. While the primacy of AltaVista lasted one year (and Myspace three years), a decade[6] of that of Google and Facebook has now passed. The persistence of today's digital leaders has become concerning: have they found a way out of the competitive race?

There are several explanations for the unusual persistence of digital leadership. For one, digital markets feature characteristics of 'tipping markets', or markets in which there is room for only a few players.

These characteristics are the combination of:

- Consumer inertia (why bother shop for a new email provider when the current one works just fine?);

- Increasing returns to scale (recommendation algorithms become better with more users);
- Low marginal costs (it costs close to nothing to distribute one extra app);
- Strong direct and indirect network effects (the more users frequent a social media site, the more attractive it becomes to other users and to advertisers).

To illustrate, consider the market for mobile operating systems (OS). OS with more end-users are naturally more attractive to app developers than OS with fewer end-users. Developers thus tend to prioritise the largest OS (an example of indirect network effects).

Over time, the gap in what larger and smaller OS can offer grows. The large OS gather more user data which helps them improve the quality of their recommendations. The small OS become even less attractive, until they go bust and the winners take all. One of the reasons Microsoft abandoned the mobile market[7] in 2017 is that it could not attract enough app makers to its OS.

Masses of data, cheap machine learning technologies and the refining of ecosystem business models[8] have further entrenched leading positions, conferring incredible bargaining power to set commercial conditions and terms unilaterally (eg. to expel, charge high fees, manipulate rankings and control reputations). Such power leaves platform users vulnerable to abuse.

Online gatekeepers are a source of concern

Success is by no means illegal. But practices that lock it in might well become unlawful. The DMA would constrain gatekeepers' behaviour while forcing them to proactively open up to more competition.

Those in breach of the rules face penalties of up to 10% of their yearly turnover and repeat offenders face being broken-up.

The DMA addresses two problems: high barriers to entry and anticompetitive practices by gatekeepers. The objective is to make digital markets both contestable and fair for existing and future rivals.

To illustrate, consider the DMA's prohibition on combining end-user data from different sources without consent. Combining data from multiple sources can give gatekeepers a significant advantage over smaller rivals.

Indeed, data gleaned from one source, say online searches, can be used to predict users' preferences in other market, say music streaming. A gatekeeper that knows the web browsing history of a user is much better positioned to predict her musical tastes than a data-poor rival.

Restricting the combination of data from multiple sources, therefore, restricts the ability of gatekeepers to leverage their market power from one market to another to the detriment of small players. Other prominent rules include:

- No self-preferencing: a prohibition on ranking their own products over others;
- Data portability: an obligation to facilitate the portability of continuous and real-time data;
- No 'spying': a prohibition on gatekeepers on using the data of their business users to compete with them;
- Interoperability of ancillary services: an obligation to allow third-party ancillary service providers (eg. payment providers) to run on their platforms;

- Open software: an obligation to permit third-party app stores and software to operate on their OS.

The proposal also includes a requirement that gatekeepers inform the regulator of all mergers and acquisitions, even when the target is too small to be subject to merger control. It does not include any powers to intervene to block these mergers however (unlike the equivalent UK proposal[9]).

As with the definition of 'gatekeeper', the DMA's list of obligations is a balancing act between enforceability and flexibility. Indeed, while seven rules apply equally to all gatekeepers, the majority (eleven rules) will be tailored to each.

The practical consequences of unconstrained power

In the last few years, numerous studies (twenty-two of which are summarised here[10]) and antitrust investigations have suggested that some gatekeepers adopted questionable practices from a competition standpoint (Table 1).

In setting the DMA list of obligations, the Commission drew on the knowledge it acquired through the various antitrust investigations: the DMA rulebook targets most of the unfair practices listed in Table 1.

Take the Amazon case for example. The Commission suspects the e-retailer of gathering data on the activities of third-party sellers in order to out-compete them.

One DMA obligation – for gatekeepers not to use the data of business users to compete with them – would clearly addresses the problematic practice.

Table 1. Alleged unfair practices by large digital platforms investigated by EU or national competition authorities (NCA)

General practice	Platform	Nature of concern	Legal action
Unfair contract terms	Apple	Anti-steering clauses on the Apple App store (Epic Games case)	Private lawsuit open (2020)
	Booking.com	Most favoured nation clauses	German NCA, overruled (2019)
	Amazon	Links between access, rankings and unrelated conditions	German and Austrian NCAs investigation open
	Google	Exclusivity clauses (Google AdSense)	Commission decision (2016-2019), pending ruling by the EU General Court
Anti-competitive use of third-party data	Amazon	Misuse of Amazon Marketplace data to benefit own services	Commission investigation open (2019)
	Google	Misuse of third-party data to support display advertising	Italian NCA investigation open
	Apple	Concerns over Apple App store data use to inform own music product development	Dutch NCA market study (2019)
	Facebook	Misuse of third-party data	German NCA, overruled (2019), now on appeal

Table 1. Alleged unfair practices by large digital platforms investigated by EU or national competition authorities (NCA) continued

General practice	Platform	Nature of concern	Legal action
Self-preferencing in rankings and listings	Google	Influencing listings (Google Shopping)	Commission decision (2010-2017), pending ruling by the EU General Court
	Google	Pre-installation of Chrome on Android (Google Android)	Commission decision (2015-2018), pending ruling by the EU General Court
	Google	Refusal to list competing app on auto services	Italian NCA investigation open
	Amazon	Exclusivity clauses (Google AdSense)	Italian NCA investigation open
Tying and bundling	Microsoft	Tying of Media Player to the OS	Commission decision (2000-2004)
	Apple	Pre-installation of Apple music service onto Apple devices	Dutch NCA market study (2019)
Lack of access to key functionality	Apple	Lack of access to payment chip	Dutch NCA market study (2019)
	Amazon	Exclusive access to rating service Vine	German and Austrian NCAs investigation open
Other self-preferencing	Apple	Commissions of up to 30% on downstream competitors	Commission investigation open (2020)

Note: Cases investigated by the European Commission are highlighted in grey.
Source: Bruegel based on European Commission's DMA Impact Assessment (2020)[11].

Stepping-up with ex-ante regulation

The DMA takes a diametrically opposite approach to antitrust enforcement (which is currently the United States' favoured approach). It is an ex-ante set of rules that constrains operators before any bad behaviour can materialise, as opposed to antitrust which kicks in after an infringement (ex-post).

Antitrust (ex-post) enforcement has a number of advantages: by proceeding on a case-by-case basis it can be applied to a variety of business models, avoiding the imprecision of regulation.

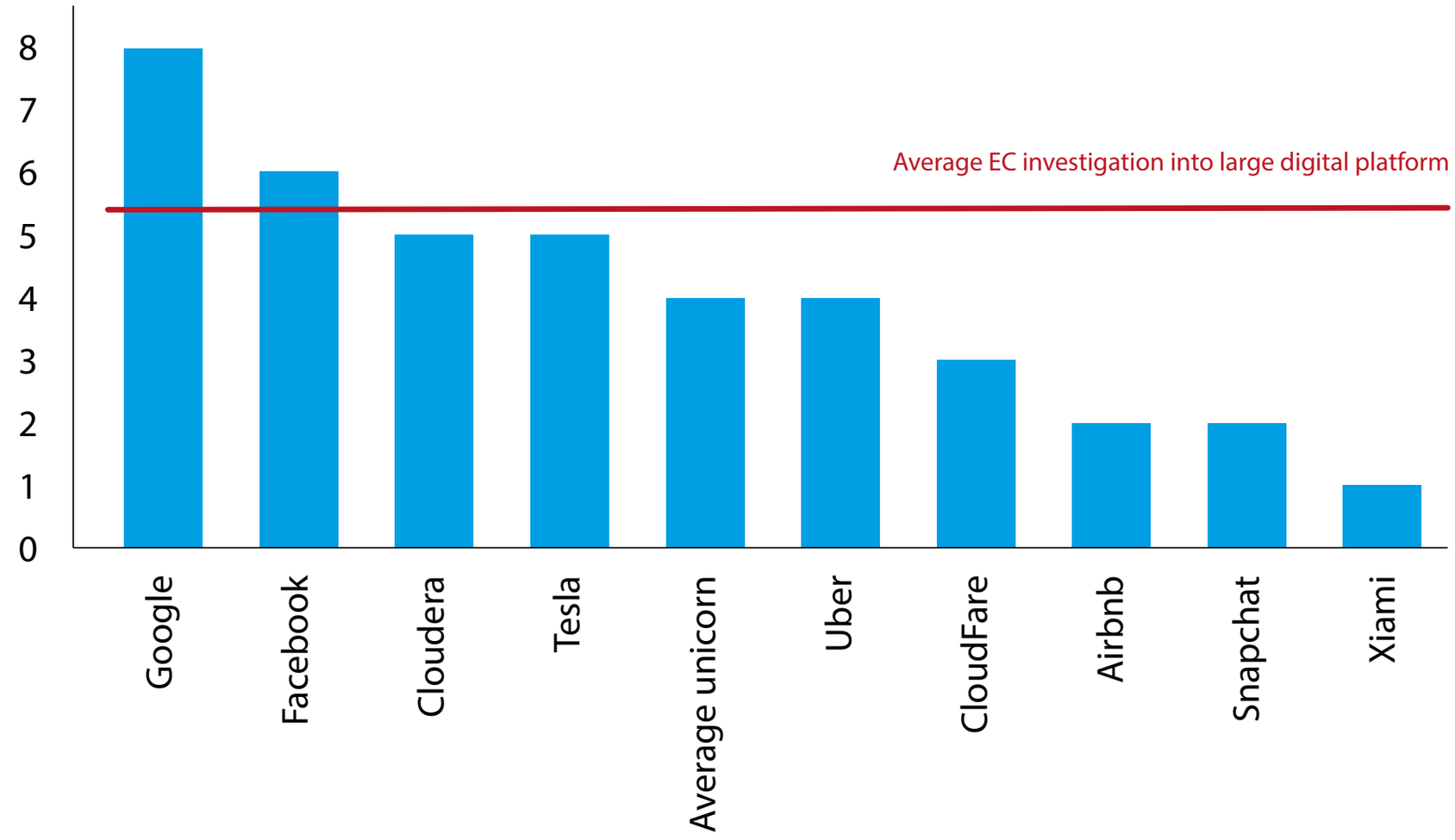
However, examples like the Google shopping case, now in its tenth year, show that this approach isn't fit for digital markets. Google's business model has changed considerably over the past decade, aside from the fact that for the competitors hurt by Google's conduct in 2010, the damage has been done.

In fast-moving markets prone to tipping, ten years is a lifetime. On average, successful start-ups that reach a valuation of $1 billion do so in one year less than it takes the Commission to run an investigation into large digital platforms (Figure 1).

The analytical pillars of antitrust cases are: market definition (eg. the market for music streaming) and assessment of market dominance (ie. how much power the investigated firm has in said market).

As highlighted in the DMA's impact assessment[12], both are notoriously difficult to establish in multisided digital markets: what may amount to a market on one side of the platform (eg. the side of music streamers) may not clearly extend as a market on the other (eg. the side of music publishers).

Figure 1. Years to reach valuation of $1 billion and average length of Commission antitrust case into large digital platforms



Note: average length of a Commission antitrust case into large digital platforms computed on the basis of the information provided in Table 1. Unicorn=start-up company that reaches a valuation of $1 billion.
Source: Bruegel based on Accenture.

The fact that many digital goods are provided for free also challenges traditional methods for assessing market power.

The EU's competition authority's resources are already stretched[13]. This can only exacerbate the great asymmetries in technology and knowledge between the authorities and market players.

Even if competition enforcement could somehow be sped up in digital cases, it would fail to adequately address the systemic failures that stem from the behaviour of digital users, for example the tendency to stick to the default option.

Online platforms have developed sophisticated tools to monitor users' behaviour in real-time and are uniquely positioned to leverage behavioural biases to solidify their market positions. Consider, for instance, that on a smartphone where Google is the default search browser, 97% of searches are made on Google versus 86% on desktops where Bing is the default, according to a CMA report[14]. Forcing one platform to change its default setting will do little to prevent every other digital player from doing the same.

Regulation can address some of these limitations: by setting out clear rules from the outset, regulators would be empowered to act quickly when these rules are violated. The creation of a digital market centre of knowledge and expertise would ensure speedy detection. Regulation is also more far-reaching: it concerns all gatekeepers, all of the time.

True, regulation is more prone to capture by industry than competition policy. Over-enforcement is also a concern as rules could fail to account for consumer benefits from seemingly anti-competitive behaviour. In a very dynamic environment, regulation can be rendered useless.

These are risks EU policymakers are willing to take after what they have judged to be years of underenforcement. And the proposed DMA offers more flexibility than the stereotypically-rigid regulatory approach. As described above, the terms of the DMA would evolve alongside markets and adapt to individual business models.

More fundamentally, the aim of the DMA is to protect the competitive process, not to prescribe specific outcomes. The Commission does not propose to regulate big tech as natural monopolists, but rather to make sure it never has to. ■

Julia Anderson is a Research Analyst, and Mario Mariniello is a Senior Fellow, at Bruegel

Endnotes

1. The DMA was proposed alongside the Digital Services Act (DSA) which targets illegal goods, services and content, abuse of platforms, advertising and algorithmic transparency. The DSA concerns most online businesses.

2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3544694

3. https://op.europa.eu/en/publication-detail/-/publication/2a69fd2a-3e8a-11eb-b27b-01aa75ed71a1/language-en/format-PDF/source-search

4. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803576/CMA_past_digital_mergers_GOV.UK_version.pdf

5. https://op.europa.eu/en/publication-detail/-/publication/2a69fd2a-3e8a-11eb-b27b-01aa75ed71a1/language-en/format-PDF/source-search

6. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf

7. https://twitter.com/joebelfiore/status/917071857370595328
8. https://www.bruegel.org/wp-content/uploads/2020/11/WP-2020-06-1.pdf
9. https://www.gov.uk/government/news/new-competition-regime-for-tech-giants-to-give-consumers-more-choice-and-control-over-their-data-and-ensure-businesses-are-fairly-treated
10. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3681322
11. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803576/CMA_past_digital_mergers_GOV.UK_version.pdf
12. http://notifications.parr-global.com/c/eJx1kk1v3CAQhn_NcmPFADZw8GGj3U1zaNplm1bZ22DGayp77WI7TfLrS9wPqYdKaNAAembeeRnTEJZ6rkZMiWG9pDg9TpTuQmUArAZX8vlAR65vtOa70liuze4lUOz3bl-yUAnhwVv2faH0-gGntnLOgfZOSR-UwUJ4Z1VdkKmdQHLKM7o-V118JhYrKaQACQWUwgq7he1OOXvQ5riT5kbLUm-0eO-MX7rBY7eth561FTXkPVlXlKWXDVhQwhplcmGnqTCW9TjXbZZw_vr449w_vdzfPqj7U2jPt4fX-9OX9unbAZ7eDm8fTzuZd_3p9mGj9mz5JVwKUTgryoJ1VTvP47RRu4085jWMW1rSMGLeckrXHMbFd7HGOQ5XHmjG2OVD_u9FzgQ6LFWJXJFVHIA899J4LgDRFBQMIORnHV4vC16Ir-xmSFkK_7x_Lz4NS6qJT4SpbhmO4x96dR3m2PxOJhbiNL7rp7DHmdYRc5AcihOUWYmwa9hKUZ5Z9j0NTezoLuQBFD5kx4VDAKiDEEBA5KRmcTrRNFcNdhOxmfqxy-Q8qdWaZum6mV5m9hdV_Re0GnN6HamKfU8hZgxLFXZNbnzYdthjSDFk0y-ZHC8LTavldYozpYjr_5LWow5aGekUoS-o8Upr8HUojLekfgKL5OGu
13. https://www.eca.europa.eu/Lists/ECADocuments/SR20_24/SR_Competition_policy_EN.pdf
14. https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final_report_Digital_ALT_TEXT.pdf

This article was first published on Bruegel.

The Digital Markets Act: A translation

Cristina Caffarra and Fiona Scott Morton argue that the European Commission's proposal is progress, but there are issues that need to be addressed

The European Commission has finally issued the proposed Digital Markets Act, its bid to complement antitrust intervention in digital markets with ex-ante regulation in the form of a set of obligations that platforms identified as 'gatekeepers' should abide by.

This column argues that the current proposal makes good progress, but lacks the translation tools to map the rules from the settings that inspired them to other businesses that are deemed gatekeepers, that the rules may not do enough to recognise the direct consumer harm that flows from the exploitation of data and the extraction and appropriation of consumer value, and that merger control remains a significant lacuna in the Commission's digital regime that will need to be addressed separately. In contrast, the UK CMA proposals condition the rules on business models and fold merger control into the digital regime.

The UK – having severed its links with Europe – simultaneously laid out its own distinct approach to regulating digital markets, now taking real shape after the statement of intentions in the 2019 Furman report. All of this is happening, extraordinarily, in the very same weeks that have seen five major complaints filed in the US against Google and Facebook by the federal agencies and the state attorney generals. And China has opened a major investigation of e-commerce giant Alibaba.

While the final form of the EU DMA rules will change possibly substantially in its journey through the European Parliament and European capitals before final approval, there is a lot to consider already.

First, let's say what this isn't. Americans in particular, looking at it from afar, may expect it to be something akin to common carrier or public utility-style regulation. Not so – the regime is not designed to regulate infrastructure monopolies, but rather to create competition as well as to redistribute some rents.

Second, the current definition of 'gatekeeper' is not nuanced, and so we expect it will be updated and improved in the review process.

Third, in our reading, the list of Obligations seems to be a catalogue derived from past and current antitrust cases involving the usual set of big tech platforms, but lacks the translation tools to map a rule from the setting that inspired it to other businesses that are deemed gatekeepers.

Translating these dicta into actionable rules that people and companies can understand likely will require clearer organising principles around business models. The UK is doing just this – the CMA proposed regulation identifies the equivalent of a gatekeeper platform while at the same time creating a set of rules designed for that specific business model.

While the final form of the EU DMA rules will change possibly substantially in its journey through the European Parliament and European capitals before final approval, there is a lot to consider already

Fourth, while 'data' is mentioned multiple times in the Obligations, it is unclear that the rules do enough to recognise the direct consumer harm that flows from the exploitation of data and the extraction and appropriation of consumer value, amplified by privacy concerns.

Lastly, while we understand there are legal reasons why the DMA could not include merger reform, the effective regulation of digital platforms requires powering up this essential tool.

As the UK is folding its merger control into its digital markets regime, and the US is making undoing bad mergers a cornerstone of its antitrust cases against Facebook and Google, there appears to be a significant lacuna in the EC digital regime that needs to be addressed.

For Americans: what this *isn't*

The US' 'big awakening' on the use of antitrust to deal with digital markets (Google and Facebook in particular) is much welcome and overdue. To Europeans, the recent federal and state complaints have looked like an extraordinary giant iceberg breaking free and finally on the move – with a much broader scope and bolder agenda than anything Europe had set out to do.

While Europe has done good cases, zooming in on a particular market and conduct (Google Shopping, Android), nothing has been quite as far-reaching in ambition. *"You cannot buy your way out of competition"* is the big underlying theme of the US complaints – a theme that has broad reach, encompassing exclusivity agreements, special deals with rivals to keep them out of a market, and multiple acquisitions to buy out threats.

It will take some time for the US policy community to evaluate what they can expect to achieve with these cases and on what timeline. In the future we expect to see digital regulatory initiatives advance also in the US.

And because experimentation with different approaches will matter, industry participants and policymakers in the US will benefit from watching the European regulatory experiment unfold.

It is important for Americans to appreciate that the European DMA (European Commission 2020) is *not* is a step to breakups (in classic European fashion, these are briefly mentioned only as a last resort for repeat offenders) or a common carrier/public utility style regulation.

Its animating principle is not so much to control the power of a monopoly infrastructure (eg. setting access terms), but much more to prohibit or discourage conduct that has either the intent or effect of preventing entry of a rival (or raising its cost) *where entry would otherwise be possible.*

A second purpose is to enforce *fairness*, a strong pillar of the European ordoliberal tradition, by prohibiting conduct that exploits and weakens counterparties that depend on the platform. Removing obstacles to entry, and fairness in the relationship with dependants, are the two goals of the law. Its method is 'pro-competitive regulations' that seek to tame market power by enabling new competitors, rather than choosing price or quality levels[1].

Note that this is quite different from a sector-specific regulator who might approve particular prices or approve certain product characteristics. US observers tend to associate the word 'regulation' with this type of market intervention.

The EC law is designed to operate much more strongly on the dimension of barriers to entry and to competition in the expectation that, if entry barriers are lowered, more competition can create a competitive price or quality (though consumer protection is also needed, which the parallel Digital Services Act – issued simultaneously to the DMA – is intended to take up).

The European Commission approach: needs a translation key, and some organising principles

The DMA envisages a two-step process in which the 'provider of a core platform service'[2] first self-designates as a 'gatekeeper', and then adheres to list of obligations that apply to all gatekeepers.

The criteria for the designation of a gatekeeper are *quantitative* (annual EEA turnover above €6.5 billion in the last three years, average market capitalisation or equivalent fair market value above €65 billion in the last year, active in at least three member states, over 45 million monthly active end users in the Union and over 10,000 yearly active business users in the last year).

Back-of-the-envelope calculations suggest that these criteria will capture not only (obviously) the core businesses of the largest players (GAFAM), but perhaps also a few others. Oracle and SAP, for instance, would appear to meet the thresholds, as would AWS and Microsoft Azure. Conversely Twitter, AirBnB, Bing, Linkedin, Xbox Netflix, Zoom and Expedia do not appear to meet the thresholds at present, and Bookings.com, Spotify, Uber, Bytedance/TikTok, Salesforce, Google Cloud and IBM Cloud appear to meet some but not others at this point[3].

For those that do not meet the quantitative criteria, there is a long-winded alternative method of designation via a 'market investigation' – a new tool which, however, will require time to get going and to run, and may not survive the review process in its current form[4].

The designation of gatekeepers mainly through quantitative rules is clearly intended to leave no room for the imagination – it will curb shenanigans and flannelling by companies trying to argue against all common sense, and speed up the process of designation.

On the other hand, a more principled approach will be needed for platforms that fall below the hard thresholds but may still be capable of conduct the law wishes to proscribe.

There are then two sets of 'obligations' laid out for gatekeepers: a shorter list of obligations that apply without qualification, and a longer list of obligations 'susceptible of being further specified' – the latter more tentative and 'for discussion', the former a definitive list of proscribed conducts (ie. 'thou shall not').

Identifying conducts that are not acceptable *in general* is important and right, but these lists are a curious game of charades. With experience and familiarity with past, current and pipeline EC antitrust cases, one can just about assign each entry to a particular company and its issue.

We attempt to do this in the table below. But this mapping is not obvious, because the writers have generalised each case away from its specific setting in order to apply a rule across the board. And then, when the mapping is finished, it is clear that some rules really are specific to one – or perhaps two – platforms, but unclear how they might or should apply to others, both within and outside the traditional GAFA list.

So how can these lists be made operational? Some organising principles around *business models* would have been more useful, even if one does not want to get too 'close and personal' and name individual companies. A fixed set of rules – covering all kinds of business models – applying to any platform that is designated a gatekeeper is the contrary of 'flexible'.

What is more, the separation between the designation of a gatekeeper first, and the application of the obligation second, is artificial because it is through the evaluation of conduct and its impact that an agency would identify

a gatekeeper and understand what particular rules would ameliorate the problems that have been identified. As discussed further below, the UK seems to be taking this combined approach.

The gatekeeper role cannot be independent of business models

Intuitively, we think of a gatekeeper as an intermediary *who essentially controls access to critical constituencies on either side of a platform that cannot be reached otherwise, and as a result can engage in conduct and impose rules that counterparties cannot avoid*. Susan Athey proposes a similar definition: *"A platform acts as a gatekeeper when it aggregates a meaningfully large group of participants that are not reachable elsewhere"* (Athey 2020).

The key is that the way in which gatekeeping power can materialise is distinct across business models (and platforms are often conglomerates operating several related businesses models; for example, Amazon Marketplace is distinct from AWS, Google's various individual businesses – operating systems, search, placing of display ads – are all different, and so on). The designation of gatekeeper applies not to the *whole firm*, but to one business *within* the conglomerate.

The need to recognise business models explicitly in designing rules for tech is now well established (Caffarra 2019, Athey 2020, Caffarra *et al*. 2020). The DMA makes only a fleeting reference to business models (four times in the whole document, and to no particular purpose), but in practice there are big differences in economic properties and *incentives* across these business models.

Compare three rough groups: ad-funded digital platforms (Google, Facebook, Bing, Pinterest, Twitter, Snapchat), transaction or matchmaking platforms that are marketplaces and exchanges (Uber, Airbnb, Amazon, DoubleClick), and OS ecosystem platforms (ie. operating systems and app stores such as iOS, Appstore, Android, Google Play Store, Microsoft Windows, AWS, Microsoft Azure etc.).

These business models differ in systematic ways in terms of (a) the *type of economies of scale* they rely on (data scale, R&D costs); (b) the *type and direction of network effects* (direct/indirect, one/both directions); (c) the *potential for multihoming* (on one or both sides), and (as emphasised again by Athey); and (d) the *potential for disintermediation*, either by someone else 'introducing a different layer' intermediating two sides of the platform (eg. end users and business users) or finding a way for two sides to connect to each other directly.

These distinctions matter because they mean the *entry strategies of competitors* will differ, and therefore defensive strategies will also differ. They also matter for the *definition of a gatekeeper*. Because a gatekeeper must be a business that *controls access to a large enough group of users to affect entry and competition*, key to the designation of a gatekeeper is *whether there are obstacles to multihoming, and whether users cannot directly bypass the platform*.

Obstacles to multihoming and disintermediation could be in part inherent to the service (transaction costs, technical barriers), but could also be induced by the conduct of the platform. At the stage of designating a gatekeeper, this distinction does not matter.

If there is a large enough user base that entry depends on, including upstream and downstream, and there is limited ability to multihome and no real possibility for bypassing the platform, then the platform business will be deemed to have 'gatekeeper power'.

However, the analysis of disintermediation and multihoming possibilities differs between three main categories of business models: ad-funded businesses, transaction/match-making businesses, and operating systems/app stores.

What the 'business models' approach makes clear is that it is also hard to formulate rules that are model-independent and work across the piece. It seems optimistic to us to imagine that despite the different incentives

created by the different functions of these platforms, a list of rules that are fairly specific to one setting will work across all of them.

More flexibility will need to be built in to make sure each rule fits and is effective in each setting; but by articulating a goal of protecting the competitive process and consumers, that flexibility can make the rules stronger, not weaker.

Translating the Obligations

In the table below, we reproduce the list and try to annotate it (not without some ambiguity) to map how we think the Obligations may have arisen (with a couple of exceptions) from particular platform issues based on publicly known cases and complaints. Some rules appear to have an 'Apple' label on them, others a 'Google' label, others an 'Amazon' label; only a few appear relevant to more than one platform.

Conditioning on business models would be clearer and more useful

So we can map these rules into cases, just about. But what are the generalisable principles? The narrative explanation in paragraphs 32-57 of the draft law devotes a paragraph to each obligation, but each is just a slightly expanded version of the same list we show above.

The text says – in more formal terms – that it is typically bad for a gatekeeper to mingle data, and that it is typically bad for a gatekeeper to restrict business users from offering cheaper services through other channels, or to promote and distribute its services through other channels, to restrict end users from switching between different software applications and services (eg. through pre-installation), to deny business users sufficient transparency on advertising prices, or to use data generated from transactions by its business users on the core platform for the purpose of its own services that offer similar services to that of its business users. This is just a repetition of what the Obligations say[20].

Obligations for gatekeepers, DMA Art. 5	Who
(a) refrain from combining personal data sourced from these core platform services with personal data from any other services offered by the gatekeeper or with personal data from third-party services, and from signing in end users to other services of the gatekeeper in order to combine personal data	Facebook, Google[5]
(b) allow business users to offer the same products or services to end users through third party online intermediation services at prices or conditions that are different from those offered through the online intermediation services of the gatekeeper;	Amazon, OTAs[6]
(c) allow business users to promote offers to end users acquired via the core platform service, and to conclude contracts with these end users regardless of whether for that purpose they use the core platform services of the gatekeeper or not, and allow end users to access and use, through the core platform services of the gatekeeper, content, subscriptions, features or other items by using the software application of a business user, where these items have been acquired by the end users from the relevant business user without using the core platform services of the gatekeeper;	Apple[7]
(d) refrain from preventing or restricting business users from raising issues with any relevant public authority relating to any practice of gatekeepers;	Standard
(e) refrain from requiring business users to use, offer or interoperate with an identification service of the gatekeeper in the context of services offered by the business users using the core platform services of that gatekeeper;	Facebook, Google[8]
(f) refrain from requiring business users or end users to subscribe to or register with any other core platform services identified pursuant to Article 3 or which meets the thresholds in Article 3(2)(b) as a condition to access, sign up or register to any of their core platform services identified pursuant to that Article;	Facebook, Google[9]
(g) provide advertisers and publishers to which it supplies advertising services, upon their request, with information concerning the price paid by the advertiser and publisher, as well as the amount or remuneration paid to the publisher, for the publishing of a given ad and for each of the relevant advertising services provided by the gatekeeper.	Facebook, Google[10]

Obligations for gatekeepers susceptible of being further specified, DMA Art 6	Who
(a) refrain from using, in competition with business users, any data not publicly available, which is generated through activities by those business users, including by the end users of these business users, of its core platform services or provided by those business users of its core platform services or by the end users of these business users;	Amazon, Google?[11]
(b) allow end users to un-install any pre-installed software applications on its core platform service without prejudice to the possibility for a gatekeeper to restrict such un-installation in relation to software applications that are essential for the functioning of the operating system or of the device and which cannot technically be offered on a standalone basis by third parties;	Google, Apple, Microsoft?[12]
(c) allow the installation and effective use of third-party software applications or software application stores using, or interoperating with, operating systems of that gatekeeper and allow these software applications or software application stores to be accessed by means other than the core platform services of that gatekeeper. The gatekeeper shall not be prevented from taking proportionate measures to ensure that third party software applications or software application stores do not endanger the integrity of the hardware or operating system provided by the gatekeeper;	Apple, Google[13]
(d) refrain from treating more favourably in ranking services and products offered by the gatekeeper itself or by any third party belonging to the same undertaking compared to similar services or products of third party and apply fair and non-discriminatory conditions to such ranking;	Google, Amazon, Apple[14]
(e) refrain from technically restricting the ability of end users to switch between and subscribe to different software applications and services to be accessed using the operating system of the gatekeeper,	Apple[15]
(f) allow business users and providers of ancillary services access to and interoperability with the same operating system, hardware or software features that are available or used in the provision by the gatekeeper of any ancillary services;	Google, Facebook, Apple[16]
(g) provide advertisers and publishers, upon their request and free of charge, with access to the performance measuring tools of the gatekeeper and the information necessary for advertisers and publishers to carry out their own independent verification of the ad inventory;	Google, Facebook[17]

(h) provide effective portability of data generated through the activity of a business user or end user and shall, in particular, provide tools for end users to facilitate the exercise of data portability, in line with Regulation EU 2016/679, including by the provision of continuous and real-time access;	General – data portability is by now a non-specific policy objective
(i) provide business users, or third parties authorised by a business user, free of charge, with effective, high-quality, continuous and real-time access and use of aggregated or non-aggregated data, that is provided for or generated in the context of the use of the relevant core platform services by those business users and the end users engaging with the products or services provided by those business users;	General - data access / interoperability is a broad policy objective
(j) provide to any third-party providers of online search engines, upon their request, with access on fair, reasonable and non-discriminatory terms to ranking, query, click and view data in relation to free and paid search generated by end users on online search engines of the gatekeeper, subject to anonymisation for the query, click and view data that constitutes personal data;	Google[18]

Some companies will be able to recognise themselves, but what about others who will need to second guess as to how the rule may possibly translate into their case? And how futureproof are rules enunciated in a way that seems to be very backward-looking? What will happen when technology and business models change?

A more useful approach would condition rules on *business models*. This would allow for a recognition that (a) business models have different economic properties, (b) the way entry may occur differs across them, (c) therefore defensive strategies to undermine entry will differ, and (d) therefore pro-competitive rules to lower entry barriers will also differ and need to be specified with that in mind.

With this approach one can then be principled and truly more specific about the conducts that should be proscribed in each case to achieve both fairness and more competition through entry and multihoming. The way

that a rival will seek to enter against a social network is different to how it will compete with a search engine, or an operating system, or an e-commerce business.

So one needs to think first about the business strategy a nascent competitor might deploy and then look for exclusionary conduct, entry barriers, or acquisitions that could limit the new competition.

For instance, in the case of ad-funded services, the 'flywheel' – the virtuous cycle that generates user engagement – relies on building up a user base for an interesting service that then attracts advertisers.

The entry path for an entrant needs to involve various ways of trying to scale up quickly on the user side to then bring on advertisers: like doing a distribution deal with someone who accounts for a large block of users, and become a default there.

Conduct that affects the ability of an entrant to gain some sort of scale can thus be problematic – for example, the gatekeeper establishing defaults to ensure persistence of users with the platforms, entering into exclusivity deals with distributors that then are unavailable to potential challengers and deprive them of scale, making/buying a vertical service and then advantaging it to take away customers from competing verticals, integrating into adjacent areas and then bundling/tying again to make entrant scale more difficult.

We see these issues raised in both the EC Android case and the US Department of Justice/state attorney generals' complaint against Google search.

The case of platforms like operating systems or app stores has a different set of concerns – for example, whether the platforms place obstacles for developers to operate across other platforms, whether they make it difficult for

developers to distribute through other channels, and whether they make it difficult for users to port their content across platforms.

And different again is the case of marketplaces and transaction platforms, where multihoming is often prevalent. Here we may worry about scale, generating data that creates a competitive advantage versus both rivals and complements on the platform, and that data being used in ways that may harm incentives to innovate; or there could be concerns about an algorithm for surfacing a recommendation to consumers designed in a way that may favour the platform over business complements that operate on the platform.

In our view list of 'Obligations' set out in the DMA is too much of a reproduction of past issues rather than a clear statement of clear organising principles. Much clarity would be gained by some organisation around business models, which would also clarify which platforms/businesses are 'in scope' for which behaviour.

Secondly, the criteria/process for designating gatekeepers and the identification of problematic conduct seem hard to separate into two sequential steps because it is the nature of the gatekeeper's business that determines both the harm and the best regulatory choice. It seems to us that a single unified analysis would be more successful at identifying the conduct that could be improved with regulation.

Lastly, we worry that the method of applying rules derived from all platforms to any one of them will not actually work. In practice, some of these prohibitions either do not make sense or may well be counterproductive when stretched across different environments.

Will there be unintended consequences to applying all the extra rules? Will a fixed set of rules up front be able to prevent the harms of the specific case at that time?

The UK approach: business models in action

The UK regulation is expected to work somewhat differently. The CMA published its proposal to government a week before the DMA, on 8 December 2020 (CMA 2020), with a recommendation to establish the long-awaited Digital Markets Unit (DMU) and for this to implement a new regulatory regime for *"the most powerful digital firms"* – the Strategic Market Status (SMS) regime.

The entry point to the SMS regime is an assessment of whether a firm has strategic market status. Unlike the DMA, there are, however, no explicit quantitative thresholds and criteria to be met (although some may come later). The essence is market power, but not *any market power* – in *"certain circumstances,*[21] *the effects of a firm's market power in an activity can be particularly widespread or significant"* (para 4.17).

The process of designation is described as an *"evidence-based economic assessment as to whether a firm has a substantial entrenched market power in at least one digital activity, providing the firm with a strategic position (meaning the effects of its market power are likely to be particularly widespread and/or significant)"* (para 12).

The proposal then outlines the shape of a *"coherent regulatory landscape"*, whereby each firm that meets the SMS test should be subject to a *specific* code of conduct that applies *to the firm in question* and sets clear upfront rules. The code of conduct is supposed to reflect three general proposed objectives: fair trading (exploitation), open choices (exclusion), and trust and transparency (consumer protection). These are then to be *tailored to the activity, the conduct, and harms it is intended to address*.

Notice the critical difference to the European DMA: there is no fixed, pre-established list of rules. The DMU will evaluate whether a particular platform has this important level of market power and *at the same time* develop the set of rules needed to protect consumers and prevent exclusion of rivals or exploitation of trading partners.

As the CMA puts it, the goal is *"(a)n enforceable code of conduct which sets out clearly* ***how the firm is expected to behave in relation to the activity motivating its Strategic Market Status designation****"* (emphasis added).

So the formulation of the specific *code of conduct for that specific platform* will go hand in hand. This seems very apt. It will generate rules targeted to the problematic conduct, that directly take into account the business model and that can be adjusted and updated as technology and business models evolve one by one.

What about concerns about direct data exploitation?

While data issues are mentioned multiple times in the Obligations, we worry about whether there is enough leeway here to really develop and pursue concerns that are well-founded economically, but not traditional, or if the law will embrace harms that are created by the exploitative use of data.

Obligation (a) under Art. 5 does proscribe the mingling of user data from different services. And Obligation (a) under Art. 6 appears to have been formulated directly with the Amazon Marketplace investigation in mind, and concerns about use of seller data. But how do these generalise? And how do we account for privacy concerns, that are intimately connected with market power issues and amplify them?

We know that changes in the way data is shared, paired with other data, and used can become a quality-adjusted price increase to consumers for the use of 'free' services. And unknown privacy characteristics (like not knowing how data given five years ago may be used today) are analogous to 'hidden prices' in behavioural economics.

Data based on a consumer's browsing history and app use can be used to predict personal characteristics that many users would strongly prefer to remain private, and yet can be monetised very attractively in applications like medical services, insurance services, financial services and employment decisions.

And the ability to leverage the 'data firehose' is a concern if it allows the gatekeeper to behave as a discriminating (data) monopolist; this can extract consumers' surplus and leave consumers worse off[22].

We hope more weight will be given to these concerns in future, though it is not clear to us that the current draft of the DMA recognises these important dimensions of direct consumer harm in a general enough way.

Merger control as the orphan

The third pillar of the UK regime is the establishment of specific 'SMS merger rules' to tighten merger control for this group. The motivation is a great cry for action to address *"historic underenforcement against digital mergers in the UK and around the world"* and the fact that strategic acquisitions have been part of the business model and contributed to create market power that has then become entrenched (para 4.121-124).

In making merger control an explicit part of its new digital regime, the CMA recognises that all acquisitions by SMS firms need to be scrutinised with care; and not under the usual standard which is applied to any merger, but with 'a lower and more cautious standard of proof'.

That is, the substantive test does not change (it is still a 'substantial lessening of competition'), but the level of certainty the CMA will be required to have around that is lowered from a 'balance of probabilities' test to a 'realistic prospect' test. No agency can have all the facts at the time, and there is a big band of uncertainty. But 'uncertainty should not be an excuse for inaction'[23].

And in the US, the recent complaints at the federal and state level have essentially underscored that enforcers must either be much stricter in the mergers they block, or be clear with industry participants that they face a risk that a few years down the road there may be a need to review and undo those mergers that turned out to be harmful.

In contrast, there is nothing in the DMA on merger control. We understand this is because there is no legal basis for the DMA to alter the EC Merger Regulation. But this leaves a big lacuna in the rules. Art. 31 in the DMA draft just mentions an obligation of gatekeepers to 'inform' the EC of any planned deals, but nothing flows from there. Without changes to the merger regime, the EC digital regulation package will remain incomplete (and risk the repeat of decisions like Google/Fitbit).

While member states (and the UK) will be able to enforce vigorously in this space, the EC will be hobbled in its ability to protect dynamic competition and innovation through this critical tool, and digital mergers will continue to be allowed based on a standard of proof which is simply unfit for purpose.

By comparison with other jurisdictions, legal caution about having to demonstrate loss of competition to the usual standard 'in Luxembourg' is likely to cripple the initiative that should flow from impetus behind the DMA. The EC may state publicly that potential competition concerns are nothing new, but the reality is it has not enforced against killer acquisitions or acquisition of nascent competitors at anything like the rate of the CMA.

The adoption of the DMA (and the DSA) responds to a call for regulators to serve citizens and consumers better. Without explicit changes to merger rules, history is likely to repeat itself and hold back competition in this sector. ■

Cristina Caffarra is a Senior Consultant at Charles River Associates, and Fiona Scott Morton is Theodore Nierenberg Professor of Economics at Yale University School of Management

Endnotes

1. The Stigler Report recommended just this approach (Stigler Committee on Digital Platforms 2019).

2. These are (a) online intermediation services; (b) online search engines; (c) online social networking services; (d) video-sharing platform services; (e) number-independent interpersonal communication services; (f) operating systems; (g) cloud computing services.

3. This is based on desktop research and public information, and should be seen as a first approximation only.

4. The "market investigation" is a tool introduced in the DMA as the pale remnant of what was expected to be a much more powerful New Competition Tool. This was, however, shot down by the internal Regulatory Scrutiny Board in November as legally impossible to achieve under the banner of Art 114 where the DMA sits. (Source: MLex 17 December 2020, EU 'gatekeeper' law faced internal criticism over choice of targets and negative impact).

5. The EC fined Facebook in 2017 for providing misleading information at the time of the WhatsApp acquisition on its ability to "establish reliable automated matching between Facebook users' accounts and WhatsApp users' accounts", see here). Germany's Bundeskartellamt issued in 2019 a decision (under appeal) prohibiting Facebook from combining user data from different sources (see here). There is a known investigation underway by the EC about FB's use of data, that is understood to also cover how data is collected, combined and used from different sources, December 2019 (see here). A simultaneous investigation was opened around Google's use of data (see here).

6. The issue of MFNs or parity clauses was at the core of the e-books case which was settled by the EC with Amazon in 2017 (see here). Amazon has also been reported to have voluntarily abandoned in 2019 any residual parity clauses in contracts with sellers on their marketplace (see here). The issue of parity clauses has been the focus of long-standing disputes between Online Travel Agents such as Bookings.com and Expedia and multiple European national regulators (France, Italy, Germany, Sweden and others), with the EC acting as a "coordinator" (for a summary of events, see here).

7. The EC opened formal investigations in July 2020 into Apple's App Store rules "to assess whether Apple's rules for app developers on the distribution of apps via the App Store violate EU competition rules. The investigations concern in particular the mandatory use of Apple's own proprietary in-app purchase system and restrictions on the ability of

developers to inform iPhone and iPad users of alternative cheaper purchasing possibilities outside of apps" (see here, Apple Cases AT.40437 and 40716).
8. This is about businesses such as advertisers or publishers being required to use the platforms' own ID solution when offering their services. It is about data collection by the gatekeeper and the refusal to use alternative ID services (eg. publishers' own IDs). Thought to be in scope in the new investigation by the EC of Google adtech and data practices, as reported by MLex 23 December 2020, cases Cases AT.40660 – Google Adtech, AT.40670 – Google Data-related practices. Also thought to be in scope in the Facebook data investigation, according to press reports.
9. This could refer to various known ties forced by Google in the ad tech stack, eg. between AdX – Google Ads or YouTube – Google Ads (see again here, and the EC investigation of the digital adtech stack as mentioned in previous footnotes; also in scope in the investigation by the French Adlc of the digital adtech stack).
10. The issue has emerged in multiple Adtech investigations, and it is thought to be in scope in the current EC Google Ad Tech investigation also (ACCC 2019).
11. The EC sent Amazon a Statement of Objection "for use of non-public seller data", November 2020 (see here). Could also refer to Google in adtech, where Google used data collected via DFP to develop its Open Bidding solution and help AdX/ GAM compete against header bidding – see CAM report and Texas complaint.
12. The obvious reference here is the classic 2018 EC Android decision, that was about pre-installation and default restrictions, see https://ec.europa.eu/competition/antitrust/cases/dec_docs/40099/40099_99.... More broadly refers to software platforms sold with pre-installed apps such as Apple and Microsoft.
13. Apple's EC investigation of rules for the application of the Appstore, see footnote 10, responding to complaints from third party apps around the terms of their operations on the App Store, and complainants' requests that they should be allowed to bypass the App Store in-app payment systems, and that alternative app stores should be allowed to operate on the App Store (see here; see also the Epic complaint here). Google's app store has been subject of similar complaints.
14. This is generally about "self-preferencing" though the underlying practices are very different. The Google Search (Shopping) decision of 2017 is the classic reference in the context of ad-funded models, where "self-preferencing" took

the form of Google favouring its own price comparison services and undermining third parties' (see here). As to Amazon, the EC issued a Statement of Objection and simultaneously announced the opening of a second investigation around concerns that Amazon may use third party seller data to favour its own products on the Marketplace (eg. through entry and pricing decisions), and favour itself "through its processes". In the case of Apple, complainants such as Spotify have been making a strong public case that Apple favours Apple's own apps (eg. Apple Music) (see here).

15. This may refer to complainants in the Apple case and their complaint on the ability of users subscribing to services outside the App Store to consume the service on their Apple devices (see inter alia https://timetoplayfair.com/).

16. Allowing third party businesses to Interoperate without discrimination with the platform, in the same way as the platform's own services, is an established aspiration from past cases going back to Microsoft. This is known to be in scope in the current Facebook investigation, which looks inter alia at "application programming interface (API) that allows app developers to access data or functionalities on its platform and its photo-sharing site Instagram and software components to interact" (see here). Google and Apple are likely to be facing similar issues in the relationship with developers.

17. This is of direct relevance to Google and Facebook's advertising businesses (see for instance here). It may become relevant to Amazon as its advertising business develops.

18. This is specific to Google and intended to favour potential entry in search (see EC Google Search (Shopping) case).

19. Specific to Apple and Google and their respective app stores.

20. Thus, for example, para 36 explains the prohibition of "combining end user data from different sources or signing in users to different services of gatekeepers", under Obligations Art 5 (a), just on the basis that this "gives them potential advantages in terms of accumulation of data, thereby raising barriers to entry". Para 37 then goes to the next Obligation under Art 5 (b), that gatekeepers should allow "business users of their online intermediation services to offer their goods or services to end users under more favourable conditions, including price, through other online intermediation services" – that is, should not apply MFNs – and this is justified based on the obvious observation that "such restrictions have a significant deterrent effect on business users (…) in terms of their use of alternative online intermediation services,

limiting inter-platform contestability". Para 38 moves on to the next (Art 5 (c)), which concerns the obligation on gatekeepers to allow "business users (to be) free in promoting and choosing the distribution channel they consider most appropriate to interact with any end users that these business users have already acquired through core platform services provided by the gatekeeper" – but says nothing more than this is "to prevent further reinforcing their dependence on the core platform services of gatekeepers".

21. For example, when a firm "has achieved very significant size or scale", "is an important access point to customers", "can use the activity to extend market power from one activity into a range of other activities", "can use the activity to determine the riles of the game| or "may have broader social or cultural importance" (para. 4.20)

22. See the discussion in Bourreau et al. (2020).

23. As stated by Mike Walker, CMA Chief Economist, at the CRA Roundtable event of 17 December 2020 on "The European Digital Regulation Experiment".

References and further reading

ACCC (2019), Digital Platforms Inquiry Final Report.

Amelio, A and B Jullien (2012), "Tying and freebies in two-sided markets", International Journal of Industrial Organization 30(5): 436-446.

Athey, S (2020), "Platform Markets – Business Models & Gatekeepers", presentation, November.

Athey, S, E Calvano and J Gans (2016), "The impact of consumer multi-homing on advertising markets and media competition", Management Science.

Belleflamme, P and M Peitz (2019), "Managing competition on a two-sided platform", Journal of Economics & Management Science 28(1): 5-22.

Bourreau, M et al. (2020) "Google/Fitbit will monetize data and harm consumers", VoxEU.org, 30 September.

Caffarra, C (2019), "Follow the Money: Mapping issues with digital platforms into actionable theories of harm",

e-Competitions Special Issue, August.
Caffarra, C, F Etro, O Lathan and F Scott Morton (2020, "Designing regulation for digital platforms: Why economists need to work on business models", VoxEU.org 4 June.
Caffarra, C, G Crawford and T and Valletti (2020), "'How tech rolls': Potential competition and 'reverse' killer acquisitions", VoxEU.org, 11 May.
Caffarra, C and T Valletti (2020), "Google/Fitbit review: Privacy IS a competition issue", VoxEU.org, 4 March.
Caffarra, C (2020), "The UK's "other" big experiment: Regulating online platforms?", VoxEU.org, 6 January.
Casadesus-Masanell, R and F Zhu (2010), "Strategies to fight ad-sponsored rivals", Management Science 56(9): 1484-1499.
Choi, JP and J Doh-Shin (2021), "A leverage theory of tying in two-sided markets with non-negative price constraints", American Economic Journal, Microeconomics, in press.
CMA (2020), A New Pro-Competition Regime for Digital Markets, Advice of the Digital Markets Taskforce, December.
CMA (2020), Online Advertising and Digital Markets Study, July.
Etro, F, and C Caffarra (2017), "On the Economics of the Android Case", European Competition Journal 13(2-3).
Etro, F (2020), "Product selection in online marketplaces", DISEI WP20, University of Florence.
Etro, F (2020), "Device-funded vs Ad-funded platforms", DISEI WP19, University of Florence.
European Commission (2020), "Proposal for a Regulation of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act)", Brussels, 15 December.
Furman, J et al. (2019), Unlocking Digital Competition, Report of the Digital Competition Expert Panel.
Geradin, D and D Katsifis (2019), "An EU competition law analysis of online display advertising in the programmatic age", European Competition Journal 15(1).
Hagiu, A, T The and J Wright (2020), "Should Amazon be allowed to sell on Its own marketplace?", SSRN 3606055.
Prat, A and T Valletti (2019), "Attention oligopolies", mimeo, New York University.
Rietveld, J, M Schilling and C Bellavitis (2019), "Platform strategy: Managing ecosystem value through selective promotion of complements", Organization Science 30(6): 1232-1251.

Scott Morton, F and D Dinelli (2020), Roadmap for a Digital Advertising Monopolisation Case Against Google, Omydiar Network Report.
Scott Morton, F and D Dinelli (2020), Roadmap for a Monopolization Case Against Google Regarding the Search Market, June.
Scott Morton, F and D Dinelli (2020), Roadmap for a Monopolization case against Facebook, June.
Stigler Committee on Digital Platforms (2019), Final Report, September.
Tremblay, M (2020), "The Limits of Marketplace Fee Discrimination", Net Institute Working Paper #20-10, September.
Wen, W and F Zhu (2019), "Threat of platform-owner entry and complementor responses: Evidence from the mobile app market", Strategic Management Journal 40(9): 1336-1367.

Authors' note: The authors have been involved to different degrees in advisory work both for and against tech platforms, including Apple, Amazon, Microsoft, Uber and others. This article was originally published on VoxEU.org

Why the Google-Fitbit decision is appropriate

Pierre Régibeau believes that the discussion should now move from the realm of speculation to the sphere of evidence

On 15 December 2020, the European Commission approved the acquisition of Fitbit by Alphabet, subject to a number of commitments. The case caused considerable concern that Google will gain unfair advantages in the online advertising market and ensure its dominance in digital health, with dire consequences for privacy.

Critics also feared the acquisition would reduce Google's incentives to keep its Android ecosystem open to rival wearable products. This column argues that the decision is appropriate, addressing the four main concerns. The suggested theories of harm have remedies or they are not supported by evidence to the requisite legal standard.

Once a leader in the design and production of fitness trackers, Fitbit had seen its worldwide market share of the overall smartwatch segment fall to between 5% and 10% and was for sale. By acquiring Fitbit, Google would get access to the company's product, data about the health and health habits of Fitbit users, and Fitbit's expertise in designing efficient sensor technology for digital wear.

This case caused considerable agitation among some academic and policy circles and led to a number of contributions pressing the Commission to block the transaction (Caffarra and Valletti 2020, Bria *et al*. 2020, Caffarra and Crawford 2020, Privacy International 2019).

The image conveyed by these contributions is apocalyptic: access to Fitbit data would help Google further dominate the market for online advertising and the synergies between these data and the data that Google already holds would ensure its eventual dominance in digital health.

This would have dire consequences for privacy. Finally, the acquisition would reduce Google's incentives to keep its Android ecosystem open to rival wearable products.

I believe that the discussion should now move from the realm of speculation to the sphere of evidence. It is in this spirit that I would like to explain why I find the Commission's decision fully appropriate. What follows is my own, simplified, view of the economics of the case, stripped of its jargon, legal strappings and subtleties.

The role and standards of merger review

Merger review is meant to ensure that mergers and acquisitions do not hurt consumers by increasing prices, decreasing quality, limiting variety or dampening innovation. These potential harmful effects are evaluated by comparing the post-merger situation to the counterfactual, ie. to the situation that would have prevailed without the merger.

Any sizeable acquisition by one of the large digital platforms is bound to attract the attention of competition specialists. This is as it should be

A rejection of the proposed transaction would not have derailed Google's plans to increase its presence in digital health. While Google might have found it difficult to match Fitbit's specific software expertise immediately, it would have eventually overcome this obstacle.

The likely counterfactual is then one of Google's entry into the wearable health-monitoring sector – and its access to the corresponding data – would just have been delayed.

Explaining the decision

I was concerned about four main aspects of the acquisition: its effect on the digital health and wearable sectors, the use of Fitbit data to refine the targeting of online advertising, and potential threats to privacy.

1. Wearables

Smartwatches and health trackers are the most prominent example of the type of 'digital wearables' that many observers expect to pervade our daily lives soon. Ensuring vigorous competition in the sector must therefore be a prime goal of competition policy.

Currently, smartwatches work in conjunction with a smartphone. There is therefore a legitimate concern that the acquisition might lead Google to restrict interoperability between rival watches and its Android ecosystem in order to increase Fitbit's own sales and gather more health data.

Such arguments are assessed based on the parties' *ability* and *incentives* to distort competition in that manner. It is likely that Google could degrade the link between Android and rival watches.

To evaluate Google's incentives, we need to weigh the benefits from additional sales of watches and data collection against the cost incurred by reducing the attractiveness of the Android ecosystem.

While the value of extra Fitbit sales can be estimated, the other elements of the trade-off cannot. In particular, there is no reliable evidence as to the value of Fitbit data.

Indeed, there are good reasons to believe that the type of data collected by Fitbit is not especially valuable (there is currently no market for it) and it is not unique.

Moreover, the reputational costs of reducing access to Android could be large for a company that has long relied on openness[1]. Such factors are hard to quantify.

Nevertheless, the Commission was sufficiently concerned such incentives might materialise that it asked for a commitment to maintain interoperability with the Android platform for the next ten years.

2. Online advertising

Google's strong position in online advertising stems from the number of users on its platform and its ability to target ads to better-defined audiences. With access to Fitbit data, Google might be able to target ads even better, gaining a further competitive advantage.

However, a transaction should not be blocked simply because it helps the new entity become more efficient. It is only if the acquisition of Fitbit deprived online ads rivals from accessing similar data that anticompetitive concerns *might* arise. This seems unlikely since health data are not particularly scarce (see Towne 2020).

The second issue is that Fitbit data might not materially enhance Google's targeting ability. For all the talk about the prowess of online advertising, hard evidence is scarce. I could not find *any* evidence about the *marginal* targeting value of more precise customer data, let alone the marginal value of Fitbit-like data, which is the evidence that one would need to support the theory of harm.

Indeed, the true value of ad targeting is still controversial and customers' complaints that Google refuses to release sufficient information about the effectiveness of their online ads are hard to square with the idea that Google's data advantage is overwhelming (Competition and Markets Authority 2020: 300–330, Appendix O, and Australian Competition and Consumer Commission 2019: 145–50).

3. Digital health

Big data analytics are a crucial part of the ongoing digitalisation of healthcare. The novelty is not the existence of data, but the ability to collect it in a systematic manner, store it and analyse it.

Some observers fear that the combination of Google's data with Fitbit data could enhance the merged entity's analytical abilities to the point where it would dominate the field. I am not convinced.

The ability to do health analytics is widespread (see Table 1) and the existence of material synergies between data held by Google and Fitbit is unproven. Even if such synergies were sizeable, should we really object to increased efficiency for only one of several potential entrants into the sector?[2]

4. Privacy

Some aspects of privacy clearly fall outside the scope of competition policy. Who has property rights over different

Table 1. Top 10 health analytics in the world, 2018

IBM	Amitech
Cerner	Acmeware
HealthCatalyst	Conifer
HealthEC	Prognos
Epic	Optum

Source: https://blog.technavio.com/blog/top-10-healthcare-data-analytics-companies

types of data and how these data can be used, or sold, are essential societal issues, but competition authorities have no standing to address them.

This does not mean that privacy cannot be relevant when assessing an acquisition. The manner in which personal data are used is an important aspect of the quality of the service received. Evaluating the effect of a transaction on product quality is standard merger review fare.

However, a merger's potentially harmful effects on quality are unlikely to be severe *as long as consumers have enough of a choice*. If the acquisition were to lead to a deterioration of privacy for Fitbit users, they do have a large number of alternatives, especially once continued openness of the Android ecosystem is secured.

Some observers are concerned that the combination of Fitbit and Google data might enable health service providers to discriminate more finely between customers/patients. I have three problems with this argument.

First, I have not seen *any* evidence of the vaunted synergies between the type of data controlled by Google and Fitbit data. The magnitude of such synergies would have to be established to proceed with such a theory of harm.

Second, why is having more information on individual health status and habits harmful? It can allow for better diagnostics, better treatment and, even, fairer health insurance rates. Do people who exercise want to pay more because claims to healthy living are hard to verify?

Third, if society feels that some type of personal (health) information ought not to be used to discriminate in the provision of health-related services, it should regulate. Giving lower driver-insurance rates to young women than to young men is no longer lawful in the US. One could as easily forbid the use of, say, existing conditions when pricing insurance.

Finally, should the merger really be blocked, despite the remedies offered, *in order* to prevent Google from fusing its data with Fitbit's and use this package in the health sector? If combining data in a manner that leads to more discrimination in the health market is undesirable, then why use merger review to prevent such combinations from Google only? Regulation would be far superior in that it would at least preserve a level playing field.

Overall, burden of proof and standard of proof

Any sizeable acquisition by one of the large digital platforms is bound to attract the attention of competition specialists. This is as it should be.

Competition policy enforcers can only gain from a broad brainstorming at the start of a case. On the other hand, post-decision comments should not be a mere repeat of pre-procedure arguments.

In order to be useful, they should, like a decision, rely on substantial evidence and defer to the customary burden and standard of proofs. The standard of proof is a 'balance of probabilities'. This does not allow the Commission to put an especially heavy weight on a low-probability event, however damaging it might be.

In my personal view, the suggested theories of harm have either been remedied or are not supported by evidence to the requisite legal standard. A negative decision would almost certainly have been overturned by the General Court. Blocking the transaction in such circumstances would not have been a bold policy move. In my mind, it would have been an abuse of power. ■

Pierre Régibeau is Chief Competition Economist, DG Competition, at the European Commission

Endnotes

1. The importance of this reputation for the Android business model is confirmed by internal documents.

2. Other potential 'disruptive entrants' include Amazon, Apple, CVS Health, Facebook and IBM. See HealthITAnalytics (2018), "Top 10 Disruptive Companies to Watch in the Healthcare Space", 5 July.

References

Australian Competition and Consumer Commission (2019), "Digital Platforms Inquiry: Final report".

Bria, F, C Caffarra, G Crawford, W Christl, T Duso, J Ryan and T Valletti (2020), "Europe must not rush Google-Fitbit deal", Politico, 2 July.

Caffarra, C, and G Crawford (2020), "Should Google be allowed to acquire Fitbit?", interviewed by Tim Phillips, VoxEU.org,

5 October.
Caffarra, C, and T Valletti (2020), "Google Fitbit review: Privacy IS a competition issue", VoxEU.org, 4 March.
Competition and Markets Authority (2020), "Online platforms and digital advertising: Market study final report", 1 July.
European Commission (2020), "Mergers: Commission clears acquisition of Fitbit by Google, subject to conditions", press release, 17 December.
Privacy International (2019), "Google wants to acquire Google and we should not let it", 13 November.
Towne, R (2020), "Data Quality in an Abundance of Electronic Health Information for Electronic Clinical Quality Measures (eCQMs)", Ninja Insights, 1 October.

This article was originally published on VoxEU.org