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WINTER 2020

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Graham Bright gives his thoughts on the digital challenges facing financial institutions post-crisis

Embrace digital innovation to drive economic recovery. Simon Gray discusses

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FOREWORD

The empire strikes back

At the time of writing the Brexit negotiations continue past another cut-off date. It seems inevitable that the Johnson government will accept some 'breakthrough' offer from the European Union to keep the United Kingdom as a colonial outpost of Brussels.

It will of course be framed as a 'good deal', but will in fact be a rejection of the referendum outcome. The PR campaign will use nice phrases like build back better, the great reset, reimagining our economic system to address global challenges like extreme poverty, inequality and climate change, accelerate the entire world towards a 'new normal'.

What it will not do is admit the great cost to (paraphrasing Leona Helmsley) 'the little people'. It seems the agenda for the elite is to remake the western world. Much of this erosion of western values has already been achieved, in schools and universities, through the culture wars.

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The European and American elite edge towards the idea of a post democratic age, when the views and wishes of the many distilled through the electoral process are replaced by the rules and laws of the international order, set down and interpreted by lawyers, senior officials and conforming politicians.

They are intolerant of others whilst preaching tolerance on their own terms. The nation, its specific attributes and the borders that define its territory must instead give way to a vision of the brotherhood of man expressed through transnational institutions and laws.

The European and US elite are trying to make one size fit all around the world. They seek to enforce the power of their ideas by recruiting people of like minds to leading global institutions. They create a hierarchy of income, respect and wealth based on approved knowledge of a certain kind. They seek to vilify or ignore anyone with a different view of the big issues of the day from how to promote growth to climate change and the way to respond to a virus.

Barack Obama gives an indication of the direction of travel. He writes: *"I'm convinced that the pandemic we're currently living through is both a manifestation of and a mere interruption in the relentless march toward an inter-connected world, one in which peoples and cultures can't help but collide.*

"In that world — of global supply chains, instantaneous capital transfers, social media, transnational terrorist networks, climate change, mass migration and ever-increasing complexity — we will learn to live together, co-operate with one another and recognise the dignity of others, or we will perish."

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This is a world in which the boundaries between nations are blurred, trans-national corporations and institutions rule America and Europe, and representative democracy is evacuated of power and meaning. They seek to limit the scope for permitted dissent or political discussion of other options and approaches.

This is a world that has been in the making for many years. There are no thoughts of the consequences to anyone not of the elite. Those with wealth, power and connections will always thrive, no matter what political system is in place, but the 'little people' can not live on bread alone. They need hope of a better future for themselves and their children. Will this be delivered by 'build back better'? ■

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How to respond to the COVID pandemic

The G20's new year's resolution should be to finally address COVID-19. John Denton says coordinated action is needed

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In 2021 the G20 needs to move beyond non-binding pledges and start taking coordinated action in response to COVID-19. The world is entering a critical juncture in response to the COVID-19 crisis. With over 70 million cases and more than 1.5 million deaths recorded globally, the economic and human suffering from the pandemic is frustratingly far from over.

As countries around the world battle second – and even third – waves of the virus, G20 leaders must embrace a responsibility to unite in the pursuit of policies that will speed up recovery efforts and set the foundations for a rapid and resilient global recovery.

For starters, G20 leaders need to come to the (virtual) table with substantive commitments for addressing the pandemic's lingering consequences, including the protectionist and reactionary measures adopted earlier this year.

This wave of tit-for-tat export restrictions and policy flipflops created massive uncertainty in personal protective equipment (PPE) availability, leading to shortages in supply for health workers worldwide. Now that the initial shock of COVID-19 has passed, G20 countries must remove these temporary restrictions and ensure that they do not transition to longer term distortions.

Better still, G20 leaders should devise trade policies that will ensure rational and equitable access to much-anticipated COVID-19 vaccines for all countries. Already, 156 economies have committed to the multilateral COVAX facility, a global risk-sharing mechanism for the equitable distribution of inoculations. Several key manufacturing countries are, however, showing worrying signs of vaccine nationalism.

If decisive action is not taken, a scramble to secure early doses of proven vaccines may emerge. Indeed, some countries are already taking steps to hedge their bets with advance agreements.

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As the representatives of 80% of world trade, G20 leaders have an opportunity to motivate a more cooperative approach by sending a clear message, backed by action, that preserving the lives of millions and the livelihoods of billions through this pandemic will require open trade in essential medical supplies and equitable access to any effective vaccines that become available.

The resurgence of COVID-19 cases in Europe and North America is evidence that no economy will recover fully from the crisis until the viral spread is effectively contained throughout the world.

While many developed economies are able to grapple with infection peaks, there is an absolute imperative to ensure that developing economies are given adequate fiscal space and assistance to contain the pandemic and preserve local productive capacity.

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… the playbook of yesteryear will not meet the exigencies of a health-driven crisis in 2020

Most notably, G20 economies need to agree on a new package to provide immediate debt relief to any country struggling under the weight of debt to guarantee critical health services to its population.

Developing economies should not have to face a choice between servicing sovereign debt obligations or paying to safeguard the lives and livelihoods of their citizens.

If a debt crisis is allowed to take hold of emerging economies, the effects of the pandemic will only worsen. Rather than let the debt crisis escalate, G20 leaders must extend and broaden debt service relief to the world's poorest countries.

This is all the more urgent, as recent market turbulence highlights the looming risk that the supply of trade finance – supporting as much as 90% of world trade – will retrench significantly just as demand returns to the economy.

Without access to cost-effective trade credit, businesses, particularly small ones, will find it difficult to ensure operations and a much-desired economic rebound will likely fall flat.

To stave off business closures that risk preponderantly steamrolling small and medium-sized businesses, G20 leaders should work with the private sector to shore up the niche but essential market for trade finance.

Doing so would complement the 'significant progress' G20 trade ministers have said they want to achieve in long-running discussions on WTO reform that have yielded little in the way of 21st century rules for pressing issues like digital trade and sustainability.

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Recent statements have struck encouraging tones, but modernising the global trading system to work for everyone will require more imagination and political will than has been shown to date.

The G20 once proved itself capable of steering a coordinated response to what emerged as the Global Financial Crisis in 2008. But the playbook of yesteryear will not meet the exigencies of a health-driven crisis in 2020. The multiple challenges created by the spread of COVID-19 require an adapted approach.

For G20 leaders, decisive actions remain within reach when it comes to setting the global economy on a more solid footing for an expedited recovery. But having impact in 2021 will require global leadership of the kind the G20 should aspire to provide. ■

John WH Denton AO is ICC Secretary General

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Europe should promote a Climate Club

Guntram Wolff argues that now is the time for Europe, the US and possibly China to create a global 'Climate Club' to implement tough climate action

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The time has come for Europe, the US and possibly China to create a global 'Climate Club'. Global greenhouse gas emissions have increased by about 2% annually over the last two decades. Since the signing of the Paris agreement, global emissions have continued to grow.

We have learnt that delivering on climate protection is difficult when abatement costs are largely national but the benefits from global climate prevention are global. And indeed, the US under President Trump dropped out of the Paris agreement for exactly that reason. In short, mankind is not making nearly enough progress to exclude a possibly catastrophic climate outcome.

Nobel Prize winner William Nordhaus has argued convincingly that the problem of free riding on climate action cannot be simply overcome by voluntary agreement such as attempted with the Paris accord. Instead, he proposed a simple idea whose time has come: a club to implement tough climate action.

This climate action would be significantly more ambitious than the loose Paris agreement. To achieve the ambition, the club would agree on a high common carbon price for all club members, while penalising countries that do not participate. The penalty on non-participants is necessary to keep the club together.

The European Union has understood the importance of external trade measures for its climate policy. In fact, European Commission president Ursula von der Leyen has repeatedly argued for a carbon border adjustment on carbon intensive imports to prevent production to be shifted abroad. Carbon border adjustment can be implemented in line with WTO rules.

True, Europe does not consider carbon border adjustment to be a penalty. Instead, it is an important part of levelling the playing field and avoiding carbon leakage. The US under Trump, however, would have rejected it as an

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undue penalty. President Trump would have had enough leverage outside of WTO rules to make it difficult for the EU to implement its climate ambitions.

With the new US President, there is an opportunity for a different conversation. Beyond increased political support, more than 3,000 US economists have called for a border carbon tax to complement a domestic carbon tax.

Europe should propose to the incoming US president to create a climate club with a common carbon border adjustment. Internally, no border tariffs would be applied since both economies would implement a comparable minimum price on greenhouse gas emissions. This creates an incentive to remain committed to the agreement.

Externally, the two economies would impose the same carbon border adjustment. Such a common external tariff would not only prevent undue carbon leakage. It would also be a strong incentive for other countries to join the club. After all, together, the two economies still make for some 40% of global GDP.

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Conditions have never been better to negotiate an effective climate club

This club would likely be a stable club. If the carbon border adjustment is done in compliance with WTO rules, trade retaliation from third countries would not be possible.

Moreover, the transatlantic region is still too important for third countries to be able to credibly oppose such a measure with other threats. Since abatement has become much cheaper with price competitive green technology, a simple carbon border adjustment mechanism may well be enough to keep the club stable.

This idea would put the transatlantic economy at the core of global efforts to reduce greenhouse gas emissions. But both Europe and the US would be well-advised to reach out to Beijing to become a founding member of the climate club.

And indeed, influential advisors to the State Council have already called for a multilateral approach on climate to avoid China to be side-lined.

A club including the three major economies of the world would make it difficult for any country to free ride on climate mitigation. From a US perspective, China joining could even be rewarded by removing the bulk of Trump's tariffs on Chinese imports.

And Europe would find it in its geopolitical interest to avoid a hardening of the US-China stand-off. Conditions have never been better to negotiate an effective climate club. ■

Guntram Wolff is the Director of Bruegel

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Embracing digital innovation

Simon Gray discusses the benefits of embracing digital innovation to help drive economic recovery

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Simon Gray, Head of Business Development and Marketing at BVI Finance

Li Keqiang, the Chinese Premier, once said that *"changes call for innovation and innovation leads to progress."* This is certainly true of the financial services ecosystem, which has undergone dramatic change over the last decade and seen a raft of new innovation centred around the digital economy.

Traditional financial service providers have had to grapple with a host of new challengers entering the space, from digital entrepreneurs through to blockchain and cryptocurrency pioneers. Unconstrained by legacy solutions, these new fintech innovators and start-ups have highlighted just how far things have progressed. And with the vast volume of data that is now available in real-time, these disruptive start-ups are leveraging data insights and intelligence in new ways, and for real business impact.

Alongside this trend, the pandemic has also positively accelerated digital innovation in all major economies. The sudden pivot towards remote working and ensuring business resilience has forced people and businesses to embrace digital technologies in new and agile ways. Reliance on digital platforms has also now become an essential part of the process in securing and completing financial deals and transactions in this new norm of remote working.

To overcome the challenges to business models and the ongoing global uncertainty, there is now an even greater urgency for companies to adapt and innovate. Businesses which were already using digital technologies coped better with the ongoing crisis, and others are rapidly upskilling and investing in their capabilities. However, the ability to embrace digital innovation will be crucial to a sustainable, post-pandemic economic recovery.

Leading by example

The British Virgin Islands (BVI) has a long track-record of promoting digital innovation and leveraging the full power of digital capability. The BVI, like other International Financial Centres (IFCs) more generally, provides agile, sophisticated and yet cost-efficient financial products within a supportive regulatory and business environment.

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For example, the BVI's Incubator Funds are especially well-suited for digital asset start-ups. There has been much interest in these funds which provide start-ups with an easy to use platform without punitive administrative costs and enable a new manager to get established without having to appoint local directors.

This environment also provides valuable opportunities for digital asset start-ups to thrive. The jurisdiction's progressive corporate law fosters international trade while ensuring compliance with global regulatory standards. As a result, it is becoming increasingly attractive to structure investment vehicles in established jurisdictions like the BVI that provide the right balance between stability and attractive economic incentives.

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... we must positively embrace innovation so that we can continue to progress as an industry for the benefit of the financial services sector as a whole and the wider global economy

The BVI actively invests in its own technological capabilities and has deployed leading-edge technology to ensure it maintains global international standards through establishing a more effective partnership with global regulators and law enforcement authorities around the world – driven by technology.

The BVI's Beneficial Ownership Secure Search system (BOSSs) is the gold standard in accessible company registers. This fully searchable platform is decentralised and cloud-based, and uses the highest levels of security and encryption to hold verified data on companies incorporated in the BVI.

The digital platform has been lauded by prominent law enforcement authorities like the UK's National Crime Agency (NCA) and was integral to disclosing information that warranted the UK's first Unexplained Wealth Order (UWO), obtained by the NCA in 2018.

The BVI has also been proactively exploring opportunities in cryptocurrency and blockchain technology. A recent report estimated that over 80% of crypto hedge funds are domiciled in IFCs, with the BVI continuing to attract a growing proportion attracted by the favourable funds regime and growing expertise.

Though cryptocurrencies have been undermined by volatility in the past, they have rapidly evolved in recent years, which means it is essential to take a renewed focus on possible avenues of potential. It is clear that digital currencies have a great potential to speed up transactions and reduce fees, while ensuring greater security. They also have the potential to foster financial inclusion, especially in developing economies where people might lack access to more traditional formal banking.

The underlying technology of crypto assets or blockchain is another innovative space with significant implications for the global financial services industry. This distributed ledger is a decentralised database where transactions are

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kept in a shared, synchronised and distributed book-keeping record, which is secured by cryptographic sealing. It can be an important tool for building a fair, inclusive and secure digital economy, as the platform can provide a transparent and user-centric digital service.

One area the BVI is keen to explore and maximise is smart contracts such as the Decentralised Autonomous Organisations (DAO) and Limited Liability Autonomous Organisations (LAO), which can codify transactions and contracts, and in turn 'legally' manage the records in a distributed ledger.

This is a rapidly evolving area and, in the future, we could see smart contracts potentially interacting with multiple financial systems, automatically transferring assets while monitoring for compliance and making sure the terms of a contract are fulfilled. This technology is still in its infancy and the BVI is committed to cooperation and dialogue between industry stakeholders and regulators to foster and deploy blockchain-based applications within an appropriate regulatory framework.

Developing the right regulation

There are new challenges that come with emerging technologies and many governments are struggling to put in place proper regulatory frameworks for new sectors like cryptocurrencies. Regulation has not always kept up, especially with digital assets which essentially live on borderless blockchains, unlike regulatory policies which are specific and vary across jurisdictions. Nevertheless, and to nurture further innovation, it is important to interrogate new technologies and make sure the right policies are in place.

The Organisation for Economic Cooperation and Development (OECD) is currently debating these inconsistent rules and plan to release a tax-reporting framework for crypto-assets based on the common reporting standard (CRS). Of course, crypto funds and assets will only mature in the coming years, so it is incumbent on all jurisdictions

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to cooperate and develop a coherent regulatory regime that satisfies global standards such as those set out by the OECD. It is, however, imperative that the right balance is achieved between enforcing good governance while making sure that strict rules do not dampen innovation.

In the BVI we are actively investing in fintech regulation and recently launched the Fintech Regulatory Sandbox – a testbed for fintech businesses to conduct live-testing and identify areas for improvement before they launch. This light-touch regulatory regime is designed to foster innovation and create a friendly ecosystem for digital start-ups to thrive and is helping formalise the existing significant digital activity already taking place in our business company and funds regimes

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Innovation in the 'new normal'

Initiatives like this are helping to stimulate innovation and leverage technology in ways that improve business processes. Going forward this will be an important strategy to help kickstart recovery and ensure long term economic growth.

The pace of technological change, which has only been accelerated by the pandemic, is one of the most creative forces shaping today's financial services ecosystem. Like Li Keqiang, we must positively embrace innovation so that we can continue to progress as an industry for the benefit of the financial services sector as a whole and the wider global economy. ■

ABOUT THE AUTHOR

Simon and the BVI Finance team lead the efforts of the BVI in promoting the territory's international business and financial services both locally and overseas. Simon is a senior financial services professional with a strong international

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Revitalising multilateralism

Simon Evenett and Richard Baldwin introduce a new eBook that presents analyses and ideas on how trade multilateralism can be revived

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While the trade system as a whole has proved more resilient than many feared during the COVID-19 pandemic, the crisis has placed new stresses on multilateral cooperation. This has come at a time when the standing of the WTO has fallen in some of its largest members and its rules have been ignored by many.

This column argues that with the election of a new US government and the concurrent selection of a new WTO Director-General, there is new hope for a revitalisation of multilateral cooperation on trade. A new eBook presents analyses and ideas of how this could be done.

Multilateral cooperation on international trade is under severe strain. The standing of the WTO has fallen in some of its largest members and its rules have been ignored by many. The US' commitment to multilateralism was drastically curtailed under the Trump administration.

The US purposefully undermined the functioning of the WTO and eschewed multilateral cooperation, embracing aggressive unilateralism instead (Blustein 2019, Davis and Wei 2020, Irwin 2017, van Grasstek 2019, Zeollick 2020). Other members responded with unilateralism of their own.

The pandemic has created a new set of shocks. The trade system as a whole has proved more resilient than many feared (Figure 1), and the trade response on medical supplies has been particularly impressive (Figure 2).

Quite simply, many doctors and nurses in North America and Europe would be fighting the second wave with a shortage of protective equipment were it not for the massive imports from East Asia.

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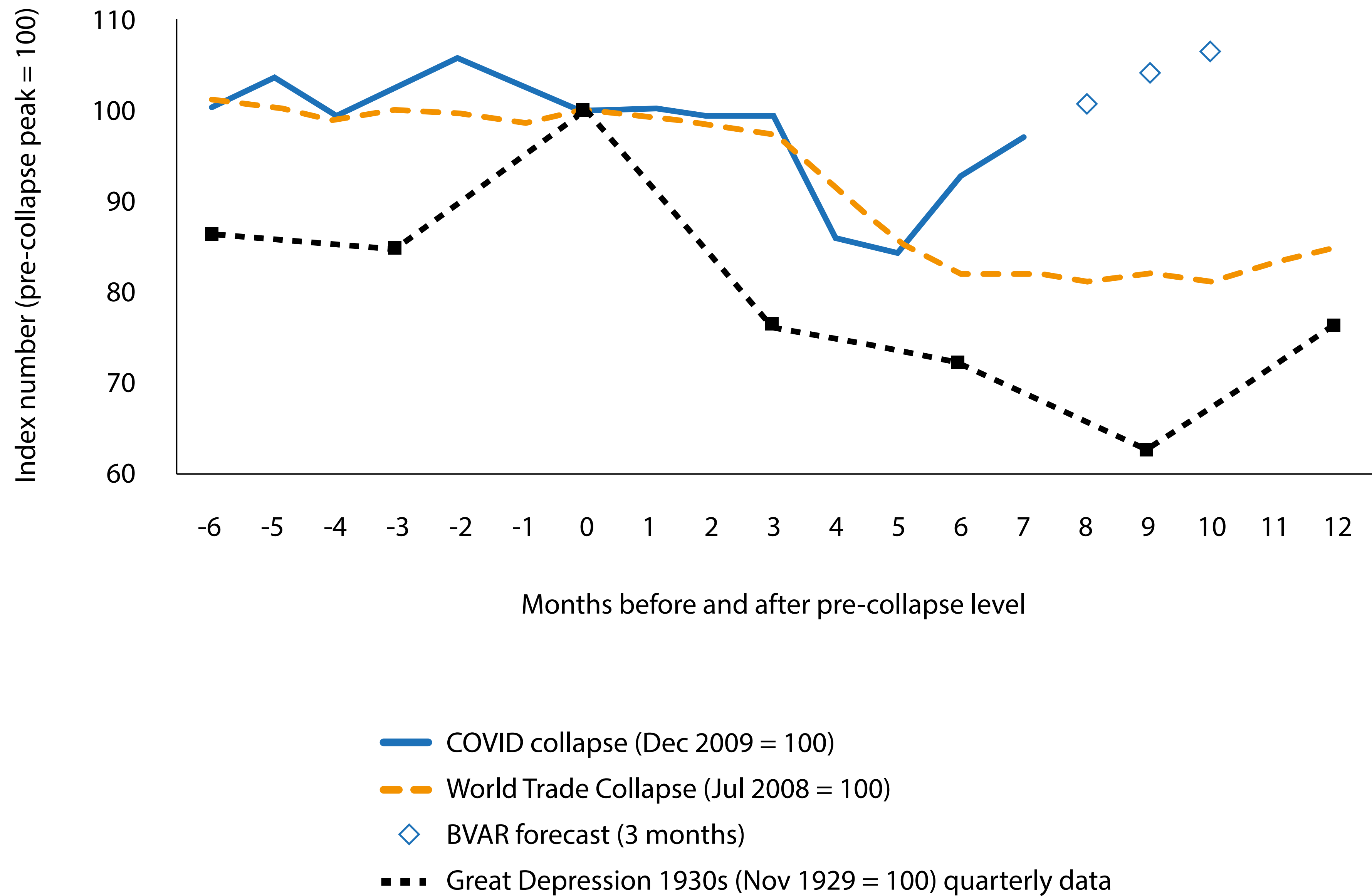
Figure 1. Comparing the COVID collapse to the 2008/09 world trade collapse and the Great Depression



Note: BVAR: Bayesian vector autoregression.
Sources: Eichengreen, and O'Rourke (2009) and CPB World Trade Monitor (data through to July 2020). See also https://voxeu.org/article/covid-19-and-world-merchandise-trade

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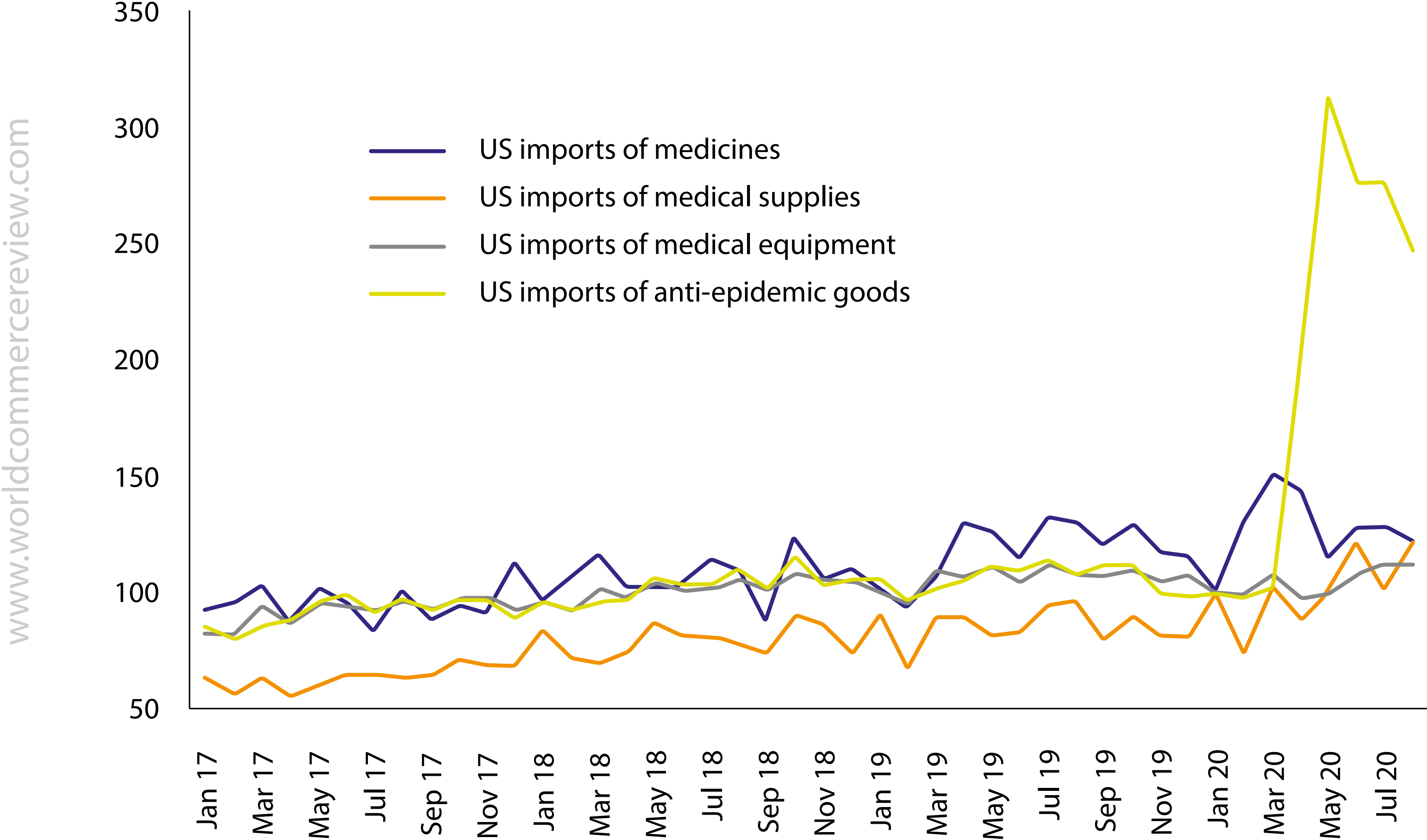
Figure 2. Foreign suppliers of medicat kit and medicines came to the rescue of US hospitals and patients

Total value of US imports of COVID-related goods
(normalised to 100 for Jan 2020)



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Note: Anti-epidemic goods are a class of products including alcohol solutions, hand santisers, masks, and soap.
Source: Assembled from 10-digit US import data available from the US International Trade Commission.

The crisis, however, has placed new stresses on multilateral cooperation. Members have thrown up a wide range of pandemic-linked trade restrictions and committed themselves to potentially trade-distorting industrial policies. The sense of disarray and the lack of trust are palpable.

Yet, it would be wrong to overdo the pessimism. None of the 164 WTO members, not even the US, has left the organisation. To the contrary, 23 nations are seeking to join the WTO. Moreover, there is widespread acceptance that the WTO needs to be reformed. 'Mend it, don't end it', as the saying goes.

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Ultimately, the pandemic affords the opportunity to reframe discussions on multilateral trade cooperation away from the stalemate, the frustration of recent years between governments, and the Uruguay Round mindset that ran into diminishing returns years ago

The WTO is worth fixing to help tackle today's global challenges

Humanity faces massive global challenges in the years ahead, and the solutions to these will require cooperation between governments and other stakeholders around the globe. International commerce will be part of those cooperative solutions. That alone is a compelling reason why the WTO needs fixing.

The WTO is not the only place for working on such solutions, but it is a vital one. The WTO's basic rules – like reciprocity, non-discrimination, and transparency – are arguably the most universally accepted. The basic WTO rules – which build on the GATT rules agreed in 1947 – had been written into the domestic lawbooks of many nations well before most of today's national leaders were born. As such, the rules help align expectations for firms, governments, and civil society groups. This is an accomplishment worth building on.

The list of contemporary global challenges is long, but among these are:

- Facilitating the production and distribution of billions of doses of COVID-19 vaccines.
- Finding an 'interface mechanism' that allows different forms of capitalism to co-prosper.
- Fostering a global economic recovery.
- Addressing the challenges posed by climate change.

A window of opportunity for mending opened with the election of a new US government and the concurrent selection of a new WTO Director-General. There is new hope for a revitalisation of multilateral cooperation on trade.

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The eBook presents analyses and ideas that touch on a very broad range of topics and policies (Evenett and Baldwin 2020). In this column, we highlight a few of the ideas.

The WTO can be fixed – and here is how

We have no illusions that revitalisation will take time and will require starting with confidence-building measures. Still, a number of key building blocks are in place, not least the sense that the current stalemate and frictions serve no-one's interests.

Away from Geneva, there are many instances of governments engaging in trade cooperation – whether bilaterally, regionally, or in other formations, such as the Ottawa Group. Even in Geneva, work continues on the Joint Statement Initiatives and the COVID-19 pandemic has brought together groups of WTO members that have made declarations concerning their trade policy intent. Put simply, governments haven't lost the knack for trade policy cooperation.

Nor have governments stopped integrating their economies into the world economy. By 30 October 2020, the Global Trade Alert had documented 554 unilateral policy interventions taken this year by governments around the world that liberalise their commercial policies. That's more than double the number recorded at this time last year (249) and more than 50% higher than the comparable total in 2018, the year which saw the most trade reforms since the global financial crisis of 2008-9.

A total of 116 governments have taken steps that integrate their economies into the world trading system this year, or will implement measures doing so by the end of 2020. For all the doom and gloom about the world trading system's prospects, it is worth recalling that the Global Trade Alert data imply that, since the first G20 Leaders'

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Summit in November 2008, on average a government has undertaken a unilateral commercial policy reform every 14 hours.

Governments haven't given up on trade reforms either. And these unilateral reforms aren't ones where the officials involved insisted on some reciprocal gesture by trading partners. We need to build on that.

Going forward, there is considerable merit in WTO members proceeding on two tracks.

- Identify together a new common denominator for the WTO that will define, in broad terms, the organisation's purpose and trajectory in the decade ahead.

  We elaborate on this in the introduction to the eBook, but the basic idea is to find a common denominator on what imperatives the WTO should accomplish over the next decade or so. That discussion is necessary as each WTO member needs to be convinced that there is an appropriate balance between rights and obligations, and gains and concessions.

- Develop and adopt confidence-building measures.

  These would signal to all that the WTO is a place where governments can solve policy problems and where they lend each other support in normal trading conditions and, in particular, during times of crisis.

To kickstart revitalising multilateral trade cooperation, however, a series of confidence-building initiatives are needed. These initiatives don't require bare-knuckled negotiations over binding commitments; rather, the goal is to channel the cooperative and reforming spirit mentioned at the start of this section into greater collaboration

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among WTO delegations in Geneva, supported by a re-motivated WTO Secretariat. Such confidence-building measures should include the following:

- Discussions about solutions to common problems, including those arising from arising from COVID-19 (eg. resilience of supply chains), and steps to better to manage trade frictions arising from different types of capitalism (and the adequacy or otherwise of existing WTO accords in this respect).

- Negotiation of a Memorandum of Understanding on facilitating trade in medical goods and medicines that could later form the basis of a fully-fledged binding accord.

- Engagement with other bodies whose decisions seriously implicate cross-border commerce, including GAVI and others working on the production and distribution of a vaccine, as well as the steps taken by other bodies to revive sea- and air-based cross-border shipment.

- A more ambitious project would be a commitment to a moratorium on tariff hikes and other taxes on imports.

- Joint study of next generation trade issues including the trade-related aspects of the digital economy and the relationship between commercial policies and climate change.

- A review of the practices and operation of the WTO during crises, with an eye to ensuring extensive and sustained participation of members, stronger links and inputs to and from national capitals, and other pertinent organisational matters. The goal would be for the WTO membership to adopt a crisis management protocol.

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Archbishop Desmond Tutu, that tireless campaigner against Apartheid, once remarked that *"there is only one way to eat an elephant: one bite at a time."* After a decade of drift and backsliding, the task of revitalising multilateral trade cooperation may seem daunting. It may seem even more so after the disruption of the COVID-19 pandemic and the attendant slump in world trade.

Yet, in the same emergency lie the seeds of revival – especially if trade diplomats can demonstrate the relevance of the WTO to national governments fighting this pandemic – ideally through an accord that eases the cross-border shipment of needed medical goods and medicines. Step by pragmatic step, the WTO can regain its centrality in the world trading system.

Ultimately, the pandemic affords the opportunity to reframe discussions on multilateral trade cooperation away from the stalemate, the frustration of recent years between governments, and the Uruguay Round mindset that ran into diminishing returns years ago.

Rather, discussions between governments need to draw lessons from the second global economic shock in 15 years so as to rebuild a system of global trade arrangements capable of better tackling systemic crises and, more importantly, better able to contribute to the growing number of first-order challenges facing societies in the 21st century. Doing so will require revisiting the very purpose of the WTO. ■

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Realising the vision

Nirupama Soundararajan and Arindam Goswami consider the huge growth in e-commerce in India and the next steps that policymakers should take to release the potential

Why India is an attractive retail market

Much has been spoken about reaping demographic dividends, especially in India. It has been spoken of in terms of creating a capable workforce and it has been spoken about in the context of skilling. The downsides of a large population have also been discussed in terms of inequalities in incomes, low standard of living, and growing unemployment.

Notwithstanding all narratives, the one advantage of a large population that is often overlooked is the collective consumer demand that it can generate. India is quite easily one of the largest retail markets in the world.

While India's per capita income is one of the lowest in the world (USD2,104.16 in 2019, World Bank calculations), it is by no means a measure of the spending power of Indians. The number of middle-income households in expected to grow at a steady rate to reach 140 million households by 2025.

Another estimate of India's middle class was provided by the McKinsey Global Institute (MGI)[2]. Even as early as 2007, MGI predicted that by 2025 India will become the fifth largest consumer market in the world owning to a growing middle class, whose numbers are likely to exceed the population of Australia. This growth in the middle-class has been attributed to the likelihood of poverty reduction. It is this middle-class that largely drives consumption in India.

In 2017-18 India's per capita consumption on groceries, clothing, and housing and utilities was collectively INR 40,269, which is over 50 per cent of total per capital consumer spending of INR 77,085[3]. This makes India an extremely attractive destination of all kinds of retail players.

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Table 1. India’s households and their annual income (in millions)[1]

Household type	Annual income brackets	2010	2016	2025 (Forecast)
Strugglers	<US$ 2,300	91	82	55
Next billion	US$2,300 – US$7,700	102	121	140
Aspirers	US$7,700-US$15,400	31	40	61
Affluent	US$15,400-US$30,800	12	17	33
Elite	>US$30,000	4	7	16

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The evolution of retail in India

India’s retail sector is comprised of different formats, such as traditional mom and pop stores, organised single brand retail, organised multi brand retail, food retail, online marketplace models, online inventory models, and direct selling.

Up until two decades ago, India’s retail sector predominantly consisted of traditional mom and pop stores (also known as kirana stores) and government cooperatives. Over the years, with steady liberalisation of foreign direct investment (FDI) rules, many foreign brands also made their entry into India as either single brand stores, or as part of joint venture with Indian brands.

More recently, as the retail market across the globe has transitioned into e-commerce platforms, so has India’s own retail landscape. India is home to many foreign and domestic e-commerce brands, including the Government of

India's own Government e-Market (GEM) platform, that acts as a marketplace for all government and government owned entity procurements.

A larger part of the e-commerce transformation in India has been triggered by increasing internet and smartphone penetration. The ongoing digital transformation in the country is largely on account of internet penetration in India, that has gone up from a mere 8 per cent in 2010 to 25 per cent in 2016 and is expected to reach 55 per cent by 2025, taking the total number of users to over 850 million.

With per capita consumption expected to increase in both rural (4.3 times) and urban (3.5 times) and on the back of a growing young population, digitally influenced purchases in India are expected to reach USD550 billion by 2025, accounting for almost 30 per cent of all retail sales[4].

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... policymakers must take into consideration the vision set out for the country as a whole and the role e-commerce can play in realising this vision

Regulatory arbitrage in retail

FDI rules for each format of retail is different. For example, 100 per cent FDI is allowed in food retail and in single brand retail, but 51 per cent is allowed in multi-brand retail. This means that a foreign multi brand retail cannot set up a store in India on their own, but can do this as a joint venture with an Indian company.

The resistance to multi-brand retail came largely from traditional retailers who feared that they would be pushed out of business with the entry of large corporates. A May 2008 study, *Impact of Organised Retail on the Unorganised Sector*[5] came to the conclusion that organised retail in India was not a zero-sum game.

Notwithstanding the impact large brands in retail have had on smaller stores in other countries, the study concluded that in India, the competition will only lead to modernisation of the traditional mom and pop stores and that Indian consumers will continue to shop at the local grocery store as well as in the larger hypermarkets or convenience stores.

Fifteen years since the report, and India's traditional retail businesses have not only modernised, but have upskilled and up scaled themselves to compete with larger brands. Even so permitted FDI in multi brand retail remains at 51 per cent.

The growth of e-commerce has also been met with similar challenges. India is probably the only country in which multiple formats of e-commerce exist. For instance, 100 per cent FDI is allowed in e-commerce marketplace models, but none is allowed in e-commerce inventory model.

This means foreign e-commerce companies are allowed to function in India, but are not allowed to hold a single piece of inventory. Hence in India today, a single brand retail store may open multiple brick and mortar stores

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across India and hold inventory, however a foreign e-commerce brand, is allowed to operate in India only if they hold no inventory even if they only decided to sell their own branded merchandise.

The regulatory arbitrage is evident; single brand retail stores can also sell online, which is allowed, but e-commerce companies cannot hold inventory of even their own brand products. This is but one example. India's approach to regulating retail leaves much to be desired.

Yet, between 2014 and 2017 e-commerce in India grew at a phenomenal compounded annualised growth rate (CAGR) of 41 per cent, and from 2017 onwards, it has been consistently growing at a CAGR of 17 per cent till 2026[6].

India's retail sector currently stands at USD795 billion and is expected to reach USD1.75 trillion by 2026. Of this, the share of e-commerce in expected to be USD 200 billion[7]. As a percentage of total retail it is still only 3.5-4.5 per cent. The share is likely to more than triple within the decade[8].

The importance of e-commerce to the Indian economy

E-commerce has undeniably benefitted consumers, by offering them access to goods and services in semi urban and rural India at affordable prices. Inter-linkages within the sector has enhanced the potential for job creation, economic growth, and growth in export.

Anecdotal evidence also suggests that e-commerce has aided financial and digital inclusion, with more and more people becoming comfortable transacting online. However, the reason why e-commerce should become an area of sharp focus for India has to do with India's own macroeconomic vision for the next decade. Two inter linked initiatives of the incumbent government come to the fore.

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The first is *Make in India*. Reinforcing the vision to develop India into a global manufacturing giant, the current government unveiled *Make in India* programme on 25th September 2014 to project India as a preferred investment destination[9]. The primary objective of this campaign was to encourage domestic and multinational firms to produce goods in India so that India's manufacturing is competitive in global markets[10].

Under this initiative, there were 25 key sectors which were identified bearing in mind their potential to compete with the best in the world. Unfortunately, the impact of *Make in India* is yet to be realised[11].

Neither did India's manufacturing capabilities see any significant increase, nor did India manage to make a difference to global value chains. So much so that India was unable to attract the attention of businesses exiting China during the recent trade war between China and the United States of America (USA).

After the recent skirmishes with China at the border, India decided to react both strategically and economically. As part of India's economic response, imports from China were discouraged and the priority become self-reliance. With the introduction of Atmanirbhar Bharat and *Vocal for Local* initiatives, the second initiative, new champion sectors have been announced in 2020.

It is expected that in these sectors, India will reach self-sufficiency (so that India's dependence on imports will reduce) and also capture new global markets, especially with geopolitical changes afoot between many countries and China and its impact on their economies.

E-commerce in India can act as a channel through which *Make in India* and exports can be stimulated. Exports and *Make in India* are not mutually exclusive concepts. While, *Make in India* for India has its own advantages, the true

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potential in terms of economic realisation can be through exports. This time India must act fast and e-commerce can act as an immediate enabler.

E-commerce as an enabler for exports

India has been working towards increasing her share of exports to the world. This has always been a challenge largely owing to poor price competitiveness. A lack of a robust domestic manufacturing sector only further accentuated the problem.

The sharp increase in India's current account deficit (CAD) has been evident in the last decade. It has therefore been with renewed focus that the incumbent government has been attempting to identify sectors that could contribute to Indian exports.

India has been working towards increasing her share of exports to the world. This has always been a challenge largely owing to poor price competitiveness. India has made excellent headway in the pharma sector and the electronics sector (largely owning to mobile phone manufacturing).

Traditionally strong sectors for India, such as leather, diamonds, and even meat, have seen a decline in terms of gross and/or net exports. Some sectors are more suited than others for exports through e-commerce. These have traditionally been textiles, footwear, apparels, gems and jewellery, to name a few, products of which can be sold directly to overseas consumers.

The entire mechanism of traditional export is fraught with challenges in its process. First, there is limited access to market information. The preliminary process of gathering information about a foreign market is not only challenging but is also a time-consuming process and through trial and error.

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Second, there are many entry barriers for smaller businesses in terms of cost. Third, business or seller have little or no feedback from actual consumers and users of product. They are forced to rely on the overseas supplier/importer for feedback of the sold product.

Fourth, accommodating the local preferences of the export market often comes at a significant cost. Without proper feedback or any means of knowing how successful even a customised product could do, businesses are unwilling to take the risk to make changes to their existing product that has thus far worked well in the domestic Indian market.

Exports through e-commerce can happen either through the businesses' own website or through e-commerce companies that have a presence in foreign markets that can help facilitate the sale of domestically manufactured goods in international markets.

While the cost of setting up one's own website in itself may not prove to be an expensive affair, marketing and customer acquisition can also be a challenge. Existing businesses who have already built a brand identity may find it easier and ultimately maybe even more profitable, to set up their website and fulfil orders.

Selling through existing marketplaces has one big advantage, which is that of credibility. Marketplaces already have a large number of consumers that are loyal to it. Hence new sellers achieve a certain sense of acceptance. Other advantages of selling through existing marketplaces is that of managing logistics and the value addition offered by marketplaces like tools for market insights.

Using e-commerce as an enabler for export offers businesses a certain sense of control and independence over decision making. By nature, e-commerce connects sellers directly to the end consumer.

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The dependence on intermediaries in foreign markets is reduced to a large extent. One of the biggest challenges that the traditional channels of exports presents is the inability of smaller businesses to participate in the process.

E-commerce creates a level playing field for any kind of business to access foreign markets. The low cost of investment and small quantities of export that is possible through e-commerce also means that the cost of failure for any business is not crushing.

E-commerce connects the seller to the end consumer directly. This means that the seller has direct access to feedback from consumers on multiple parameters. While label goods cannot be sold directly to consumers, e-commerce requires for brands to be built. While there may be a certain cost involved to building a brand from scratch, the long-term gains of this objective are manifold. For India, it is important to create brands.

Next steps for India

Policymakers in India have created two draft e-commerce policies, neither of which passed muster. The hope is another new policy will be drafted by the government. However, this time policymakers must take into consideration the vision set out for the country as a whole and the role e-commerce can play in realising this vision.

Different rules for different formats of retail have led to a whole host of fragmented regulations and policies in retail on the basis of format and origin of capital.

This could be a reason for why India has been unsuccessful in unlocking the huge potential, growth, export, and employment wise, that the sector can generate. Even under such sub optimum conditions, India's retail sector and e-commerce particularly have grown.

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In the past the e-commerce policy has dealt with many issues that should not quite fall into its ambit, such as data localisation requirements. These are best left to the concerned departments. Instead, the e-commerce policy must concentrate on ensuring how best to optimise the advantages of this retail revolution.

It must also take into account the various issues that are emerging around competition and e-commerce across the globe and make provisions for the same. If India is keen to truly reach its vison of bettering her manufacturing output, becoming self-reliant, and plugging herself into global value chains, then it is time for the manufacturing and services sector (e-commerce) to work together cohesively, and this should be the focus of any new e-commerce policy. ■

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11. For a detailed commentary on an evaluation of Make in India, please see, Pahle India Foundation's study titled "Make in India – Stoking the Manufacturing Sector," http://pahleindia.org/pdf/Make_in_India_Stoking_the_Manufacturing_Sector.pdf

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COVID's impact on Indian growth and trade

The COVID-19 pandemic has inflicted great damage to the global economy. Pravakar Sahoo and Ashwani Bishnoi consider the developmental and policy implications for the Indian economy

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Economics literature has well noted the convergence between economic growth, trade and development. With the onset of COVID-19, India's economy faces the possibility of 6.34 percent negative growth for the FY21.

The likely impact (deceleration) on exports can be 15.0 to 20.2 percent and imports from 20.8 to 26.1 percent in current fiscal year. The developmental implications of shrinking growth and trade is severe.

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I. Impact assessment of COVID-19 on India's growth and trade

The corona pandemic has hit the Indian economy when it is at its lowest point of growth trajectory over last six years due to lack of aggregate demand - consumption, private investment and exports witnessing deceleration over the last few years.

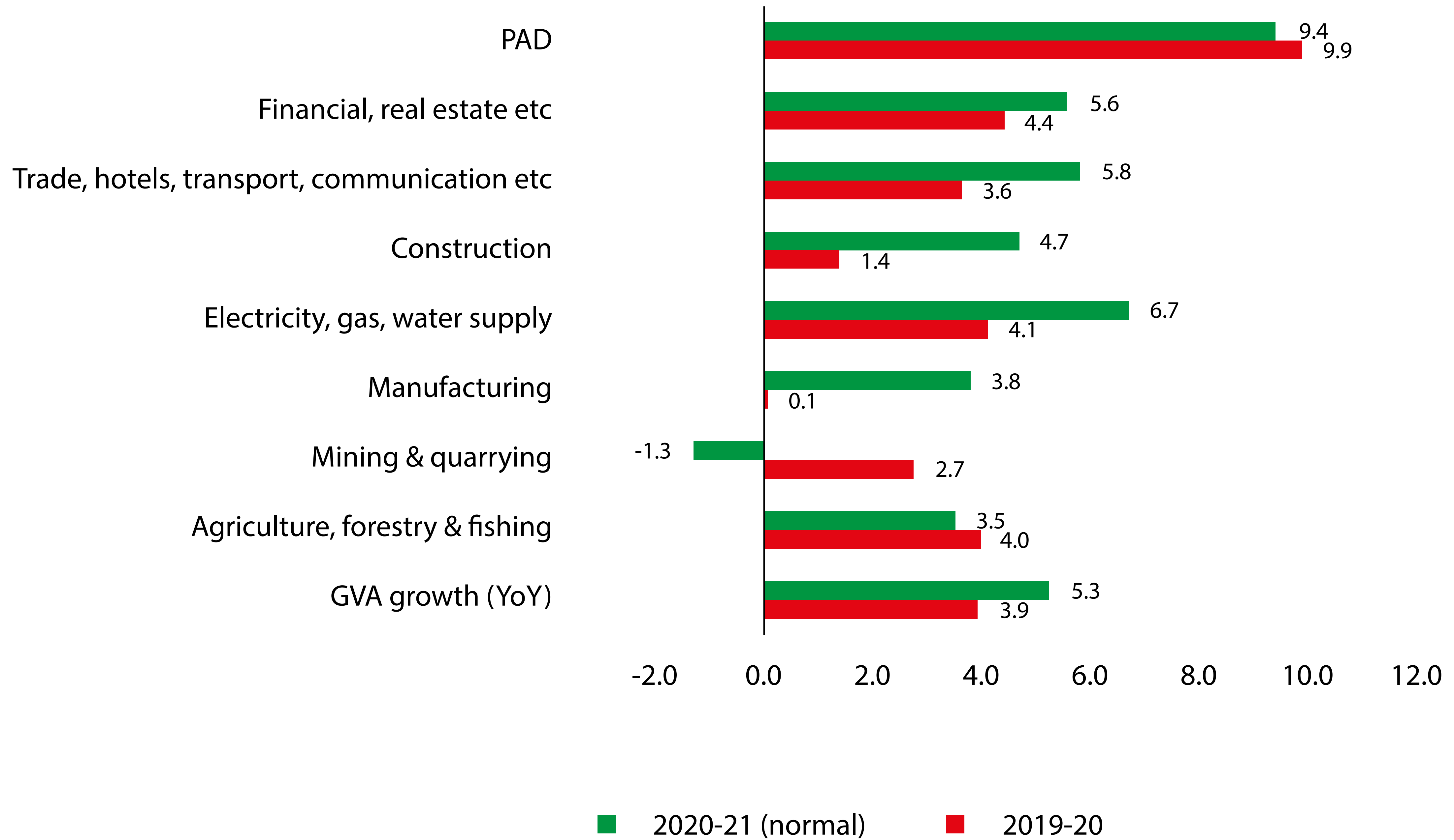
Our assessment of impact of coronavirus pandemic on India's GVA and trade in the FY21 are carried out under three scenarios- A, B and scenario C[1]. In Scenario A, we consider the complete lockdown up to 3rd May of 2020 and 50% capacity utilization of the economy till 31st May 2020.

In case of scenario B, we extend the scenario A while assuming 70% of capacity utilization in the economy by 30th of June and scenario C, more pessimistic where normalcy level is assumed in three phases- 50% by end of May, 70 % by June and 90% by September 2020[2].

II. Impact on growth:

Figure 1 reports the expected percentage increase in GVA in FY21 over FY20 across sectors in normal times ie. without COVID-19. The GVA would have increased by 5.3% in FY21 mainly led by Public Administration and Defence (PAD) services (9.4%), electricity, gas, & utilities (6.7%); trade, hotels & restaurants and financial services (around

Figure 1. GVA growth in normal conditions



Source: Authors' computations based on NAS data

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5.7%, each); construction (4.7%); manufacturing (3.8%), agriculture (3.5%) and mining and quarrying to register a fall (1.3%).

Due to lack of aggregate demand in recent quarters and onset of COVID-19 in the last quarter of FY20, Indian economy experienced 4.2 per cent in FY20 - lowest in last 11 years – compared to 6.1 per cent in FY19. The impact of COVID-19 outbreak and subsequent lockdown on real GVA (at 2011-12 base) at aggregate level for the FY 21 over FY20 is reported in Figure 2. In case of scenario A, the GVA is estimated to fall by 3%. In most likely scenario B, the deceleration can be around 4.8% in FY21 which is similar to IMF's projection of 4.5 percent for this year. However, in case of more pessimistic environment (Scenario C), the economic loss can extend to 6.3% (Figure 2)

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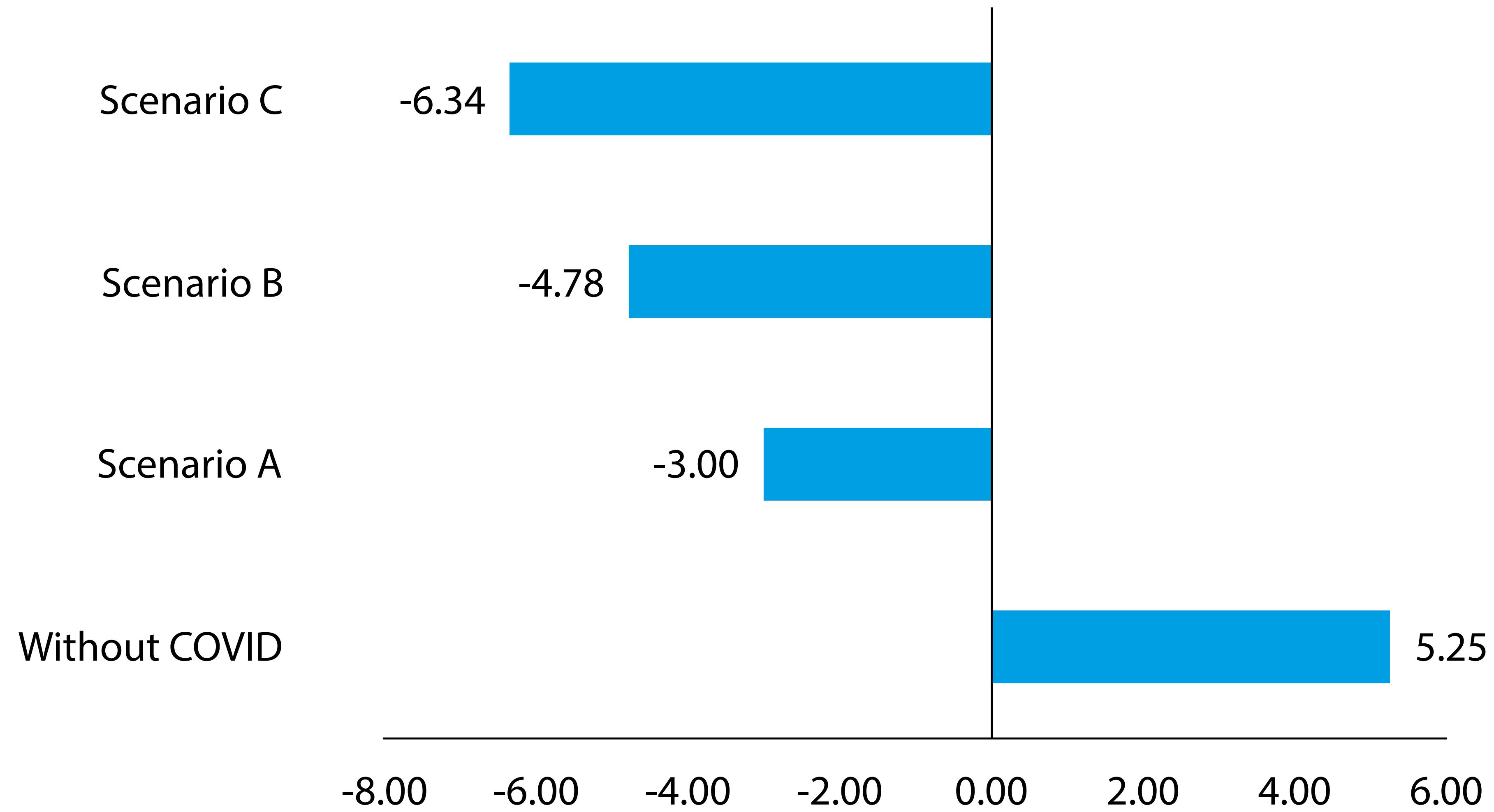
The stimulus measures announced so far address the basic needs of the majority, and also few specific sectors, but not the drivers of the growth

Figure 2. Change (%) in GVA in FY21 over FY20



Source: Authors' computations

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The estimated quarterly growth rate (Y-o-Y) of real GVA indicates that first quarter of FY21 would expect a deceleration to the tune of around 28 percentages under Scenario A and around 35% under scenario C (Figure 3). Figure 4 reports the deceleration across sectors for the current FY under scenario A.

Here we assume sectors such as agriculture; electricity, gas and utility services and PAD services experience normal conditions and the corresponding growth would be 3.5%, 6.7% and 9.4% in FY21[3]. But now with the COVID-19, the growth is expected to decelerate (Scenario A) by 14.3% in mining and quarrying, 9.2% for construction sector, 9% for manufacturing, 6.3% for trade, hotels, transport and communication services, and 5% for financial & real estate services[4].

cross industries, the largest decline is expected in basic metals and electric equipment (around 21% for each), followed by textiles (18%); coke & refined petroleum products and motor vehicles (around 15%, each); rubber & plastic products and other non-metallic products (around 11% each); among others (For detail, refer Sahoo and Ashwani, 2020).

Our assessment of negative growth from 3 to 6 percent for FY 21 for Indian economy in best and worst-case scenarios is away from the IMF's projection of a negative growth of 4.5 percent with band of +/- 1.5 percent. Though the exact number would vary depending how we succeed in containing the Pandemic and unlocking the economy, the Indian economy looks certain at this point to experience a negative growth.

The World Bank has already projected a 3.2 per cent contraction in the Indian economy this fiscal year. Most of the rating agencies such as ICRA, CRISIL, Moody's have also projected the negative 4 to 5% growth rate for India in the FY21.

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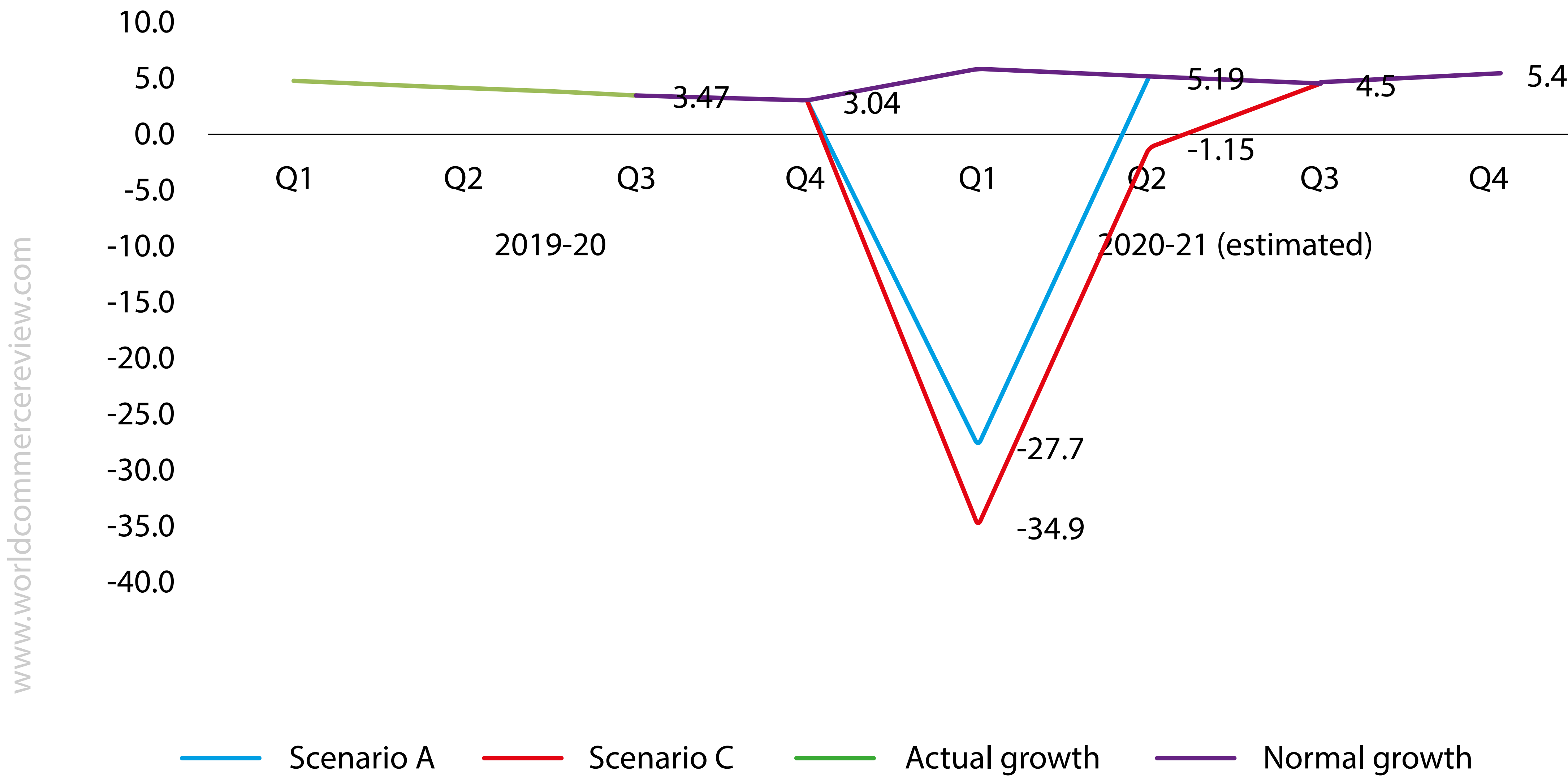
Figure 3. Quarterly growth in GVA (Scenarios A and C)



Source: Authors' computations based on NAS data

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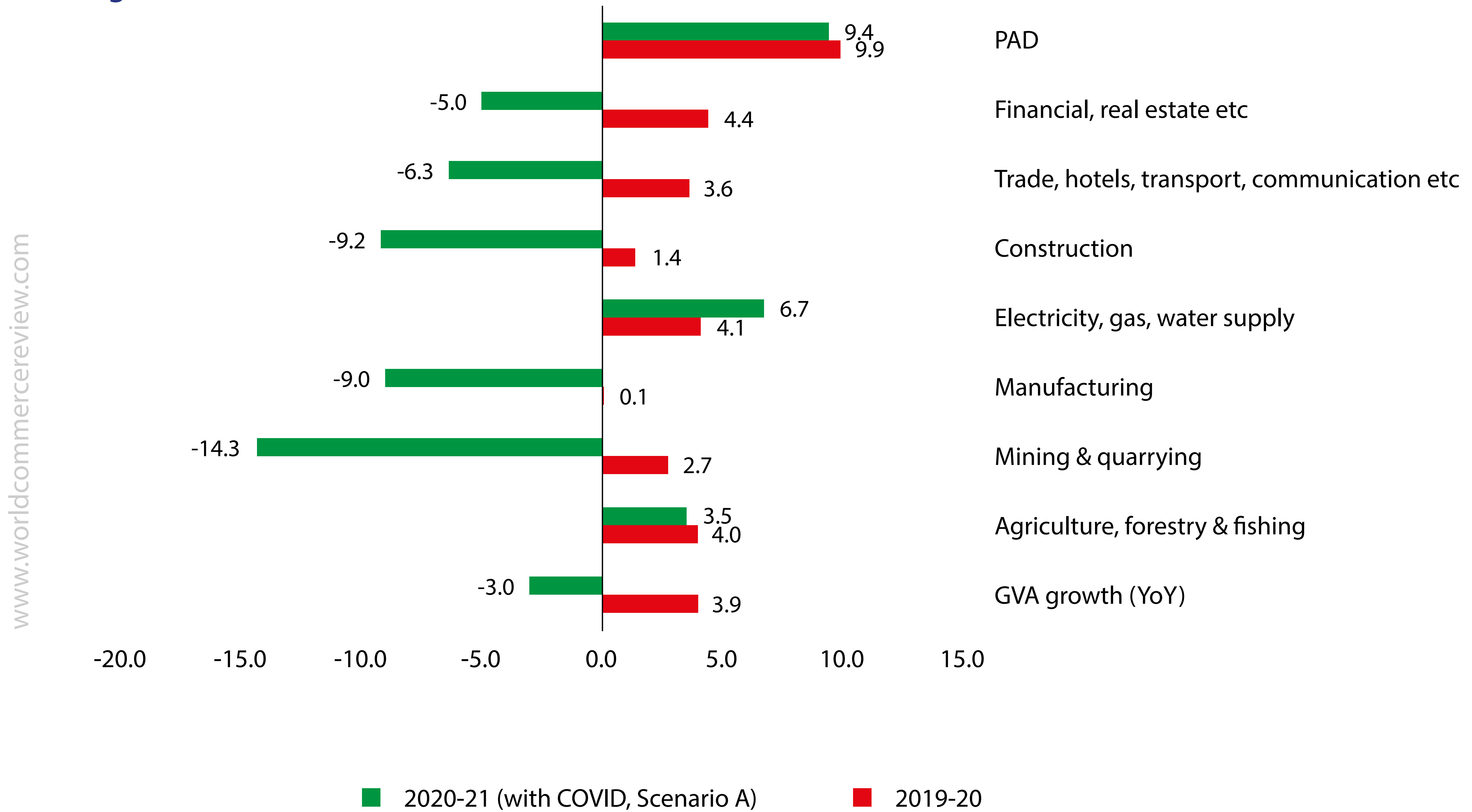
Figure 4. Sectoral deceleration (%) in GVA (Scenario A)



Source: Authors' computations based on NAS data

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The pull factors for falling growth will be both from sluggish demand - both domestic as well as foreign due to falling income- and supply side disruptions due to the shutdowns, shortage of raw materials, higher inputs costs and skill shortage. Therefore, the negative growth for FY21 looks inevitable.

III. Impact on trade

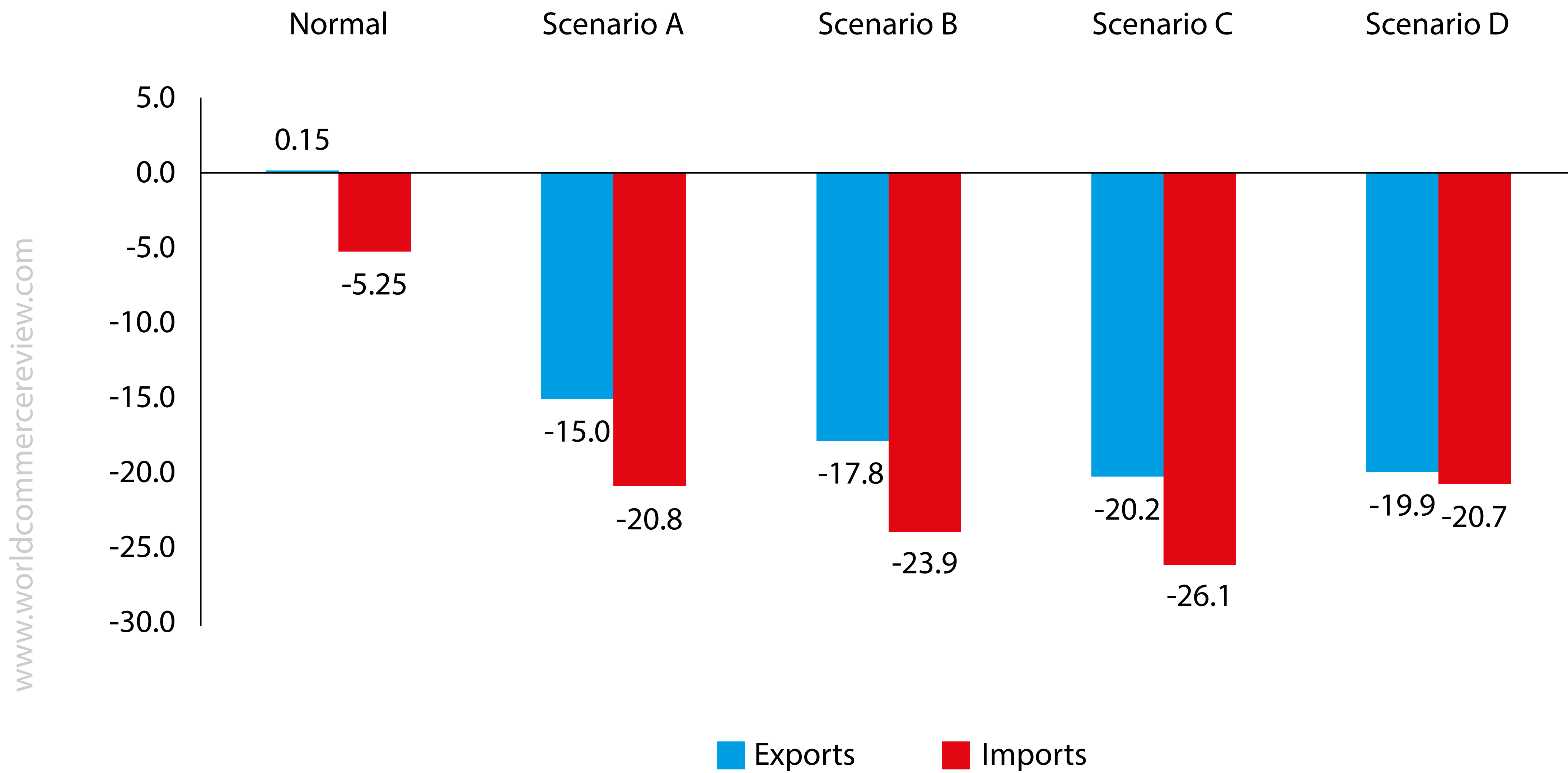
India witnessed a significant fall in India's trade in Q4 of FY20 as exports declined by 11% and imports by 9% - due to the Corona outbreak. The impact is obvious as India's trade is mainly reliant on EU, USA, China and South East Asian countries, which are worst affected by COVID-19. We estimate the potential impact on trade for different quarters of FY21.

The assessment of loss of India's exports and imports are carried out under two situations, first with normal behaviour of world trade and second with the falling world trade. For first case we carry out the impact under above mentioned hypothetical scenarios (A to C). To account for the expected fall in world trade, we take the global financial crisis as the reference point to evaluate the fall in India's trade (Scenario D).

As per our estimation[5], India's exports are going to decline by 15% to 20.2% in FY21 over FY20 under scenarios A-C. The corresponding fall in imports ranges from 20.8 % to 26.1% in FY21. In the scenario D, considering the GFC as reference point, the potential fall in exports and imports can be 19.8% and 20.7%, respectively (Figure 5).

Severe restrictions on movements of goods, services and personnel along with heightened protectionism and lower demand across the countries will not only pull-down India's trade but is likely to hamper the domestic production networks and overall competitiveness (Garg and Sahoo, 2020; Sahoo, 2020).

Figure 5. India's exports and imports in FY21



Source: Computations based on RBI data

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With regard to impact on exports and imports across commodities, it is estimated that products such as petroleum products, chemical products, machinery, electronics and plastic and rubber would suffer a loss of more than the national average of 20 percentages (Sahoo and Ashwani, 2020).

Overall negative performance in manufacturing, the top value-added sectors such as base metals, electronics, machinery, coke & refined petroleum products, motor vehicles etc. have much dependence on the imports. For instance, electronics industry imports about 67% of electronic components from China. Take the example of automobile sector which is one of the success stories of Indian manufacturing in last decade.

The sector was struggling to adjust to the new regulations of BS-VI regulations, effective 1 April 2020, before COVID-19 and now facing challenges because of the dependency of the sector on China for the Original Equipment Manufacturers (OEMs). All in all, prices of the raw material as well as finished goods are expected to inflate, but with lower demand, realization of increased input cost through end prices of finished goods is difficult.

IV. Conclusion: developmental implications and policy implications

Our assessment is that Indian economy may experience negative economic growth in the range of -3% to -6.3% in FY21. The most affected sector is going to be mining sector followed by manufacturing; construction; trade, hotels and transport services, and financial services.

The likely impact (deceleration) of COVID-19 on trade in FY21 from best case scenario to worst scenario are as follows - exports from 15 to 20.2 percent and imports from 20.8% to 26.1 percent. The figures suggest that the economy is heading towards a recession and the situation demands systematic, well targeted and aggressive stimulus measures.

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The developmental implications of shrinking growth and trade will be humongous. The fall out of COVID-19 has humongous developmental implications on poverty, inequality and standard of living of the masses.

It is well evidenced that the convergence towards Sustainable Development Goals (SDGs) would occur much faster with rapid, sustained and inclusive growth. Economic growth is essential to provide jobs to millions of people, empowering the state to channelize the resources for health and education and welfare schemes to reduce poverty, improving the quality of life, etc.

The study by Adams (2002) finds that a 10 per cent increase in a country's average income will reduce the poverty rate between 20 and 30 per cent in developing countries. DFID (2008) report says that 1 per cent increase in per-capita income could reduce the poverty rates by 1.7 percent.

India has seen significant fall in poverty since the 1980s mainly led by impressive growth and the reform process that was launched in the year 1991. The COVID-19 impact on the Indian economy casts a doubt on the sustainability and inclusivity of growth in India, thereby affecting its development agenda.

Economic theory underscores the role of international trade on economic development through increased per-capita income. With free proliferation of trade, the access to ideas, technology, goods, services and capital becomes easy, which in-turn leads to faster income growth.

Empirically it is estimated that rise in ratio of trade to GDP by one percentage point was found to increase income per person by 1 to 2 percent (Frankel & Romer 1999). Trade has been recognized as an engine for inclusive economic growth and poverty reduction in the 2030 Agenda for Sustainable Development.

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It is the time to revive growth by stimulating demand and repairing domestic supply chains. The comprehensive stimulus measures announced so far by GoI, more through increasing liquidity in the form of providing loans and funding opportunities and less through fiscal measures, may not be sufficient. Now is the time is for sector specific fiscal stimulus to revive demand and growth.

The stimulus measures announced so far address the basic needs of the majority, and also few specific sectors, but not the drivers of the growth. For example services sector contributes 55% to GDP but there is hardly anything specific - in terms of easing the financial stress, funding opportunities and tax holidays - to sectors likes transport, travel, hotel, tourism and other services which are the worst affected and struggling to survive. ■

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Professor Pravakar Sahoo teaches Macroeconomics and International Economics to Indian Economic Service (IES) probationers. He has 20 years of teaching and research experience. His research interests are Macroeconomics, International Trade & Investment, Development Economics, Infrastructure Development and Public Finance.

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Endnotes

1. For estimations, assumptions, scenarios etc., please see Sahoo and Ashwani, (2020)

2. Assuming that 10% of firms would remain severely affected with the epidemic and require much higher time for resuming the normalcy level.

3. See Figure 1 GVA growth in normal scenario (without COVID)

4. Assuming communication services, banking and insurance working with their normal capacity level.

5. See Sahoo and Ashwani, 2020 for estimation details.

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What does the student experience of the lockdown mean for the future?

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The nature of the business school offer has come under particular scrutiny during the pandemic of recent months with many schools switching to some form of online learning.

The student experience of this move to online learning has been mixed. CarringtonCrisp and EFMD have run the GenerationWeb study for 13 years, primarily examining student views of best practice on business school websites. This year the study went further seeking student views on their experience of studying through the lockdown.

Almost three-quarters of students (71%) agree that their school has responded quickly to issues arising from the pandemic, while around two-thirds agree that their school has responded effectively to issues arising from the pandemic (65%) and that their school is making good use of online resources to help continue delivering teaching (66%).

Zoom (47%) and Microsoft Teams (37%) have been the main tools used to deliver online learning. Just over seven out of ten respondents to the survey agree that the system chosen for online learning by their business school has been easy to use. Two-thirds (67%) agree that their business school provided clear guidance on how to adapt to online learning.

However, it's not all good news. Just over six out of ten students (61%) agree that the experience of online learning failed to match that of classroom learning.

47%

Zoom (47%) and Microsoft Teams (37%) have been the main tools used to deliver online learning. Just over seven out of ten respondents to the survey agree that the system chosen for online learning by their business school has been easy to use

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Almost four out of ten (39%) agree that the experience of online learning left them less interested in their subject of study.

Despite the difficulties that some have experienced, there is positive news about the future of online learning. Almost a third of respondents (31%) agree that the experience of online learning surprised them and exceeded

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Despite the difficulties that some have experienced, there is positive news about the future of online learning. Almost a third of respondents (31%) agree that the experience of online learning surprised them, exceeding their expectations of online learning. Indeed, when asked how they would undertake any future learning they might consider, 53% of the respondents preferred blended study, making it the most popular choice offered

their expectations of online learning, while slightly over a third (34%) agreed that the experience of online learning made them much more likely to consider online learning in the future. Indeed, when asked how they would undertake any future learning they might consider, 53% of the respondents preferred blended study, making it the most popular choice offered.

71%

71% of students agree that their school has responded quickly to issues arising from the pandemic, while around two-thirds agree that their school has responded effectively to issues arising from the pandemic (65%)

It is not just current students that express an interest in blended and/or online learning. The LinkedIn study found that those aged over 25 were more likely to embrace online learning than their younger counterparts. Asked how they might address their learning needs in the year ahead, the most popular approach among Generation Z is face-to-face in a university setting (51%). For Generation Y the preference for learning in the year ahead is entirely online (47%), which is shared by 52% of Generation X and 45% of Baby Boomers.

Part of the interest in online learning may be driven by cost. Among both Generation X and Baby Boomers just under half of the survey respondents consider business schools too expensive (45% and 48% respectively), perhaps seeking cheaper or free alternatives that can be taken online.

The transition to online learning has undoubtedly been difficult with schools having to make changes in a matter of days and weeks that would otherwise have taken years to deliver. Consequently, some of the experience of online learning has not always been as good as it might be. Just under four out of ten GenerationWeb survey respondents agree that their School has enhanced its reputation through the actions it has taken in recent weeks; although 40% neither agree nor disagree and 21% disagree.

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With lifelong learning becoming ever more important, today's students will also be tomorrow's learners and schools could do much more to better understand attitudes to future learning by engaging today's students. Just under half of the survey respondents (49%) indicate that their school is engaging them in thinking about the future of the business school, although only 12% definitely agree with this statement.

51%

The most popular learning approach among Generation Z is face-to-face in a university setting (51%). For Generation Y the preference for learning in the year ahead is entirely online (47%), which is shared by 52% of Generation X and 45% of Baby Boomers

While a move to online learning has been completed by most schools in recent months, being a student is about much more than academic study. Just over three-quarters of the survey respondents (76%) indicate that advice and support services have been provided online, while 69% said that career services had been provided online.

Outcomes of these changes suggest the transition to online provision has been largely successful with 65% indicating that advice and support services were either very good or good, while 61% indicated that career services were either very good or good.

Attitudes to online learning vary around the world. In the See the Future study, respondents from the Americas were most likely to agree that 'Face-to-face learning provides a richer and more effective experience than online learning', while those from Africa and the Middle East were most likely to agree that 'A blended model combining face-to-face and online learning is an ideal skills development path'. ■

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A resilient industry moving forward

COVID-19 has affected how business is connected. ED Bolen says VBACE and other events showcase a resilient industry moving forward

This remains an unquestionably challenging time for all of us. The COVID-19 pandemic has affected our lives in countless ways, including many sweeping changes to how our industry conducts business and remains connected.

As we all continue to navigate this unprecedented situation, the National Business Aviation Association (NBAA) is focused as never before on being your definitive, authoritative source for information, and your platform for connecting in new ways, so we can lead during and out of this crisis together.

To that end, we want to be sure you're aware of three truly game-changing events for connecting people in a way that helps everyone move not just online, but ahead.

The first event in this regard was our inaugural, completely immersive Virtual Business Aviation Convention & Exhibition (VBACE) that took place December 2-3.

VBACE – held on a state-of-the-art platform – featured three-dimensional exhibit booths, allowing show-goers to fully engage with a broad, diverse and enthusiastic group of exhibitors from around the globe, including OEMs such as Airbus, Boeing, Bombardier, Cirrus, Dassault, Embraer, Honda Aircraft Company, Pilatus, Pratt & Whitney, Textron Aviation and others.

Dynamic and engaging keynote speakers are another staple of NBAA events, and each day of VBACE included inspirational messages from the aviation community and beyond. For example, the show kicked off with critically acclaimed singer/songwriter Dierks Bentley, a nationwide headliner whose brand is directly affiliated with connecting with people the world over.

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A certificated pilot, Bentley first spoke about the importance of utilizing business aircraft in his life and career to a packed audience at NBAA-BACE 2015 in Las Vegas, NV. He offered his unique and engaging perspective to VBACE attendees on ways to bring people together in difficult times. Bentley's December 2 VBACE keynote also included a conversation with NBAA President and CEO Ed Bolen, followed by what the singer termed his *"first concert since March."*

The December 3 keynote session featured acclaimed writer Erin Meyer, who with Netflix Founder and CEO Reed Hastings co-authored *The New York Times* bestseller *No Rules Rules*, a candid overview of the entertainment provider's unique organizational philosophy.

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The ability to connect is how we build and sustain relationships. It's how we better ourselves as professionals. It's how we get business done. It's how we plan for the future, as individuals, and as an industry

The VBACE session content also included a focus on educating new entrants to the industry, seeking information about the use of business aircraft, as well as information on tax benefits of aircraft ownership and operation; explanations of membership, jet card and fractional ownership options; tips for chartering business aircraft and much more.

At the same time, the session roster featured timely information on safe operations, reflecting corporate sustainability goals, emerging security concerns, ever-evolving tax policies and best practices regarding diversity, equity and inclusion.

Also new to VBACE were insightful Thought Leadership sessions from VBACE exhibitors and sponsors covering a range of forward-thinking topics, from technological innovations to promoting diversity, equity and inclusion across the business aviation industry.

New types of networking opportunities were also plentiful, through direct person-to-person connection among attendees, and dedicated subject-matter lounges. NBAA Professional Members were able to access a dedicated Happy Hour to mingle with their peers while enjoying performances by comedian and pilot Dave Coulier; Grammy-winning performer and *Eye of the Tiger* songwriter Jim Peterik; and Jefferson Starship lead singer Cathy Richardson.

VBACE, a groundbreaking event, was free for NBAA members to attend. As part of their show experience, attendees were also able to fill bottomless 'virtual backpacks' with information from exhibitors and other materials.

Although VBACE has since concluded, playback access to the show is available through December 31, providing ample time to continue to experience the booths and education sessions from your home or office.

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NBAA: your connection for success in 2021

Of course, NBAA's work to help people strategize, and plan to compete for success in 2021 won't conclude with VBACE. The association also plans two new, early 2021 events to help industry professionals strategize to meet the challenges of the COVID moment and beyond.

First up in 2021 will be NBAA's new Flight Operations Conference, scheduled for February 23-25. The event – being held on the same technologically advanced platform as VBACE – will gather schedulers, dispatchers, pilots and others focused on mission planning, including for international operations. Shortly thereafter, the association's new Leadership Summit, taking place March 24-25, will bring together current and emerging business aviation innovators.

These new, virtual NBAA GO events will allow attendees, presenters, sponsors and exhibitors to network strategically through direct person-to-person meeting rooms, virtual 3D exhibit booths and dedicated subject-matter lounges.

These events incorporate enhanced networking and engagement opportunities in the conference program, including attendee guidance from industry leaders, bonus content offers, resources from speakers, peer-to-peer learning opportunities – including those focused on diversity, equity and inclusion – and more.

Just as VBACE propels our annual convention into the digital space, offering new and exciting opportunities for attendees and exhibitors alike, the new NBAA Flight Operations Conference and NBAA Leadership Summit will provide our industry with valuable content and, perhaps most importantly, the connections we value and cherish through difficult times.

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When you put it all together, these landmark events represent not just digital gatherings, but moments to attain what has been most difficult in this moment: connection. That ability to connect is how we build and sustain relationships. It's how we better ourselves as professionals. It's how we get business done. It's how we plan for the future, as individuals, and as an industry. We look forward to charting that course with you in the months ahead, and beyond. ■

Ed Bolen is President and CEO the National Business Aviation Association (NBAA)

View content from NBAAVBACE 2020 by visiting nbaa.org/vbace/register

Learn more about the NBAA GO Flight Operations Conference and the NBAA GO Leadership Summit.

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Brave new strategy – time to reset

COVID-19 has bought technology to the forefront. Jonathan Sharp says this is an opportunity to reset, learn and evolve

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The global pandemic of COVID-19 has forced businesses to change the way they work and operate with employees working from home and unintended consequences that have occurred with supply chains, customers and employees. Earlier in the year many thought these changes would be temporary and businesses pressed pause in making strategic decisions.

However, as we continue to operate in a way very different to the 'old normal' it is becoming clear that these new ways of working are far from temporary. Who knows if there will be other pandemics or disasters to come so now is time for businesses to press reset and not pause.

Learning to learn

Lockdown was and still is the biggest learning experiment any of us have ever witnessed with office-based employees all working from home and companies reviewing how work, businesses processes and relationships should be conducted and managed.

Initially it was an urgent scramble and for many a 'make do' attitude to carry on but a few months into this unreal situation it is time to make it real. Businesses need to take this opportunity to discover what works and what doesn't and to make changes accordingly to their strategy.

Time to get creative

Some businesses have seized these extraordinary times to get creative and devised new processes or steps within them either with employees, suppliers or customers. They may have even discovered new product or service areas, and of course entrepreneurs have set up new businesses to thrive in this new world.

It has at long last forced many employers and employees to enter the 21st Century by using digital technologies to communicate and collaborate and working at home has now become the norm as a result of lockdown and to stay safe. The old adage of 'we don't have a working at home culture' or 'this is how we have always done things' has disintegrated and now senior managers need to adopt new ways of working and review all processes.

Brave new strategy

The prospect of a reset is naturally overwhelming for many businesses, but it is compulsory to survive and grow. It doesn't need to be so daunting and it is advisable to work with consultants to guide you in the process.

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Every business will now face a change in culture where employers will most likely have to provide a hybrid model of working from the office and working at home

For a digital transformation strategy, have a vision of where you want to get to but also have an open mind. This is a learning process that will evolve with continuous reviews and adaptations so therefore the final solution maybe different to what you originally envisaged. Let's face it we are all learning at present and will continue to do so going forward.

A reset is a huge undertaking but it can be simplified by de-constructing it into manageable chunks. The first step is to go back to basics and review the outcomes that you want to achieve. Next, consider barriers and identify any problem areas. Then break it down even further whether that's the employee or customer's journey.

Study how the process works and then re-design it in a more efficient way adopting a user centric approach. Along with efficiency you also need to ensure that the process is resilient and you have the capability to be flexible and iterate, to keep evolving and learning from your mistakes. The key to strategizing at this time is focusing on resiliency, flexibility and agility in all areas.

The need for speed

An entire enterprise digital solution takes a long time to deploy and are often expensive and complex, but digital solutions such as automation can often be designed and deployed in days. They can make a big difference to your operations and customer service, as well as showing a rapid and real return on investment.

Cloud solutions are essential at this time because they are cost-effective, agile and provide the flexibility to add on new technology and make amends when necessary.

Agility is vital in customer service because expectations have grown exponentially. Customers expect a 24/7 superior service, even more so when everyone is locked down in their houses.

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So, getting creative in re-designing processes and your technology solutions enables you to streamline processes and increase the effectiveness of customer engagement with disruptive technologies such as automation.

Digital by design

COVID-19 has bought technology to the forefront and businesses are designing technology solutions that are user led, easy to use and produce results quickly. Human centred design assesses what technology employees need and how it will help their roles, blending technology and humans together to improve communications and customer service.

Automation solutions will not replace humans but will augment services, for example, the daily mundane tasks can be handed over to automation enabling the humans to focus on a high value or complex enquiry that requires a chat with a human.

Alternatively, if a company is swamped with digital interactions they can be managed and prioritised to be either answered automatically or by a human.

During the crisis there has been concern that more companies will deploy automation technology to cut costs that will take over human jobs, but technology will never be able to replace the softer human skills such as empathy. The goal is to blend the two together and free up your employees' time so they can be upskilled in other areas.

Skilling-up

The pandemic has forced many businesses to adopt digital technology solutions that they have not previously used, and this has highlighted gaps in skills. The digital skills gap is well known but the pandemic has demonstrated even more the urgency of closing the gap.

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The issue is that it is not just about recruiting people with digital skills it is about recruiting the right type of people in IT. They should be able to understand the connection between the business's needs and the technology requirements and translate them in plain English, be creative with technology and have a passion to carry on learning and evolving the strategy and the solutions.

On the flip side many people have acquired digital skills during the crisis because they have had to learn them to do their job, 59% said their digital or remote working skills improved during the pandemic which has created an appetite for more reskilling (Adecco Group).

Managers will need to acquire skills and training to learn how to manage and optimise remote working employees and discover what works and what doesn't. During the pandemic softer skills have been important to get the balance right between the needs of the business and the pressing demands of lives turned upside down. Managers have needed to understand employees' circumstances better and the challenges they may face.

Remote working also provides companies with a wider recruitment pool providing them with the flexibility to recruit from different areas or countries and to add the talent they require.

A new dawn

Every business will now face a change in culture where employers will most likely have to provide a hybrid model of working from the office and working at home. Senior managers will have to ascertain which jobs are suited to work from home and which ones aren't. They will have to create a culture of trust and transparency. Spying on employees working remotely is not the way to go. During the crisis employees who have been trusted will enjoy the autonomy that they have been given and in turn will be more productive as they are enjoying a better work life balance.

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During lockdown 47% of UK employees worked from home (ONS data) and more than 50% stated they would like to continue working from home or more flexibly as lockdown eases (Survey *The Times*). Trust is earnt and if anything, COVID-19 has demonstrated how people have pulled together. This will have occurred in many businesses where employees have come together (virtually) to solve problems that the crisis has brought.

And reset

Ironically, this crisis is an opportunity for businesses to reset their strategies, operations, people and culture. Something that they may never have done if it weren't for the global pandemic. Focus on the positives that can come out of this and design and manage a strategy that is resilient, flexible and agile while setting a culture that is transparent and trusting.

We are all in this together and this is an opportunity to reset, learn and evolve. ■

Jonathan Sharp is a Director at Britannic Technologies

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Better together than apart

Neil Sandle looks at how data management and analytics are joining forces to fire up financial firms, opening up a new world of opportunity

Data is increasingly talked about as 'the new gold' and the fuel to power business performance. In few sectors of the economy is data more highly prized than in finance where it is widely used for everything from risk management to investment decision-making, and from customer analysis to fraud prevention.

But collecting data for its own sake is of little use in finance. Bringing intelligence and facilitating access to that data is key. Keeping the cost of change in mind, the emphasis needs to be as much on the adaptability and extensibility of data models and the onboarding of new data sources as it is on data aggregation capabilities.

We are witnessing a shift in the way financial institutions focus on data management and analytics. Historically, the two disciplines have been largely separate. The data management process typically involves activities such as data sourcing, cross-referencing and ironing out any discrepancies via reconciliations and data cleansing processes.

Data analytics processes are typically carried out afterwards in a variety of desk-level tools and libraries, close to the users and typically operating on separately stored subsets of data.

This divide has created problems for many financial institutions, with the separation impacting time to insight and acting as a brake on the decision-making processes that drive business success. Data was typically held, and often still is siloed in data stores and in legacy systems where accessing it was difficult.

The metadata surrounding the data was often not updated frequently, making data lineage and understanding of the relevant permissions around the data difficult. Judging whether data was fit for purpose was complex and frequently models came to suboptimal results because they were based on stale, incomplete or otherwise inappropriate data.

Scoping the challenge

Certainly many quants and data scientists today still face logistical issues in accessing the data they need for their decision-making. Often, these analysts still find they have to contact the IT department to write a query, set up a report, or they might confront licensing restrictions or run into other permission issues.

Even when quants access the data they need, there are often additional issues to address. Invariably they find that the metadata that should provide insights into the quality, the origins of the data, what the license permissions are and who has approved its use, has not been tracked. As a result, they may conclude that they do not have enough context to decide whether the data is fit for purpose.

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... we are on the cusp of a new age in financial data management. The result for financial institutions is a new world of opportunity where they optimise costs, drive user enablement and maximise the value they get from data

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Furthermore, because data and analytics typically remain decoupled within many organisations, quants will need to run two separate processes to get hold of usable data. Apart from that, the scope, breadth and depth of data often changes, leading to repeat request to keep the data up to date and as comprehensive as possible. Different selections of data may need to be presented in different ways, depending on the use case.

If quants want to run a financial model, they will typically look to gather the data that is most relevant for their use case, store it in their own database and then run analytics on it. They will not be able to push their own model to a central processing framework that runs as a shared store of market data.

These are limiting factors on user enablement within financial organisations and stimulate redundant copies of the data – with all the overhead and operational risks that stem from that.

In the new world order, where data and analytics are increasingly integrated, none of this, in theory, should need to happen any longer.

Building the right structure

Today, many firms understand they need a better way to provision their data scientists and other key users with clean price and market data. So how do they go about making that happen?

The technological capability is certainly increasingly in place. A shift to the cloud and the adoption of cloud native technologies is helping firms transition to a more integrated approach to data management and analytics.

Apache Cassandra for example, has emerged as a highly-scalable, open-source, distributed database, that makes it easier to securely store and managing large volumes of financial time series data. Apache Spark is a unified data

engine for big data processing. Taken together, the two, and other associated tools, are helping to facilitate the integration of data and analytics.

At least in part as a result of this, we are seeing data management and analytics increasingly joined at the hip. This integration is also blurring the line between source or primary data (from the stock exchange, for instance); and what is derived and calculated (for example, interest rate curves, correlations or volatilities). Data management and analytics are today two sides of the same coin in user workflows.

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Increasingly also, the focus is on bringing analytics to the data rather than vice versa. In other words, it is about moving the analytics capability to where the data resides rather than moving large stores of often siloed data over to the analytics function which typically led to inconsistent copies over time and lots of analyst time spent verifying and gathering data before the actual analysis could start.

Data quality matters

Despite all the above, though, for analytics to work effectively and efficiently, the data that fuels it has to be of the highest quality. Good quality input data makes analytics more reliable. Conversely, even the best model will produce useless results when fed with poor quality data.

This drive towards efficiency and accuracy as businesses look to turbo-charge their analytics function is one reason why data quality matters to the finance sector today. The other is that regulators are increasingly scrutinising data quality, and in particular the quality of data that feeds into models.

Financial businesses will often need to explain the results, not only the mathematics of the model itself but also the data that went into it, what the quality issues were, what the sources were and who touched it on the way.

That can be difficult if they treat data management and analytics as separate disciplines. Without having the ability to analyse the data and the oversight of where it has come from and is going to, businesses struggle to gain transparency over how they are provisioning their models with data. They also need the data quality capability in place to ensure that data is consistent and validated and that the burden of reconciliation is reduced.

Making it happen for users

With the above technological capability delivered, financial services firms should be in a position to better provision their business users. As the cycle of managing and processing data extends to take in analytics, users within financial services organisations increasingly want to be empowered by the process and use these new capabilities to drive better informed decision-making.

This move to data-as-a-service ('DaaS'), when combined with the latest analytics capabilities, is starting to make this happen for financial organisations today. By adopting this approach, they can gain access to multiple data sources and also multiple data types, from pricing and reference data to curves and benchmark data, ESG and alternative data.

With the help of quant languages like Python and R, firms can create a robust and scalable data meeting place enabling users to share these analytics across their entire data supply chain and develop a common approach to risk management, performance management and compliance.

Quants and data scientists benefit from this through increased productivity. We are seeing many data analysts today that are looking to dig into the data to find signals that help them discover investment signals and returns in the market.

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Data scientists are looking at historical data across asset classes looking to distil information down into factors including ESG criteria to operationalise it into their investment decision-making process, and increasingly too, they are incorporating innovative data science solutions, including AI and machine learning, into market analysis and investment processes.

The new methodology enables the construction of proprietary analytics, with any combination of data types, to support activities across the supply chain (including investment decisions, valuations, stress-tests, return series, performance calculations and risk figures,) and also to conjoin views upon the newly combined data.

But this approach to user enablement is also helping to democratise analytics, bringing it into the orbit of those who are not data experts. Today, thanks to the contextualisation provided alongside analytics, it is not just the preserve of the quant or the data scientist, but a key tool that those less expert in data, can use to drive business decisions.

The key once again is ensuring that data is easy to use. With data and analytics seamlessly integrated in a new methodology, it is straightforward to be able to seamlessly onboard and maintain data (vendor) sources and data types, adding them to the data supply chain for easy integration. It is also easier to perform data quality checks on incoming data and troubleshoot data quality queries through data lineage track and trace capabilities.

This in itself drives business agility but the combination of data and analytics can also help businesses optimise costs. It does this by supporting greater agility with the data, selecting only the best sources and data (external or in-house) to fuel investment management processes and to help drive the business forward. This is, however, also about avoiding data duplication, controlling data access and centralising all data requests.

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In more granular terms, the coming together of data management and analytics enables organisations to reduce cost on data spend by implementing optimal data sets and drive further efficiencies by readily deploying standardised data models. It also allows them to lower the cost of data integration, switching, changes and ongoing maintenance and further control over costs by achieving oversight of how and where data is being used across the organisation.

The reverse side of the cost control coin is the ability that the new approach provides organisations to maximise the achievable return on their market data investment.

Part of this comes from improved data access – in particular, the ability to access and switch between data from multiple (vendor) sources across multiple data types, including pricing, reference, curves, benchmark, ESG, fund, alternative and in-house.

Another key element is the greater return on market data investment that comes from enhanced data quality. By validating, checking and normalising sources, financial institutions can reduce the reconciliation and cleansing burden.

Furthermore, by ensuring they keep data quality levels high. They help to eliminate model risk and unify data across securities, positions, portfolios and benchmarks, further accelerating the process of maximising market data RoI.

More broadly, the approach brings a wide range of benefits, helping financial institutions get much more from their investment in market data. At the top level, the integration between data and analytics helps here simply by allowing firms to make more and better data-driven decisions.

But the ability to manage data more efficiently brings further advantages, enabling financial businesses to more easily switch source(s) without interrupting the established data flow and processes and more readily embed new data-driven concepts to their investment decision process.

Closer integration between data and analytics can also help to support regulatory and audit processes by demonstrating data quality checks and full data lineage and allow firms to produce key performance indicators (KPIs) for continuous data improvement.

Future focus

Looking ahead, we are on the cusp of a new age in financial data management. Today, technology, process, macro-economic factors and business awareness are all joining forces to bring analytics and data together. The result for financial institutions is a new world of opportunity where they optimise costs, drive user enablement and maximise the value they get from data. ■

Neil Sandle is Head of Product Management Asset Control

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The digital age

Graham Bright gives his thoughts on the digital challenges facing financial institutions post-crisis

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Graham Bright is Compliance and Operations head at Euro Exim Bank

The current pandemic-induced crisis is yet to reach its peak and is leaving a trail of personal and economic destruction. What does this mean for the fintech in terms of opportunities and which sectors will emerge?

The COVID crisis has had a profound impact on the credit market with many lenders withdrawing mortgage products and tightening risk policy. But with short term removal of stamp duty on house sales, demand for credit is returning and presenting a real opportunity for product diversification and disruption for traditional lenders.

Alternative finance providers, underpinned by innovative financial technology, have seen significant increases in client base and ability to make faster lending decisions.

Digital services have created channels to marketplaces of financial services that customers can dip in and out of according to their current needs and future plans, whether this be a savings account or car insurance, accessing the most suitable product from an expansive portfolio selection.

This enables all players in the financial ecosystem to offer sustainable services which are crucial for customer retention and with opportunities for up and cross-selling.

The pandemic has highlighted again that the holy grail for financial services is being able to attract, add value and retain customers in a cohesive way. Core to all of this is technology, the digital savvy consumer and partnerships – with these three ingredients financial services companies can meet client expectations and create enduring long-term strategies for success.

The future of payments was already transforming, as new entrants enable the market with new technologies; such as contactless payment, NFC enabled smartphones, cloud-based PoS, and digital wallets. How do you see this trend continuing?

Technology is impacting payments in two ways. First, it's creating demand for a very different type of payment network. But also, it's creating the toolkit with which banks and payment providers can create a much better payment model globally.

In that new world, only the most fast-adapting innovative organisations, whether they're banks or payment companies, will succeed, leaving slower companies behind. The change in payments has only just begun and those organisations that lack the agility to adapt at speed to the transformation to come, risk being left behind.

Dependency on fiat currencies such as USD and Euro will reduce, where more nation-states are interested to launch their own digital currencies to retain control of economic policy.

Regulators will step up their powers to police the payments process with harsh penalties forcing international consensus and standardisation on data privacy, greater roll-out of digital ID, improved financial inclusion and more global inter-connected payments networks.

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As usage of cheques and cash diminish, cross-border transactions facilitating trade, with real-time payments will become the norm, with change coming faster than ever.

There is an awareness of the need for financial inclusion in rural and remote areas of countries. Indeed, the World Bank says globally 1.7 billion adults remain unbanked, yet two-thirds of them own a mobile phone that could help them access financial services. How do you see digital technology as an enabler to bring people into the financial system?

Digital technology is not only the enabler but the vital component to bring financial services finally to the masses at an affordable price point and applications fit for the 21st century. And this is not just about payments, but providing

Our lives will never be the same. Use of credit cards and on-line access for home-based workers and the public in general has increased, whilst the acceptance of cash has markedly declined

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real financial inclusion, with access to cost-effective investment, pensions, deposits, loans, insurance, mortgages, especially in economies where loans are not collateral backed.

What is the impact of the US election on fintech and global trade?

As the sun sets on Trumps 'America first' isolationism and nationalism stance, a Democratic Biden presidency may just be the provider of renewed economic stimulus, trade collaboration and diplomacy that the world needs in these challenging times. We expect more investment, with a desire to eliminate inefficiency, opening new trade opportunities in a collaborative approach with alliances and long-term mutual benefit.

Throughout the COVID pandemic, fintechs have shown that they are not just disrupters but robust, dependable and invaluable players in the financial system. Is it time for a re-think in the way we describe technology-led financial services firms?

It took an earlier financial crisis to see the emergence of fintech companies. From 2008 it was necessary to improve processes, providing systems which afforded a better view of credit, tighter security, more control over automated dealing systems, and above all oversight, new entrants were able to scope what the financial world should be, even if the incumbent players were playing catch up.

However, the finance sector still needs 'significant events' to spark firms to review, budget, and implement new technologies.

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A financial services firm without capacity, cash flow, connectivity, loyal client base and trusted digital apps is not viable in today's' dynamic, regulation filled, non-standard world.

It is important to consider how the current crisis will impact society for years to come. What are your thoughts on the digital challenges facing financial institutions?

Our lives will never be the same. Use of credit cards and on-line access for home-based workers and the public in general has increased, whilst the acceptance of cash has markedly declined.

The digital age has opened more opportunities for development and growth than ever before, and this has to be embraced by financial firms and their clients to ensure long term sustainability.

As the high street is decimated, large chains going into administration and liquidation, the primary cause of failure seems to be the lack of foresight in assessing the impact of going digital with on-line internet channels, investment in digital delivery and blindness to the changes in consumer buying habits.

For banks, branches are in decline, and the momentum to supply fast, trusted mobile and smart phone apps, with the ever-present threat of bad reviews on social media.

This makes the role of IT and roll out of digital strategy all the more pertinent, with the necessity to improve speed, access and cost of payment mechanisms to meet burgeoning unprecedented consumer demand.

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This demand also challenges the banks to adopt a new mindset, business approach and innovative technologies to take their services to the next level. Success in tackling these challenges relies on customer trust and loyalty, where key factors to consider include:

- Constantly changing customer expectations
- Ability to switch brand, bank, supplier etc in moments
- Variety of digital platforms transforming consumer choice and spending

Major challenges to implementing successful financial projects include adherence to complex regulations which constrain large-scale transformation initiatives, rethinking the workforce of the future, the talent pool, and traditional risk-averse cultures clashing with high-risk pursuit of innovation.

Financial institutions are all too aware that digital transformation is no longer a 'nice to have' but a critical enabler of a financial institution's strategy. The ultimate success of digital strategy must be a board-led process designed to achieve both business and organizational transformation.

By revisiting business models, focusing on customer needs, experience and preferences, constantly rethinking the brand, and delivering new opportunities through digital channels, linked with evolving the corporate culture, embracing remote and new ways of working, and building capabilities and alliances around ecosystems that are truly suited to our new normal, institutions can safeguard their business and look forward to long term sustainability. ■

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Four cornerstones of payments in the digital age

Kristalina Georgieva says the IMF stands ready to help foster a more resilient monetary system – one that is more inclusive, smarter, and greener

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2020 has been an extremely difficult year. The pandemic has caused immense suffering. Too much of the economic toll has been borne by the most vulnerable people, in wealthier and in poorer countries alike. But there are some bright spots. Heroic nurses and doctors saving lives. Essential workers keeping the lights on, water running, and store shelves full.

And there are many others who kept businesses going – like the people of the technology industry. You have profoundly changed our ways of working, interacting, and living our daily lives. You have brought the digital future to our fingertips – and to our doorsteps.

Let me capture a vision of that future, and the four cornerstones needed to build it.

Picture a furniture maker – a skilled artisan – working in a factory in Thailand. Recession hits. She loses her job. Then, with an unemployment benefit sent to her phone, she starts her own workshop and sells locally.

The artisan makes and receives mobile payments. She chooses to share her payment data, allowing her to get an online loan, to hire people and grow her business. One day she gets a message asking if she ships abroad.

You no longer have to be big to be global.

A digital platform processes her payments from abroad at a low cost. And it provides insurance, savings, and investment options for her deposits, making her livelihood more resilient.

None of this would have been possible even ten years ago.

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This is a story about human drive and ingenuity…

A story about a revolution in payments that erases physical distance; that generates data—which is the new gold and hence often the new collateral. It is about payments that are cheap and widely accessible; that are seamlessly integrated in our digital lives.

And as the way we make payments changes, our world changes. We can provide access to financial services for 1.7 billion adults who are still unbanked. And help many more vulnerable people who are currently paying high fees.

Also, the banking and financial industry is being reshaped by data, automation, and real-time analytics. Finally, payment innovations can change the international monetary system — the ways in which we transact across borders, access foreign assets, exchange currencies, and price goods.

Digital payments are not just for the tech-savvy – they have huge implications for the whole world

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Digital payments are not just for the tech-savvy – they have huge implications for the whole world.

So we must tread courageously – and carefully. We must ensure that payments evolve to meet user needs while remaining safe and resilient. That's at the micro level. And at the macro level, we need to foster a financial sector and international monetary system that are efficient and trusted, equitable and inclusive, and still dynamic.

The artisan's digital future will rest on four cornerstones: (i) private sector innovation; (ii) public sector involvement (iii) regulatory and legal frameworks; and (iv) international cooperation.

Let's look at each.

I. Private-sector innovation

Private sector innovation has served many people well. Think of the bank accounts in which we save, and the cards we use to pay. Or the mobile money of our artisan.

Many people still use cash, but the numbers can decrease rapidly: take Sweden, where only 10 percent of the adult population still uses cash, down from 40 percent a decade ago. In the same period, mobile money accounts in Kenya increased exponentially from 12 million to 61 million—more than the country's population.

The private sector is best able to gauge the needs of people and businesses, provide the diversity of products and services they want, and take the risks necessary for innovation.

But we must ensure these risks do not translate into risks to end-users or the financial system. And we must avoid other pitfalls – such as monopoly power, or underserving vulnerable people.

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For that, we need the other three cornerstones.

II. Public-sector involvement

The next one is public sector involvement, to provide verifiable digital ID, communications infrastructure, central bank money, and other necessities.

Digital ID allows our artisan to enrol in new financial services. It is one precondition to financial inclusion.

The other is internet access – our story only works if the artisan is online. And nearly half the world's people are not, including 75 percent of the population in Sub-Saharan Africa and nearly 70 percent in South Asia. The picture is reversed in North America, where 75 percent are connected.

The IMF strongly encourages investment in infrastructure now, as part of post-COVID recovery efforts. A synchronized public investment push is best. If countries act together, they can achieve two-thirds more at the same cost than if each country acts alone. And they can draw in critical private investment, too.

And of course, central bank money – traditionally notes, coins, and reserves – remains essential. The ability of our Thai artisan to convert the digital money she receives into local currency on demand is a key metric of stability.

Central bank currency also helps her accept payments in mobile money issued by different providers. Just like a common language, central bank money allows one provider to pay another. With this foundation, each fintech company can offer and evolve its own services. Interoperability gives wings to innovation and diversity in payments.

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How should central bank money evolve in the digital age? As new payment providers emerge, will they, too, have access to central bank money? Will a digital version of notes and coins be introduced? Many countries are considering just that possibility.

While the form of central bank money may change, its function should not. It should still anchor the stability of other forms of money, while enabling their evolution and diversity.

III. Regulatory and legal frameworks

The third cornerstone is equally important – robust regulatory and legal frameworks. They should allow innovation and start-ups to flourish, while achieving essential goals: protection and privacy for consumers, countering money laundering and other crimes, and providing stability and resilience for all.

Regulatory clarity is essential, and particularly challenging as technology and products evolve rapidly. Starting a business is not difficult because there are multiple forms to fill out. The real impediment is not knowing how many more there will be. New entrants will ask: what rules am I subject to? Will my product be considered a deposit, a security, a payment system, or something else?

In the tradition of Lee Kuan Yew, Singapore's government continues to innovate – its new payments law is promising. It seeks to define digital payment instruments, and to adopt an activity- and risk-based approach to regulating payments.

Done right, that levels the playing field for new entrants: same activity, same risks… same rules. But evaluating these risks raises new questions. For instance, our artisan offered payments data in place of collateral. But are loans based on more accurate data and analytics less risky? Should she pay less?

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Lawmakers and regulators should be given the resources to succeed and stay ahead of the curve. They will need to be far-sighted and collaborative given the wide ramifications of new payments: central banks and finance ministries working with antitrust agencies, privacy groups, data-protection agencies, law enforcement, civil society, and consumer advocates, just to name a few.

IV. International cooperation

And just as money crosses borders, so too must our regulatory efforts. This brings me to the final cornerstone: international cooperation, including to facilitate international payments and manage spillover effects.

Will our artisan be able to send money across borders as easily as we send text messages? Or will she have to pay seven percent average fees, as do today's 800 million people who depend on remittances?

But sending money is more involved than sending texts. It will require technology standards between digital monies, mutual regulatory and legal treatment, and ID systems that are trusted across borders. The Financial Stability Board, with IMF support, recently offered a roadmap to enhance cross border payments. But much work lies ahead to implement it.

Cooperation is also key to address spillovers. As digital money becomes more widespread, effects will ripple around the world. These include domestic currencies being swapped for more enticing foreign currencies, reduced monetary policy effectiveness, and circumvention of capital account restrictions.

Spillovers can be even more far-reaching. Under some conditions, new digital money can affect the international monetary system.

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The nations of the world created the IMF to help them guide the international monetary system and make it an engine of growth for everyone. At a time when the risk of further divergence between rich and poor has increased, we recognize that responsibility has never been greater.

Today, we stand ready to help foster a more resilient monetary system – one that is more inclusive, smarter, and greener.

Nobel Peace Laureate and former Liberian President Ellen Johnson Sirleaf once said, *"If your dreams do not scare you, they are not big enough."*

Global companies, start-up entrepreneurs, and our artisan are dreaming big. We need to make the payments revolution work for all. ■

Kristalina Georgieva is Managing Director of the International Monetary Fund

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From the payments revolution to the reinvention of money

The digital transformation is triggering a revolution in the financial sector, which will bring innovation but also risks, says Fabio Panetta. The ECB strategy provides a forceful policy reaction

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Retail payments play a fundamental role in our daily lives and for the economy. Last year, adults in the euro area made two payments per day on average[1]. The universe of retail transactions[2] amounted to 213 billion payments – two million every five minutes – with an estimated total value of €164 trillion[3].

As part of its mission to promote the smooth operation of the payment system, the Eurosystem has two main objectives in the area of retail payments. The first is to guarantee that people have access to efficient payment solutions that meet their preferences. The second is to ensure that transactions remain safe, underpinning confidence in our currency and the functioning of our economy.

Technological innovation means that the policy implications of these objectives are changing, and new opportunities and risks are emerging. I will present the Eurosystem's response: a strategy for empowering Europeans with efficient, inclusive and secure payments in the digital age. And I will argue that the impending revolution in payments requires us to stand ready to reinvent sovereign money.

Convenience and safety in the digital age

Payments have evolved substantially over time, but the key determinants of their success have remained fundamentally unchanged. People want payments that offer convenience and safety at a low cost. Convenience requires payments to be easy to use, fast and widely accepted, while safety requires low risk from an economic, financial and societal perspective.

The digital transformation is raising the bar for convenience and safety. With the growth of e-commerce and connected lifestyles, people are increasingly demanding immediacy and seamless integration between payments and digital services. At the same time, they are increasingly concerned about privacy, cybersecurity and reliability.

This wide range of desirable features creates scope for innovative payment solutions. Currently, none of the existing solutions – cash, cards, credit transfers, direct debits and e-money – meet all the required features at once. People are forced to use several instruments at the same time. In-person transactions[4] are mostly conducted with cash and cards[5]. Remote purchases are dominated by cards and e-payments[6]. And bills are generally paid using direct debits and credit transfers[7].

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We want to enable people to choose their preferred way of paying without having to compromise on their expectations of fast, secure, inclusive and seamless payments

The coronavirus (COVID-19) shock has accelerated the trend towards digitalisation, leading to a surge in online transactions and contactless payments in shops. This trend is likely to persist once the pandemic is over[8]. So we must ask ourselves whether the available means of payment adequately meet the needs of consumers in the digital age.

Cash offers a secure and inclusive way of making in-person payments, but it is not well suited for payments in a digital context, such as in e-commerce. So it is no surprise that it is being used less[9]. Payment cards, on the other hand, facilitate digital, contactless payments. But they are not accepted everywhere. And the Europe-wide acceptance of cards issued under national card schemes currently relies on agreements with international card schemes. As a result, people mostly use international schemes for cross-border card payments, and the European market for card payments is dominated by non-European schemes.

Generally, Europe is increasingly relying on foreign providers, with a high degree of market concentration in some segments, such as card transactions and online payments[10].

We should not let this reliance turn into dependence. Dependence on foreign providers and excessive market concentration would harm competition, limiting the choice for consumers and exposing them to non-competitive pricing. It could reduce the resilience of the payment system and weaken the ability of European authorities to exercise controls.

We must ensure that the payment market remains open to competition, including from European suppliers and technology.

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The influx of technology firms

Fintech companies have sparked the latest wave of innovation, accelerating the evolution of the payment system[11]. Many of them have adopted data-driven business models, where payment services are provided free of charge in exchange for personal data. Numerous banks are expanding their range of digital services by entering into agreements with fintechs; in some cases, integration is achieved when a bank acquires a fintech firm.

The global tech giants – the so-called big techs – are aiming for a revolution in the payments landscape, and represent a threat to traditional intermediation[12]. These firms can use data-driven models on an entirely new scale by leveraging their large customer base, real-time data and control of crucial infrastructures for commerce and economic activity – from online marketplaces to social media and mobile technologies.

They can use these advantages, their financial strength and their global footprint to provide new payment solutions and expand in both domestic and cross-border transactions. This would offer them an even stronger base to further expand the range of their financial activities, including lending, as their superior ability to collect and analyse large volumes of data gives them an information advantage.

If not properly regulated, big techs may pose considerable risks from an economic and social perspective and they may restrict, rather than expand, consumer choice. They can aggravate the risk of personal information being misused for commercial or other purposes, jeopardising privacy and competition. And they can make the European payment market dependent on technologies designed and governed elsewhere, exacerbating its vulnerability to external disruption such as cyberattacks.

The big techs may also contribute to a rapid take-up, both domestically and across borders, of so-called stablecoins[13]. As I have argued previously[14], stablecoins raise concerns with regard to consumer protection and

financial stability. In fact, the issuer of a stablecoin cannot guarantee the certainty of the value of the payment instrument it offers to consumers. Such a guarantee can only be provided by the central bank.

Moreover, unlike bank deposits, stablecoins do not benefit from deposit guarantee schemes, their holders cannot rely on the degree of scrutiny that is now the norm in banking supervision, and the issuers do not have access to central bank standing facilities. As a result, stablecoin users are likely to bear higher credit, market and liquidity risks, and the stablecoins themselves are vulnerable to runs[15], with potentially systemic implications[16].

These risks could be mitigated if the stablecoin issuer were able to invest its reserve assets[17] in the form of risk-free deposits at the central bank, as this would eliminate the investment risks that ultimately fall on the shoulders of stablecoin holders[18].

This would not be acceptable, however, as it would be tantamount to outsourcing the provision of central bank money. It could endanger monetary sovereignty if, as a result, private money – the stablecoin – were to largely displace sovereign money as a means of payment. Money would then be reduced to a 'club good' offered in return for the payment of a fee or membership of a platform[19].

We should safeguard the role of sovereign money, a public good that central banks have been managing for centuries in the public interest and that should be available to all citizens to satisfy their need for safety.

Monetary sovereignty could also be threatened if foreign central bank digital currencies became widely used in the euro area, with implications for international monetary spillovers[20].

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These risks are not imminent. We must nonetheless be alert to possible non-linear developments that could endanger financial stability and monetary and economic sovereignty. As we aim to enhance the efficiency of European payments, we therefore need to be prepared to rethink the nature and the role of sovereign money.

The Eurosystem policy response

The Eurosystem is implementing a comprehensive policy to ensure that citizens' payment needs are met, while safeguarding the integrity of the payment system and financial stability. Our policy is based on interconnected elements addressing the entire payment value chain.

First, we have enhanced our retail payments strategy, in order to foster competitive and innovative payments with a strong European presence. We are actively promoting pan-European initiatives that offer secure, cheap and widely accepted payment solutions[21].

We are supporting access to bank accounts by non-bank providers, so that they can expand the range of payment initiation services they offer. The Euro Retail Payments Board, chaired by the ECB, has launched a work stream to facilitate this access. We are working to make the European e-identity and e-signature frameworks better suited for payments and the financial sector more broadly.

Our retail payments strategy also builds on the promotion of instant payments, which make funds immediately available to recipients. We have created a solid basis for instant payments, with commonly agreed rules and powerful infrastructures, including the TARGET Instant Payment Settlement (TIPS) service, operated by the Eurosystem. Thanks to the measures we have taken in recent months, all euro instant payment providers and infrastructures will have access to TIPS by the end of 2021.

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Second, we are adapting our regulatory and oversight framework to the fast pace of financial and technological innovation. We have reviewed our Regulation on oversight requirements for systemically important payment systems[22], introducing a more forward-looking approach to identify payment systems that are systemically important. And today we are launching a public consultation on the new regulation, which will then become operational by mid-2021.

We are also completing the public consultation on our new framework for electronic payment instruments, schemes and arrangements, the so-called PISA framework. PISA extends our oversight[23] to digital payment tokens[24], including stablecoins, and to payment arrangements providing functionalities to end users of electronic payment instruments[25]. As a result, technology providers can become subject to oversight.

As part of our comprehensive policy, we are working to safeguard the role of sovereign money in the digital era: we want to be ready to introduce a digital euro, if needed.

A digital euro would combine the efficiency of a digital payment instrument with the safety of central bank money. It would complement cash, not replace it. Together, these two types of money would be available to all, offering greater choice and access to simple, costless ways of paying.

We have started a public consultation to seek feedback from people across Europe and gain a better understanding of their needs. It will be completed in January, and the results will be published once they have been analysed.

A digital euro would need to be carefully designed, in order to enhance privacy in digital payments[26], respect the rules on countering illegal activities and avoid interference with central bank policies, first and foremost monetary policy and financial stability.

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In particular, a digital euro should be a means of payment, not a form of investment that competes with other financial instruments. This would require limiting the holdings of individual users[27] and mean that, unlike stablecoin issuers, the issuer of the digital euro – the ECB – would not aim to acquire deposits.

A digital euro would support the modernisation of the financial sector and the broader economy. It would be designed to be interoperable with private payment solutions and would thus represent the 'raw material' that supervised intermediaries could use to offer pan-European, front-end payment solutions.

A digital euro would also generate synergies with other elements of our strategy, facilitating the digitalisation of information exchange in payments through e-invoices, e-receipts, e-identity and e-signature. And in making it easier for intermediaries to provide added value and advanced technological features at lower cost, it would give rise to products that could compete with those of the big techs, thereby benefiting end users.

The ECB and the national central banks have started preliminary experimentation through four work streams. First, we will test the compatibility between a digital euro and existing central bank settlement services (such as TIPS)[28]. Second, we will explore the interconnection between decentralised technologies, such as distributed ledgers, and centralised systems. Third, we will investigate the use of payment-dedicated blockchains with electronic identity. And fourth, we will assess the functionalities of hardware devices that could enable offline transactions, guaranteeing privacy[29].

We will take the necessary time to explore all aspects of different options: whether they are technically feasible, whether they comply with the principles and policy objectives of the Eurosystem, and whether they satisfy the needs of prospective users.

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Conclusion

Let me conclude. The digital transformation is triggering a revolution in the financial sector, which will bring innovation but also risks. In particular, big techs and stablecoins could disrupt the European financial system. And while they could offer convenient and efficient payment solutions, they also risk endangering competition, privacy, financial stability and even monetary sovereignty.

Our policies provide a forceful policy reaction to the digital shock. We want to create the conditions for a resilient, innovative, diverse and competitive payments landscape that can better serve the evolving needs of European people and businesses. We are promoting safe, pan-European instant payments.

What is at stake is nothing short of the future of money. As private money goes digital, sovereign money also needs to be reinvented. This requires central bank money to remain available under all circumstances – in the form of cash, of course, but also potentially as a digital euro.

We want to enable people to choose their preferred way of paying without having to compromise on their expectations of fast, secure, inclusive and seamless payments. This is our aim today, and it will remain our aim in the future. ■

Fabio Panetta is a Member of the Executive Board of the European Central Bank

Endnotes

1. The data refer to European citizens aged 18 or over and include point-of-sale, person-to-person and remote

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transactions, as well as bill payments. See ECB (2020), Study on the payment attitudes of consumers in the euro area (SPACE), forthcoming.

2. Whether they are made at the physical point of sale or online and whether they are made by private individuals, businesses or the public sector.

3. Source: ECB staff estimates based on payments statistics (ECB Statistical Data Warehouse) and findings from ECB (2020), ibid.

4. Payments at the physical point of sale and person-to-person payments.

5. As of 2019, cash is used by euro area adults for 73% of in-person transactions in terms of volume and 48% in terms of value. Card payments account for most of the remainder: 24% in terms of volume and 41% in terms of value. Source: ECB (2020), op. cit.

6. Examples of e-payment providers include PayPal, Sofort and Afterpay. Card payments account for approximately half of all remote purchases, and e-payments for approximately one-quarter, in terms of both volume and value. Source: ECB (2020), ibid.

7. Direct debits account for 41% of bill payments in terms of volume and 37% in terms of value. Credit transfers account for 20% of bill payments in terms of volume and 29% in terms of value. Source: ECB (2020), ibid.

8. About 41% of respondents to a recent survey say they have reduced their use of cash. The vast majority of them expect to continue to pay less with cash after the pandemic is over. See ECB (2020), "Survey on the impact of the pandemic on cash trends (IMPACT)", in ECB (2020), ibid.

9. In terms of the total volume of in-person transactions by euro area adults, cash declined from 79% in 2016 to 73% in 2019. In terms of the value of in-person transactions, it fell from 54% to 48%. In some countries, the use of cash is decreasing more rapidly.

10. VISA and Mastercard intermediate two-thirds of EU card payments and, along with PayPal, dominate online payments.

11. A recent survey identified over 200 new payment solutions, of which more than one-third were provided by start-

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ups. For a detailed analysis of these solutions, see ECB (2019), "Implications of digitalisation in retail payments for the Eurosystem's catalyst role", July.

12. See Panetta, F (2018), "Fintech and banking: today and tomorrow", speech at the Bicentennial Annual Reunion of the Harvard Law School Association of Europe, Rome, 12 May.

13. Stablecoins are digital units of value designed to minimise fluctuations in their price against a reference currency or basket of currencies. To this end, some stablecoin initiatives pledge to hold a reserve of State-issued currencies or other assets against which stablecoin holdings can be redeemed or exchanged. Global stablecoins are initiatives which aim to achieve a global footprint, without necessarily relying on existing payment schemes and clearing and settlement arrangements. See Bullmann, D, Klemm, J and Pinna, A (2019), "In search for stability in crypto-assets: are stablecoins the solution?", Occasional Paper Series, No 230, ECB, August.

14. See Panetta, F (2020), "The two sides of the (stable)coin", speech at Il Salone dei Pagamenti, 4 November.

15. A run could occur whenever users – who bear all the risks – expect a decrease in the redemption price of the stablecoin. A run is possible even when the stablecoin issuer provides a financial guarantee, if such a guarantee loses credibility over time as doubts emerge about the issuer's capacity to absorb potential losses.

16. Moreover, large investments in safe assets by stablecoin issuers could influence the level and volatility of real interest rates, with adverse effects on market functioning and the implementation of monetary policy.

17. Reserve assets are the assets against which the stablecoins are valued and redeemed.

18. In the current situation the viability of such a business model is however challenged by the fact that short term rates are negative.

19. If allowed to invest the reserve assets in the form of risk-free deposits at the central bank, the stablecoin issuer could offer the stablecoin holders a means of payment that would be a close substitute for central bank money. In contrast, the substitutability between central bank money and bank deposits is limited by the fact that, on bank balance sheets, deposits are matched against risky assets (bank loans).

20. Ferrari, MM, Mehl, A and Stracca, L (2020), "Central bank digital currency in an open economy", Working Paper Series,

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No 2488, ECB, November.
21. In 2019 the ECB's Governing Council formulated five objectives that any such initiative would need to fulfil: pan-European reach and seamless customer experience; convenience and low cost; safety and security; European brand and governance; and global acceptance.
22. Regulation of the European Central Bank (EU) No 795/2014 of 3 July 2014.
23. Up to now, oversight activity has been focused on traditional electronic payment solutions such as payment cards, direct debits, credit transfers and e-money.
24. The European Commission's legislative proposal on crypto-assets (MiCA) is an important step in this regard.
25. These include payment initiation services, payment integrators, wallets storing data and tokenised payment account numbers.
26. The ECB has already started work on privacy-enhancing techniques in cooperation with the Bank of Japan. See ECB and Bank of Japan (2020), "Balancing confidentiality and auditability in a distributed ledger environment", Project Stella, February; and ECB (2019), "Exploring anonymity in central bank digital currencies", In Focus, No 4, December.
27. The limits on individual holdings could be achieved by setting a level of remuneration for the digital euro that would make it unattractive to hold amounts in excess of a given threshold. See Bindseil, U and Panetta, F (2020), "Central bank digital currency remuneration in a world with low or negative nominal interest rates", VoxEU, October. Alternatively, limits on individual holdings could be achieved by imposing direct quantitative constraints.
28. The experimentation will examine the scalability of TIPS (i.e. whether it could handle the accounts of hundreds of millions of citizens).
29. The goal is to explore how the bearer of a digital euro could be provided with a positive user experience.

This article is based on a speech delivered at the Deutsche Bundesbank conference on the 'Future of Payments in Europe', Frankfurt am Main, 27 November 2020

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Seizing the opportunities from digital finance

Developments in digital finance could transform how consumers and businesses make payments and raise finance. This could help revitalise the UK economy, says Andy Haldane

This is a critical time for the financial services sector and the economy as a whole. We all live in hope of the three Rs - Recovery, Rebalancing and Revitalisation. With the recent positive news about vaccines, that hope is now justified. I want to discuss the three R's in the context of financial services.

COVID is a twin crisis, a health crisis and an economic crisis rolled into one. It has exposed every person and every business in every country in the world to that double jeopardy. In the UK, it has already resulted in over 50,000 deaths, more than 1 million people losing their jobs, around 9 million people seeing their incomes fall and almost the whole country feeling more anxious about the future.

For those reasons, the COVID crisis risks leaving lasting scars on us as individuals and on the wider economy. Economic scars, such as persistently lower levels of investment and innovation and persistently higher levels of unemployment and debt, which drag on economic growth. And psychological scars, such as increased levels of caution in how and how much we interact, travel and spend.

The role of economic policy, including monetary and fiscal policy, is to cushion the impact of these risks on households and companies, thereby limiting the depth and longevity of the scarring effects of the crisis on the wider economy. Indeed, limiting that long-term scarring helps explain why monetary and fiscal policies have responded on an unprecedented scale and at an unprecedented pace during the COVID crisis.

COVID is not a traditional cyclical shock whose effects will eventually wash-out. It is instead a structural shock with lasting implications for the behaviour of individuals and the business models of companies. While some behavioural shifts will leave scars, others will open up new opportunities. The crisis has already flicked a digital switch, accelerating pre-existing shifts in how companies and individuals work, save and spend.

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At its peak in April, around half the UK workforce was working remotely, up tenfold from its pre-COVID levels. There has been a Zoom-boom, with the video-conferencing platform's users rising 20-fold and its share price having risen almost tenfold at one point in October compared with its pre-COVID level. Most workers and businesses expect these remote working habits to persist, if on a less dramatic scale, long after COVID has abated, with a mixed model of office and home working the new norm[1].

This digital switch has also been flicked on how we spend. There has been a surge in online shopping, which has risen from a fifth of transactions pre-COVID to more than a quarter now. Online food deliveries have doubled since the start of the year. And what is true of consumers is true of businesses too.

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In financial services, these digital opportunities in the areas of payments and lending are large and could deliver lasting benefits to individuals and companies

Rates of adoption of digital technologies were four times faster during the first few months of this year than in the whole of 2019[2]. E-commerce platforms like Shopify and Etsy have seen booming growth, with new stores created on Shopify rising over 70% between the first and second quarters.

These digital switches are clear within financial services too, not least in payments. There has been a further ratchet down in the use of physical cash for transactions, with ATM withdrawals in October around a quarter lower than a year ago, while use of contactless and remote payments rose more than 10% in the 12 months to July and now make up more than 6 out of every 10 card transactions[3].

In my comments I want to focus on two specific areas of financial services - payments by individuals and lending to small and medium-sized enterprises (SME). These activities have long been at the very heart of banking. Yet they were also activities where the pace of innovative change had, until recently, been sedate, with costs high and access constrained.

That is changing. Even before COVID struck, new technologies, data and players were promising a phase shift in financial innovation, a fintech revolution. While this embraced all aspects of financial services, progress was most rapid in the area of payments and lending. Last year the Bank of England published a report on the *Future of Finance*, overseen by Huw van Steenis, which laid out an ambitious reform agenda[4].

The COVID crisis has accelerated that change and could serve as a catalyst for faster innovation in future. What was a digital priority pre-COVID has, for many, now become a digital necessity. The combination of new technology, and shifts in behaviour resulting from COVID, presents a real opportunity to refashion the payments and lending landscape, for good, in ways which benefit households, companies and the economy.

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The evolving payments landscape

The making and receiving of payments is existential to banking. Uniquely, the liabilities of a bank are money – a payments medium. This distinguishes them from other commercial institutions and is what makes them 'special'[5]. Money has some of the characteristics of a quasi-public good, whose under- or over-supply imposes negative externalities on the economy. That explains why banks and payments systems, who have a special role in creating and distributing money, are subject to state oversight and support.

Over the arc of history we have seen steady innovations in payments technologies, some initiated by the private sector, others by the state: from the first widely minted coins in 5th century BC Turkey to the first notes in 7th century AD China; from the first cheque in 1659 in England to the first wire transfer in 1871 in the United States; from the first ATMs and credit cards in the mid-1960s to the first Bitcoin in 2009 (Figure 1)[6].

These improvements in payments technologies have delivered gradual, but significant, benefits to households and companies as they pay their bills and manage their finances: improved financial safety and security, and increased accessibility and convenience, often at ever-increasing speeds and ever-lower costs. Through these new payment technologies, some of the fruits of financial innovation have been harvested. Whether enough have been harvested, in particular in the area of payments, is an open question.

It is just over a decade ago that the late Paul Volcker famously remarked: *"the ATM has been the only useful innovation in banking for the past 20 years."* Enfield in North London – the home of the first ATM – might be surprised to hear it is the cradle of modern-day financial innovation. There is empirical evidence beyond the anecdote, however, to suggest financial innovation has not always proceeded at warp speed.

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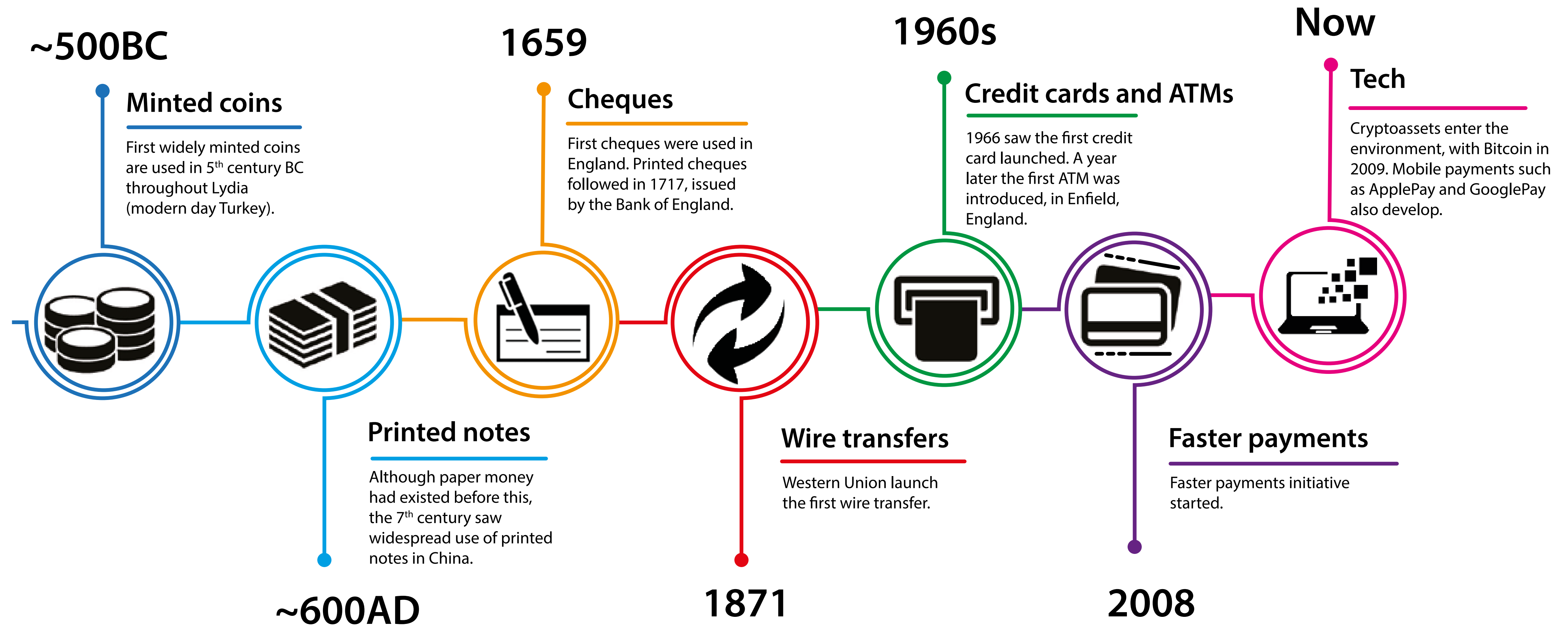
Figure 1. Timeline of innovations in money



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Thomas Philippon has constructed a time-series of the unit cost of financial intermediation in the United States, with adjustments for the improving quality of these services over time (Chart 1)[7]. Measuring those concepts is very difficult. Nonetheless, Philippon's striking finding is that the unit cost of financial services has barely changed over the past century. That is difficult to reconcile with rapid-fire financial innovation.

In payments it is easier to see progress – for example, the secular rise in use of card payments over cash. Often less visible to the end-consumer is the cost to them of those payments. For cards, these include the merchant service charge (MSC) paid by the merchant to their merchant acquirer (such as Worldpay or Barclaycard) for each transaction. Ultimately, these costs are borne by consumers through higher prices.

The Payment System Regulator has estimated the weighted average MSC across UK card transactions to be around 0.6% (Chart 2). As roughly 40% of merchant acquirer revenue comes from other fees, the all-in cost of cards is higher-still[8]. These costs are not evenly distributed. For SMEs with the lowest turnover, the average MSC is three times larger, at around 1.9%. Card fees operate like a regressive tax on smaller businesses and their customers[9]. More generally, these card transaction fees seem high for what is, by banking standards, not an especially complex task.

Of late, there is evidence of the picture on financial innovation generally, and payments specifically, having improved. Unit costs of financial intermediation in the US have started to fall over the past decade or so. And on a cross-country basis, the unit cost of intermediation in the UK has been materially lower than in other countries for several decades (Chart 3)[10]. This chimes with other evidence suggesting financial innovation has gathered pace since the Global Financial Crisis.

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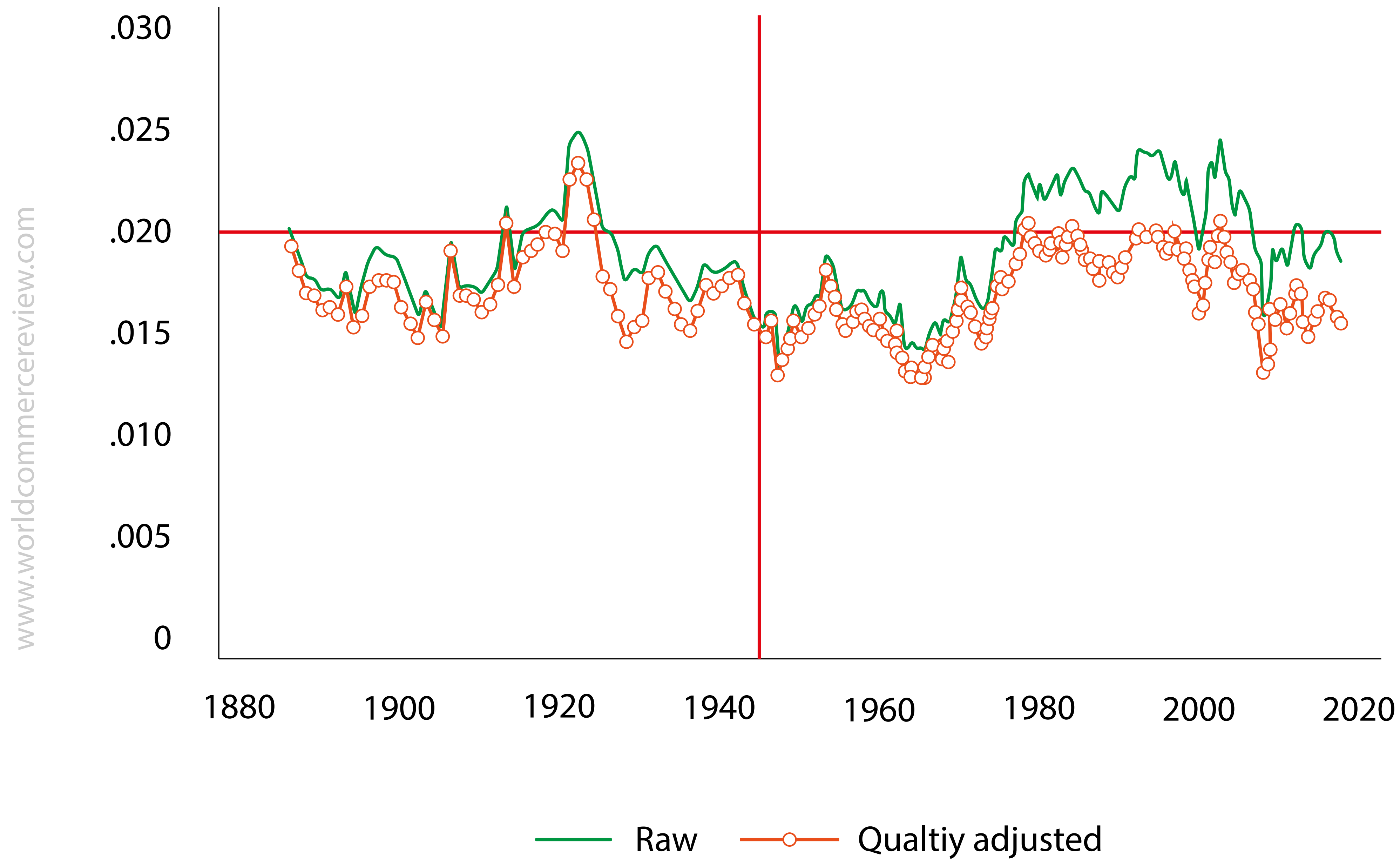
Chart 1. Unit cost of finance in the United States



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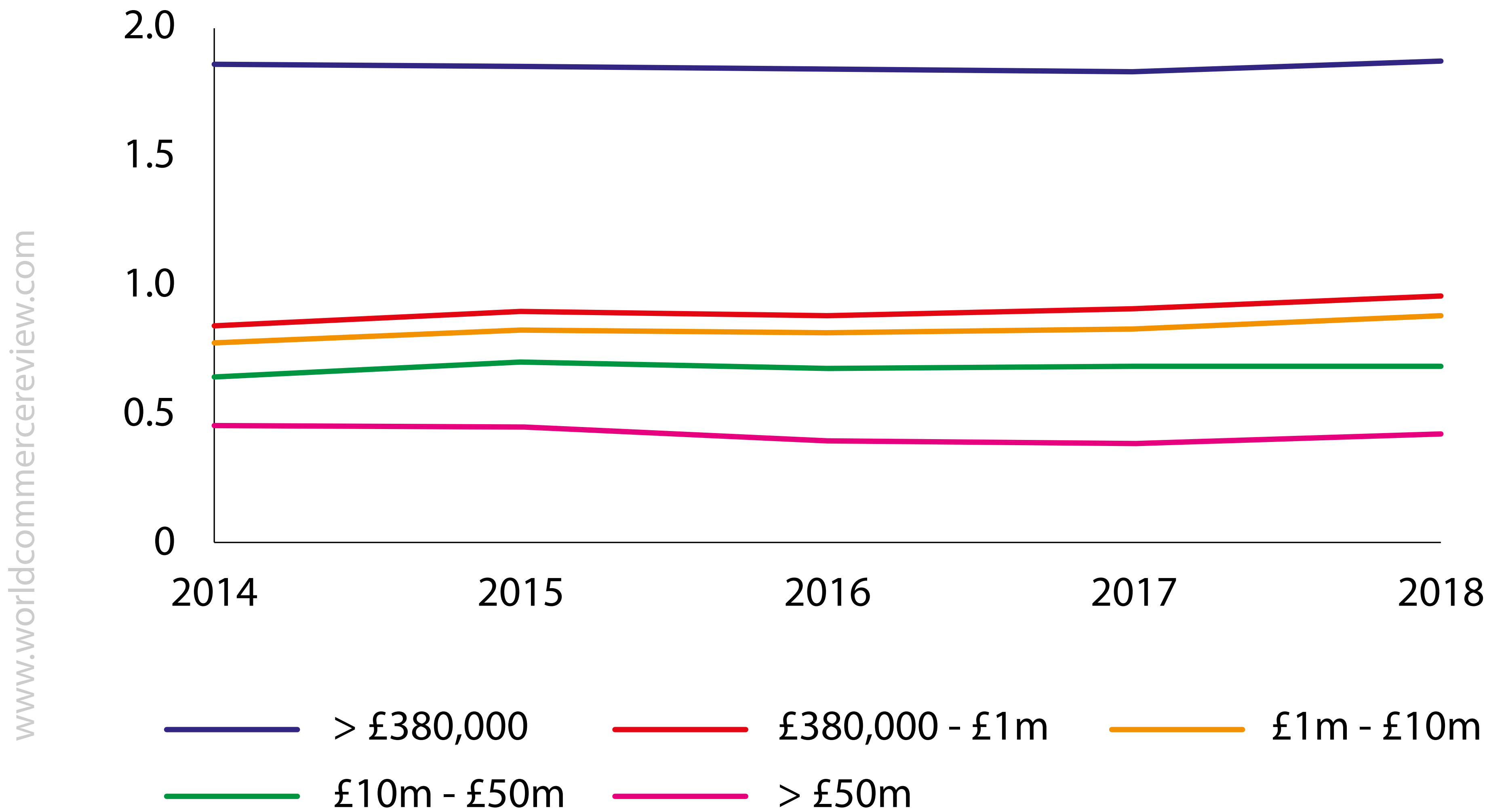
Source: Philippon (2019)

Chart 2. Prices paid for card-acquiring services by merchants of different sizes



Note: Based on data provided by the five largest merchant acquirers. The average MSC is calculated by dividing the total value of fees paid for card-acquiring services by the total value of purchase transactions. Merchant size categories are based on annual card turnover.
Source: PSR (2020).

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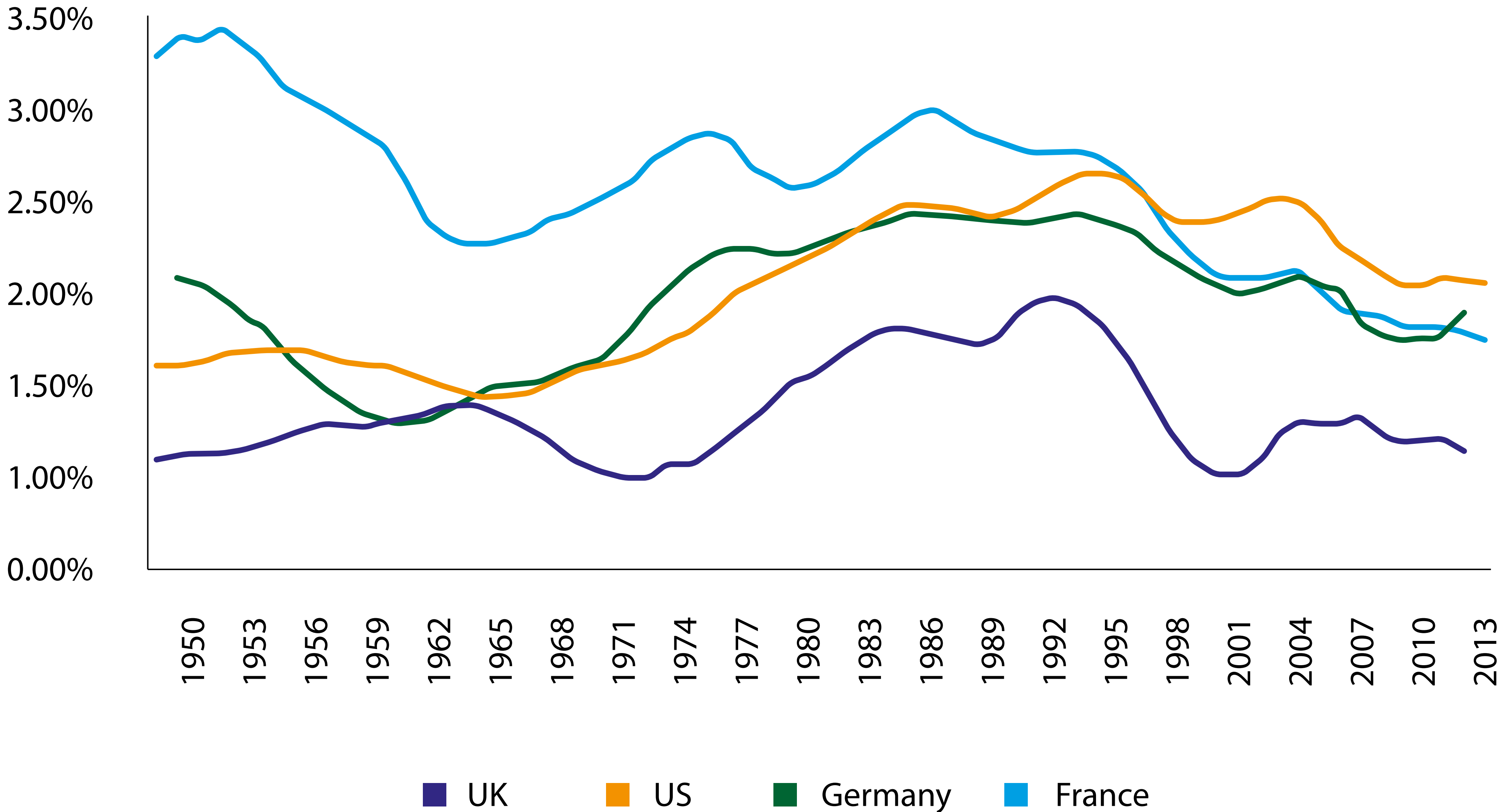
Chart 3. Unit cost of finance – international comparison



Source: Bazot (2018).

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The past decade has seen a rising number of new, non-traditional players and new, often data-driven, technologies and products enter the financial services market. As in the past, London has been a global hub for this fintech reformation, a home to over 2,000 fintech companies, more than any other global city. London fintechs have received $3.6 billion in funding so far year, second only to San Francisco[11].

The fintech wave is affecting every dimension of financial services, from lending to insurance to asset management. Interestingly, though, it is in payments where the pace of change has been fastest. Having been at the back of the innovation queue a decade ago, payments have quickly moved to the front. In the third quarter, payments companies globally raised almost $4 billion across over 100 deals, comfortably above any other fintech sector.

At a retail level, we have seen innovation reflected in the rapidly rising share of online, mobile and contactless payments. In the UK, card payments overtook the use of cash for everyday transactions in 2017. In several countries alternatives to card payments are developing, with app-based retail payments which allow fast, online person-to-person (P2P) and person-to-business (P2B) payments. Examples include Swish in Sweden, iDEAL in the Netherlands and Zelle in the US.

In the UK, a significant step forward was taken with the introduction of Faster Payments in 2008. More recently in 2017, the UK introduced Open Banking. Subject to privacy and security requirements being in place, Open Banking allows individuals to share their financial data with financial services providers – such as fintechs – promoting wider competition and better enabling customers to shop around.

By October, more than 2 million customers had signed up to Open Banking, with more than 80 live open banking apps and products in the Open Banking App Store. Some of these were consumer-facing (bank account

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aggregators, debt advice, charitable giving), while others were business-focussed (accountancy and tax, debt management, loans and alternative lending, SME financial management).

Despite this progress, the UK remains behind some other countries on P2P and P2B payments. And the full potential of Open Banking remains largely unrealised, with awareness and use remaining low. Around two-thirds of banking customers have never heard of Open Banking and, for around half of customers, their current bank does not even offer an Open Banking service. This unrealised potential is perhaps greatest among SMEs, to which I will return.

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More recently still, we have seen the rapid emergence of so-called 'digital currencies' as an alternative, if not entirely new, payments medium. These are intended to serve as cheaper and more convenient means of payment than either cash or cards and already come in a variety of flavours, depending on the nature of the transaction (retail versus wholesale), the provider (public versus private) and the underlying technology (for example, distributed ledgers)[12].

A number of companies are developing digital currencies to enable settlement of wholesale transactions. For example, Fnality - a consortium of banks – is aiming to build a network of 24/7 high-value payment systems in multiple currencies, enabling improved wholesale settlement efficiency and reduced exposures between financial institutions. The Bank is considering whether this model can be enabled in sterling.

There are a number of initiatives to create private digital currencies for retail transactions. Some of these are so-called 'stablecoins' which use backing assets to seek to maintain a tight relationship with an existing currency or basket of currencies. This distinguishes them from crypto-assets, such as Bitcoin, which have no such backing. Perhaps the best-known of these stablecoins is the proposal by Libra, though there are others[13].

Finally, a number of central banks, including the Bank of England, are in parallel assessing the case for issuing their own digital currencies, either for wholesale or general purposes. The Bank issued a discussion paper on Central Bank Digital Currencies (CBDC) earlier this year[14]. In October seven central banks and the BIS outlined some foundational principles and core features for any publicly available CBDC[15].

The precise evolutionary path of digital currencies from here is unclear. If history is any guide, a co-evolutionary path is likely, with an ecosystem of diverse and competing payments media and systems emerging, some wholesale, others retail, some private, others public. The technologies supporting these systems may also differ. This is the pattern we see across many national payments systems today.

Diversity and competition are, generally speaking, positive features of an ecosystem, including financial ecosystems. Other things equal, they tend to foster both efficiency and stability, a divine combination[16]. Nonetheless, as history also shows, market-driven evolutionary forces do not always result either in a stable transition, or in an optimal end-point, for users of these systems.

One reason for that is because there are very significant network economies of scale and scope in payments, which can lock in first-mover advantages and stymie competition and contestability. These same competitive forces can also result in higher-risk (higher-return) payments media and payments systems crowding-out lower-risk (lower-return) alternatives, thereby raising systemic risk. This is another example of Gresham's Law ('bad money driving out good') at work.

To address these systemic problems of deficient competition and excess risk, regulatory intervention, or in some cases state provision, has typically been necessary to shape the evolutionary path of payments and payments systems. Interestingly, the Faster Payments and Open Banking innovations in UK payments over recent years came

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largely at the behest of regulators. And the design of retail and wholesale payments systems in the UK has been heavily shaped by regulatory interventions to safeguard systemic risk.

In the area of systemic risk, the Bank's Financial Policy Committee (FPC) recently set out some principles to underpin the safety and soundness of private sector stablecoins used for payments. In essence, these are expected to meet equivalent standards to commercial bank money in relation to stability of value, robustness of legal claim and the ability to redeem at par in fiat[17]. In his recent statement to Parliament, the Chancellor announced an HMT consultation on private sector stablecoins.

A key principle underlying the FPC's and Chancellor's statements is that the impact of stablecoins may extend well beyond payments system stability and efficiency. As they potentially disrupt the ultimate settlement medium – money – they may carry important implications for financial and monetary stability too. Generally speaking, the debate on digital currencies has so far focussed rather too little on these foundational issues.

A minimalist criteria would be that digital currencies, whatever their form, should 'do no harm' to financial and monetary stability[18]. By that, I do not mean these innovations should not cause some disruption to existing players and products - that is in the very nature of innovation and competition. But there are legitimate concerns a digital currency, whether public or private, could generate systemic risks – for example, due to large, unstable flows of funds from commercial banks deposits into private sector stablecoins or CBDC, especially at times of stress[19].

There are also concerns that rapid growth of, in effect, 'narrow banking' institutions could crowd-out funding, and ultimately credit provision, by the banking system over the medium-term[20]. They may also affect the transmission of interest rates to the economy. In either case, digital currencies could potentially impose a macro-economic cost[21].

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It is clearly crucial these minimalist 'do no harm' assurances are satisfied before advancing too far down the digital currency path. The Bank is undertaking research, as part of its newly-published research agenda, to do just that[22]. At the same time, it is also important that some of the longer-term potential structural benefits of digital currencies are not overlooked when charting an evolutionary path for digital currencies.

On financial stability, a widely used digital currency would change the topology of banking in a potentially profound way. It could result in the emergence of something closer to narrow banking, with safe payments-based activities to some extent segregated from banks' riskier credit-provision activities. In other words, the traditional model of banking would be disrupted.

While the focus so far has been on the costs of this disruption – for funding and credit provision – weight needs also to be given to the potential longer-term benefits of such a structural shift. Banking instabilities arise from the risk and duration mismatch which arise between the asset and liability sides of a bank's balance sheet. Leverage and illiquidity are the common denominator of all banking crises[23].

In principle, separating safe payments and risky lending activities could lead to a closer alignment of risk and duration on the balance sheets of those institutions offering these services. We would move closer to a bifurcated intermediation model of narrow banking for payments (money backed by safe assets) and limited purpose banking for lending (risky assets backed by capital-uncertain liabilities)[24]. In principle, this would reduce, at source, the intrinsic instabilities of the traditional banking model.

Of course, there could be costs as well as benefits from such a functional separation, including the possibility of reduced credit provision due to reduced levels of liquidity and maturity-transformation, that need to be worked through[25]. At the very least, however, these longer-term potential stability benefits of a very different functional

model of intermediation need to be evaluated and weighed. And, so far at least, they have largely been ignored in discussion of the case for digital currencies.

On the monetary policy side, one of the most pressing issues for monetary policymakers today is the zero (or close to zero) lower bound (ZLB) on interest rates. At root, the ZLB arises from a technological constraint on the ability to pay or receive interest on physical cash, whether positive or negative.

In principle, a widely used digital currency could mitigate, if not eliminate, that technological constraint by enabling interest rates to be levied on retail monetary assets. How far it is able to do so will depend on the supply of physical cash to the public, as well as any impact of the new regime on the financial system[26].

The potential macro-economic benefits of easing the ZLB constraint appear to be significant. Studies prior to the global financial crisis suggested the ZLB would bind infrequently and have only a modest macroeconomic cost

With global real interest rates having since fallen, recent work suggests the ZLB could bind much more frequently, between 20 and 40% of the time. That, in turn, could lead to significant shortfalls in average output relative to potential (of around 2%) and average inflation relative to target (of as much as 2pp)[27].

The macro-economic costs of the ZLB constraint require thorough exploration. To be clear, what I am discussing here is a structural shift in the monetary regime and carries no implications for the costs and benefits of negative interest rates in the shorter-term. And these costs can of course be mitigated in other ways, including through unconventional monetary policy tools and activist fiscal policy.

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Nonetheless, I believe it is important these potentially large macro-economic benefits of a digital currency are explored when evaluating the case for a new monetary order. So far, that has not been the case.

The evolving lending landscape

The second area I want to discuss is lending, in particular to SMEs. This, too, has been at the heart of what makes banks special since the first Medici banks began serving Florentine merchants in the 14th century. SMEs remain at the heart of the economy today, in the UK accounting for around 50% of GDP and 60% of private sector employment.

For many decades, the market for SME lending has misfired, constraining the quantity and raising the price of SME financing in ways which have hindered economic growth. That is not a criticism of either banks or borrowers. Instead it reflects the fact that this market suffers from an especially acute problem of two-sided information asymmetry[28].

Small borrowers know a lot more about their business than lenders ever could. That is true of all borrowers, of course. But the problem is particularly acute for SMEs, information on whom is typically not publically available and for whom the only collateral is sometimes their business plan or the owner's house. Facing this uncertainty, lenders have a natural tendency to demand a premium, or ration the supply, of SME finance.

A second information asymmetry arises because existing lenders know a lot more about their SME customers than prospective new lenders. Without access to this information, the supply of finance from alternative lenders is constrained and the scope for SME borrowers to shop around is limited. Acting together, these information frictions have resulted in an SME lending market that, historically, has been patchy and fragile.

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In 1929, the Macmillan Commission was set up by the UK government to assess whether the financing needs of SMEs were being met. It concluded decisively that they were not, with large and widespread shortfalls in access to finance by UK companies of all sizes, but especially small, high-growth companies. The so-called 'Macmillan Gaps' were born[29].

These gaps have persisted, perhaps even widened, in the period since. Corporate lending as a fraction of UK banks' balance sheets has fallen from over 60% in the 1950s to around 15% today (Chart 4). It has been estimated that UK SMEs face an annual funding gap of over £20 billion[30]. And what is true in aggregate across the UK is even more acutely true within some of its regions, with sharp spatial disparities in the distribution of SME finance (Chart 5).

These fragilities in SME lending have shown up most vividly at times of financial stress, during which the Macmillan gaps have tended to chasm. During the Global Financial Crisis, stress on banks' balance sheets led to a sharp contraction in loan supply to SMEs by the main lenders, which persisted for years thereafter.

More recently, SME financing gaps re-opened overnight during the COVID crisis when many companies found themselves needing credit to tide over cashflow shortfalls. It was only when so-called Bounce-Back Loans to SMEs were 100%-guaranteed by the Government, effectively removing any credit risk from banks' balance sheets, that SME lending flowed at pace and scale, with around 1½ million loans to SMEs extended.

There are some signs innovation is making inroads into the MacMillan gaps. The number of new lenders to SMEs has grown rapidly and new lenders account for most of the flow of new SME lending over the past half a decade. Nonetheless, lending by new entrants remains modest as a fraction of the overall stock, at around 10%. And the incumbency bias towards larger lenders remains considerable. For example, almost all of the Bounce-Back loans extended recently emanated from the major banks.

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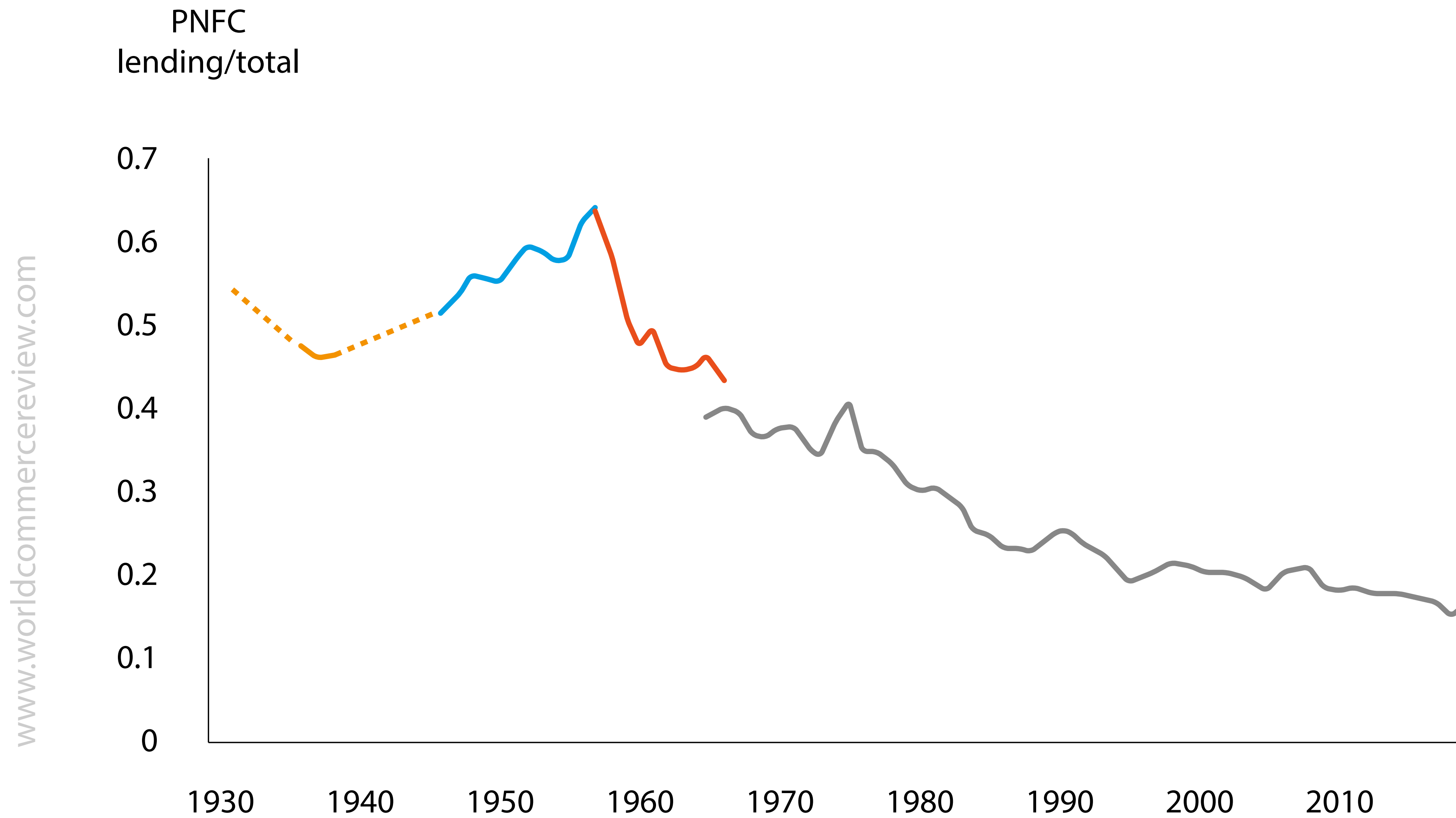
Chart 4. Corporate lending as a fraction of total bank lending



Note: For 1930-1938, London Clearing Bank advances excluding lending to the public sector, financial companies, NPISH and Personal and Professional sector as a share of total advances. For 1957-1966, UK Resident Bank advances to PNFCs as a share of total advances. For 1963- M4 lending to PNFCs as a share of total M4 lending. This represents £ lending by banks and building societies
plus investments.
Source: Return from clearing banks collected from Macmillan Committee (1931), Bank of England Statistical Summaries (1937 and 1938), Roe (1971), Sheppard (1971), Bank of England

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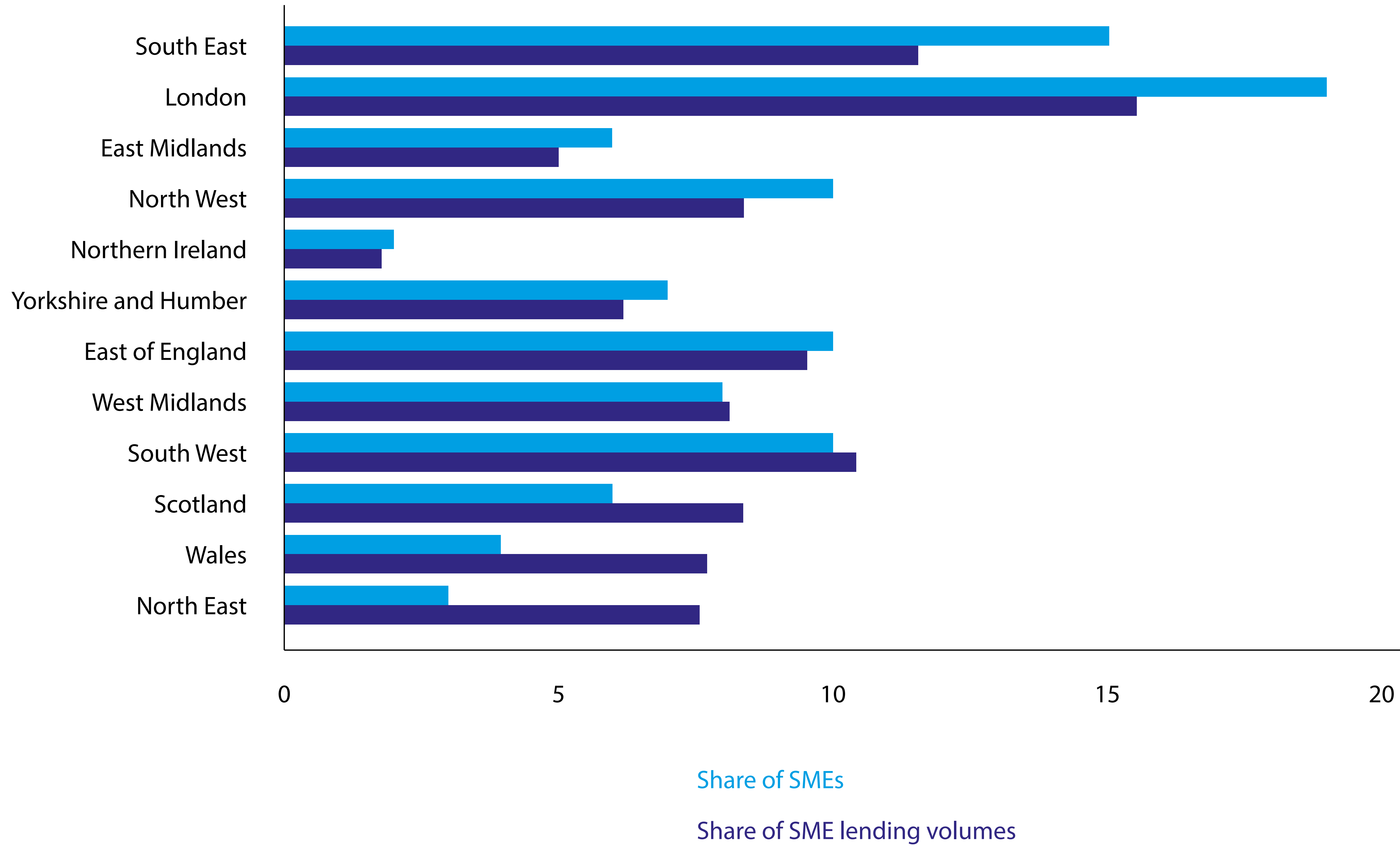
Chart 5. Regional disparities in availability of SME finance



Note: Selection of countries based on data availability, estimation based on latest publicly available data
Source: UK Finance, SME Update 2018; BEIS, Business Population Estimates 2018

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Surveys make clear the on-going frictions, on both the demand and supply sides, of the SME lending market. More than 50% of SMEs consider only one provider when seeking a loan. A quarter are put off from shopping around by the hassle or time. 60% of those who would like to borrow use personal funds instead. 70% would rather grow more slowly than borrow. And those SMEs seeking to switch lender face a 50% higher chance of being rejected for a loan than existing customers.

Breaking down those well-entrenched barriers calls for a new infrastructure, one which expands the scale and scope of Open Banking – an Open Data platform for SMEs. The Bank set out some ideas on the design of such an open platform for SMEs earlier this year[31].

This would provide a standardised means of permissioned sharing of data about businesses. In addition to data held by banks, this could include data from insurance and utilities companies, credit rating and social media data companies, and Government sources such as the Passport Office, DVLA, HMRC and Companies House.

The platform would run as a decentralised network of data providers using a standardised set of APIs. There would be no central data repository, physical credit file or central infrastructure. Instead, like the internet, the platform would be built around standard protocols that would enable interoperability between decentralised data providers and data users, with businesses having control of this process.

At a practical level this would mean an SME could, at the touch of a button, permission an API call to a handful of data providers to instantly share specified data fields with a third-party, such as a lender. The data transfer would be close to real time and encrypted end-to-end. This would greatly expand the dataset, and shorten the application process, for SME loans.

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Digital identification and verification through the platform would reduce KYC and AML checks, shortening and simplifying the on-boarding process for SMEs to banks. Customers could cheaply and quickly compile and share their credit files with different providers, or indeed create personal financial passports, thereby providing lenders with a richer and more timely basis for credit assessment.

For lenders, a less costly on-boarding and credit risk assessment process would lower materially many of the supply-side barriers to SME finance. It would also potentially lower the barriers to entry among new, innovative companies, thereby improving the contestability of the SME lending market and making it easier for businesses to shop around.

While the case for such a platform was strong pre-COVID, the COVID crisis has materially strengthened the case as a means of supporting the three R's. One legacy of the COVID crisis is that many corporates will emerge with materially higher levels of debt. While many will be able to pay down these debts over time, others may require some debt remediation or re-profiling. Indeed, in many cases this will make sense for both the borrower and the lender.

Debt restructuring is a tortuous and time-intensive process, in large part due to the information frictions that afflict the SME lending market in normal times. That problem is likely to be particularly acute today, given the scale (around £60 billion) and scope (around 1½ million loans) of borrowing during the COVID crisis. The Open Platform could reduce significantly those information frictions, lubricating the process of corporate debt workout and recovery, in ways which would support companies, lenders and the economy as a whole.

The same is true of the second R, rebalancing. COVID is amplifying pre-existing imbalances between different sectors of the economy and different regions of the UK. Those imbalances are, at least in part, the result of frictions

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in cost and information which are larger in the less well-performing parts of the UK. These are frictions that an Open Data platform could potentially help to reduce.

The final R is revitalisation. Seed financing for start-up and scale-up is a crucial ingredient in the revitalisation of the economy, helping create new businesses and new jobs. Work by TheCityUK and led by Adrian Montague has made the case for new equity-based financing vehicles to support these companies. An open data platform could play an important supporting role, especially among new, high-growth companies whose credit file will, almost by definition, be thin.

Building the digital foundations

History tells us that nurturing financial innovation, in a way that is safe, efficient and lasting, requires the combined efforts of the private and public sectors. It also tells us that it requires the right foundational building blocks. Let me end by discussing briefly a couple of those foundation stones: digital identifiers and digital skills. Both are plainly important within and beyond the financial services sector.

We know from historical experience that identifiers are a fundamental, if often overlooked, driver of growth in trade and activity. The past half-century has seen a dramatic deepening and lengthening of international supply chains, in particular for trade in goods[32]. One of the unsung heroes of this transformation in supply chains was the emergence of internationally-agreed identifiers for goods and their location – barcodes[33].

The same is true of the World Wide Web. The emergence and exponential growth of the web has been astounding. Today, it connects almost 5 billion people globally – around 60% of the planet's population – and adds another 880,000 users each day[34]. Yet that success would have been impossible without a common internationally agreed language (HTML) and set of locational identifiers (URLs).

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The costs of not having common identifiers was exposed by the Global Financial Crisis. Then, their absence for firms and products generated levels of uncertainty that caused seizures in many financial markets. That is why, in the period since, international efforts have been made to develop Legal Entity Identifiers (LEIs) for financial firms across most advanced economies[35]. So far, over 1.7 milliom LEIs have been issued globally.

This same progress has not been seen, however, when it comes to creating digital identifiers for either individuals or small businesses. The UK is currently lagging behind many other countries in developing the appropriate infrastructure for digital identities and digital verification. Research suggests it is close to the bottom of the international league table, far behind Estonia, Netherlands, Sweden and Denmark (Chart 6)[36].

This shortcoming was exposed in the UK during COVID crisis, when a means was needed of transferring monies to individuals and companies, efficiently, speedily and safely. In response, sign-ups to the GOV.UK Verify service between March and May were more than double the pre-COVID rate. The Department of Culture Media and Sport (DCMS) is currently developing a trust framework that might enable the development of digital IDs across the UK.

The benefits of digital identities for consumers and SMEs are clear. They would make moving money around the financial system safer, cheaper, and faster. Safer, by reducing the risk of financial crime. Cheaper, by reducing the costs of KYC checks for financial institutions. And faster, by reducing barriers to customers switching between providers.

There are rightly concerns about the privacy and security implications of digital IDs. But the truth of the matter is that anyone who communicates or transacts digitally – which is almost everyone - already has multiple digital identities, often poorly protected. A single, unique digital ID would enable the permissioned sharing of specific

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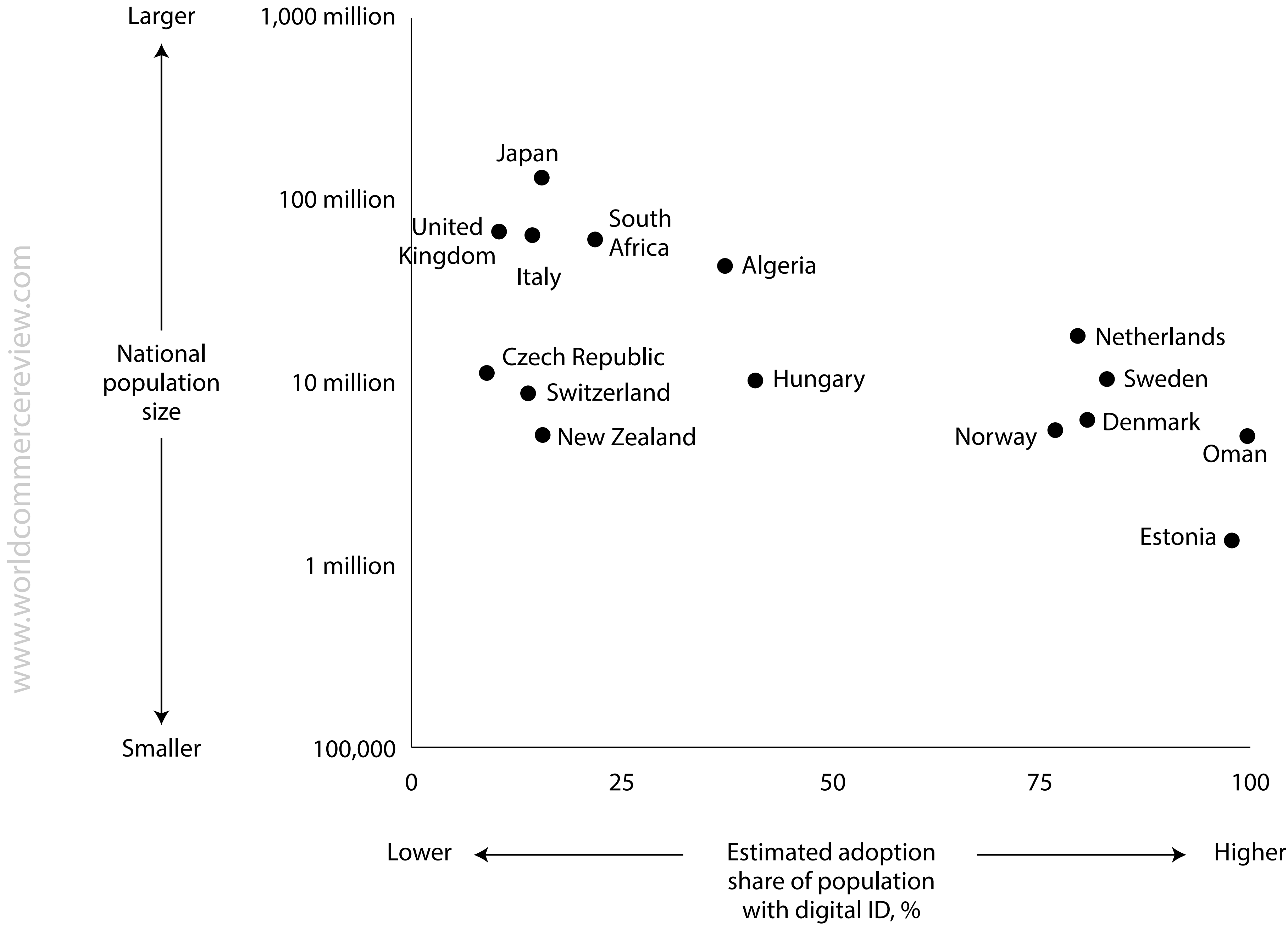
Chart 6. Estimated coverage of digital ID solutions, by country



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Source: Mckinsey (2020)

data, reinforcing personal security and giving consumers much greater control than now over their identities and data.

Finally, digital skills. Even before COVID crisis, the UK suffered from an acute digital skills deficit, hindering the effectiveness of individuals and businesses at work and at home. These digital deficits have been a significant contributor to the UK's productivity under-performance relative to other countries over recent years and to the widening performance gaps between different regions of the UK[37].

The digital skills gap in the UK is not just related to an ageing population: 44% of those offline are under the age of 60. At a regional level, regions outside of London and the South East are far less likely to have basic digital skills as measured by the ONS. And while the pandemic has forced lots of businesses and individuals online, only 32% of staff at SMEs say they are comfortable with digital technology.

It is clear a concerted effort will be needed to close these digital deficits and divides. There are plenty of useful initiatives already in play. One example is the Government's Digital Apprenticeship Programme (DAS) which started in 2017. The DAS currently takes on an additional half a million apprentices each year. While significant, this falls well short of the numbers that will be needed to create a digitally literate workforce.

Conclusion

The COVID crisis has led to a massive loss of lives and livelihoods. It will leave lasting scars, financial and psychological. At these times, the three R's – Recovery, Rebalancing, Revitalisation – are more important than ever. So too is the need for optimism about the opportunities this crisis will serve up, as all crises do.

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In financial services, these digital opportunities in the areas of payments and lending are large and could deliver lasting benefits to individuals and companies. As it enters its second decade, and working with the financial services sector, the Bank and other regulatory authorities, will have a key role to play in seizing these opportunities. ■

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Endnotes

1. Haldane (2020)

2. Haldane and Mayfield (2020)

3. UK Finance [https://www.ukfinance.org.uk/data-and-research/data/cards/card-spending?utm_source=bit.ly&utm_medium=social&utm_campaign=Card%20Spending%20Update%20May%202020]

4. https://www.bankofengland.co.uk/report/2019/future-of-finance

5. Tobin (1963).

6. Birch (2019).

7. Philippon (2019).

8. It is well-established that the cost of cross-border payments is higher still, sometimes much higher, see Carney (2019).

9. Data on WeChat and AliPay in China suggests their business models have led to lower fees for smaller merchants.

10. Bazot (2018).

11. The UK capital also takes the top spot for deal count with 169 deals so far this year.

12. Bech and Garratt (2017).

13. Including Tether, TrueUSD and Paxos.

14. See https://www.bankofengland.co.uk/paper/2020/central-bank-digital-currency-opportunities-challenges-and-design-discussion-paper
15. See https://www.bis.org/publ/othp33.htm
16. For example, Haldane and May (2011).
17. See https://www.bankofengland.co.uk/financial-stability-report/2019/december-2019
18. As laid out in https://www.bis.org/publ/othp33.htm
19. Broadbent (2016).
20. "Narrow banks" are institutions whose deposit liabilities are backed by highly liquid and low risk assets that better match the risk and duration characteristics of these liabilities.
21. See Meaning et al (2018) and Barrdear and Kumhof (2016).
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24. Chamley et al (2012).
25. Kashyap et al (2002).
26. The Bank of England supplies cash to the public on demand.
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29. The Macmillan Report (1931).
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31. See https://www.bankofengland.co.uk/paper/2020/open-data-for-sme-finance
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33. Haldane et al (2012)
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35. See https://www.bankofengland.co.uk/bank-overground/2020/legal-entity-identifiers-the-code-to-a-digital-

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36. Mckinsey (2020)
37. Haldane (2019).

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Digital money and financial stability

Tao Zhang considers the implications for monetary and financial stability of new forms of digital money

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When I tried to select the topic that may best link all the elements in financial risks, innovation and inclusion post-COVID, I thought about cross-border payments, digital money, and their impact in the post-COVID world. Let me start with why we care about cross-border payments.

Many consider cross-border payments as 'plumbing' and normally keep it hidden. It is actually at the centre-stage in policymaking today. Cross-border payments are at the heart of the international monetary system, as well as the lives of the most vulnerable. And yet, cross-border payments have limitations, especially for lower-income countries and emerging markets. Cross-border payments remain slow, opaque, costly, and inaccessible to many.

Remittances still cost 7 percent on average, more than twice the target set by the UN Sustainable Development Goals. Meanwhile correspondent banks—those providing access to cross-border payments—are 22 percent fewer since 2011. And, they may not even be accessible to part of the 1.7 billion people worldwide who are unbanked.

So, as you can expect, in the COVID-era, those hit harder are countries with a higher share of unbanked population, greater reliance on remittances, lower access to correspondent banks, and less liquid foreign exchange markets.

Several key frictions explain the limitations of cross-border payment systems. These limitations have been widely recognized for some time, but not enough has been done to date. Countries tend to under-invest in solving issues of interoperability and in creating public goods that can be made available across borders—the international version of the collective action problem.

Can digital money come to rescue?

It looks hopeful. While the potential, exploratory solutions could bring significant efficiency gains, it could also affect monetary and financial stability.

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In short, it is very timely to discuss this issue. We are living through a phase of unprecedented global drive to improve the efficiency of cross-border payments. For example, Facebook's Libra pledges to improve cross-border payments. Many countries are working with CBDC, or Central Bank Digital Currency. The international community has worked tremendously on this topic, including the G20, the Financial Stability Board, the Committee on Payments and Market Infrastructures, the Bank for International Settlements, and of course the IMF.

Therefore, much of my article is drawn from these discussions and developments, especially the IMF publication *Digital Money Across Borders: Macrofinancial Implications*.

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Recently, seven advanced economy central banks, including the US Federal Reserve, issued a report articulating their views on fundamental principles and core features of CBDC design

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I will start with what is CBDC and a brief overview of global trends in the exploration of CBDCs. I will then look at the potential macro-financial implications that the adoption of CBDCs in cross-border payments may present, focusing on four selected key policy areas.

After that, I will outline the policy challenges that country authorities and international community could face as they aim to realize the benefits of CBDCs and mitigate the risks when considering CBDCs in cross-border payments.

What are CBDCs?

CBDCs are a digital form of fiat money issued by a central bank. There are two variations of CBDC prototypes—wholesale and retail (general purpose)—but I will limit the discussion to retail CBDCs, defined as a widely accessible digital form of central bank fiat money that is legal tender.

Thus far, no central bank has issued a retail CBDC, but several central banks (the Bahamas, the Eastern Caribbean, China, Sweden, and Uruguay) have started to run CBDC pilots. Some countries—such as the United States, Canada, Australia—which have not yet decided to issue CBDCs are also undertaking experiments as a contingency.

Recently, seven advanced economy central banks, including the US Federal Reserve, issued a report articulating their views on fundamental principles and core features of CBDC design.

Now let's look at how CBDCs are adopted/envisaged to be adopted for cross- border payments.

Cross-border use of currencies generally falls into two categories, namely the use of currency for international transactions, and domestic use of currency issued by a foreign entity. In the first category, international currencies serve as a medium of exchange, store of value, and unit of account and are used for international

trade, international finance, and foreign exchange reserves. In the second category, a foreign currency displaces a domestic currency for domestic transactions, a situation commonly referred to as currency substitution.

Traditionally, the economic weight of a country and broader geopolitical factors have been major drivers of the international use of currencies. Network effects or externalities reinforced by synergies across monetary functions also have a strong effect on the international use of a currency.

Once a currency is established internationally, the fact that it is used by many entities increases the likelihood that others will adopt it.

So, why are CBDCs being considered for the cross-border adoption and use?

The most notable reason is their ability to lower transaction costs and increase accessibility/financial inclusion. Access to foreign currency can be challenging to establish, especially in rural areas in developing countries. CBDCs have the potential to overcome some of these impediments as they can designed either as direct claim on the issuing central bank, or some form of digital cash that can be transferred peer-to-peer without going through a bank.

Although many of the current CBDC projects and pilots are domestically focused, various bilateral experiments have demonstrated the feasibility of using CBDCs for cross-border payments. Here we consider three scenarios of CBDCs to be adopted in cross-border payments.

Scenario 1: niche use for cross-border payments

A CBDC is used as the preferred means for small-value transactions, such as remittances across borders—due to its

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low cost and efficiency, or due to legal and regulatory limits that are placed on the purpose and amounts that can be transferred internationally.

The CBDC would not be held for very long—in most cases for the duration of the transaction—and in some cases as a store of value. The CBDC would be exchanged for local currency to make purchases domestically, and the CBDC would not supplant the local unit of account.

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Scenario 2: greater currency substitution in some countries

Under this scenario, for example, a foreign CBDC pegged to an existing fiat currency induces greater use of foreign currency in countries with high and volatile inflation and unstable exchange rates.

In those countries, use of the CBDC or a global stablecoin is intensive and replaces the domestic currency significantly: as a store of value (in and of itself, or to access assets in that currency), as a means of payment for many but not all transactions (including some regional cross-border trade), and as a common (though not necessarily ubiquitous) unit of account.

Scenario 3: global adoption with multi-polarity

This is a scenario of competition between a few major CBDCs that represent independent units of account. In the case of CBDCs, there may be 'currency blocs' within which countries choose one common CBDC for both international and domestic transactions.

Macro-financial Impacts of CBDCs in cross-border payments

The impacts of CBDCs occur primarily across 4 areas: monetary policy; financial stability; capital flow management; and the international monetary system.

1) Monetary policy

Most of the concerns about monetary policy focus on the effect of currency substitution/dollarization.

Domestic use of foreign CBDCs can impair monetary policy transmission by increasing currency substitution. It is well known in economics theory that currency substitution reduces monetary authorities' control over domestic liquidity by limiting the component over which the authorities have direct influence.

Though substitution into CBDCs is no different from traditional 'dollarization' that occurs in countries that have suffered from high inflation and large exchange rate volatility, the convenience and easier accessibility of CBDCs enables substitution at a faster pace and larger scale.

If CBDCs are used for specific international transactions, such as remittances, the direct impact on monetary policy may be limited. However, there could be indirect effects if digital currencies reduce transaction costs or regulatory barriers which result in increased remittance flows.

In such a case, currency substitution could still be significant and impair monetary policy effectiveness of recipient countries. In a non-CBDC world, empirical evidence shows that there is a close link between the domestic availability of a foreign currency and substitution into that currency.

In Cambodia, US dollar usage rose rapidly within a few years, as large foreign aid flows provided ample dollar liquidity. Initially, the dollars were mostly used for payments, but consumers began to save in dollars—thus the dollar migrated from being a payment instrument to a store of value.

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If countries with weak fundamentals use a foreign currency, including by granting legal tender status to CBDCs, currency substitution could be sizeable and monetary policy effectiveness could be significantly eroded.

CBDCs could also have impact on choice of exchange rate regimes. If several globally adopted CBDCs would come to co-exist (Scenario 3), the monetary policy implications will depend on whether this multipolarity takes the form of country currency blocs or currency competition within each country.

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For instance, multipolarity could imply that each country witnesses the domestic use of multiple currencies. Such an environment could complicate exchange rate anchoring, if the domestic currency is still in use. Moreover, households and firms would need to monitor several exchange rates and frequently adjust price quotations, in such an environment.

And finally, cross-border use of a CBDC could also complicate the conduct of monetary policy in the issuing country if external demand for the CBDC results in large capital flows. The impact would be more pronounced if the financial markets are shallow relative to the size of the economy.

2) Financial stability

The financial stability implications of a CBDC largely depend on the design, scale of adoption and financial system structure of the countries concerned.

Greater currency substitution induced by foreign CBDCs could add additional pressures on funding and solvency risks relative to those typically observed in partially 'dollarized' economies. The CBDC could increase the degree of currency substitution in countries that already use a foreign currency, as frictions in access and transacting in this currency are likely to decrease.

Some commentators have argued that CBDC could lead to disintermediation even in normal times and higher 'run risks' in times of stress in the issuing countries. IMF staff have argued that such effects would depend on specific features of the CBDC and can be mitigated by design choices.

In a scenario of several major CBDCs co-existing (Scenario 3), currency competition within a jurisdiction could make local financial conditions more volatile. Low switching costs between the CBDCs could make the participation in a currency bloc or digital currency area unstable. On the other hand, competition could foster discipline in monetary management in order to maintain the attractiveness of the currency in the longer term.

3) Capital flow management/capital account restrictions

Capital flow management measures and other capital account restrictions have been used by many countries and could be circumvented by CBDCs. If so, countries could face a starker 'policy trilemma', that is, the inability to have all three of the following at the same time: a fixed foreign exchange rate, free capital movement, and an independent monetary policy. This would complicate the conduct of both monetary and exchange rate policy.

However, it is also possible that CBDCs could allow for a greater control of capital flows, depending on how they are designed and the degree of cooperation between the issuer and recipient country.

4) International monetary system

In general, it is very hard to forecast how the international monetary system might evolve with the advent of CBDCs. Changes to the international monetary system are likely to be slow, as the adoption of reserve currencies is typically accompanied by structural changes involving the establishing of policy credibility, rule of law, and deep and liquid markets in the same denomination.

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In the longer term, the existence of widely available CBDCs, and strong network externalities, could accelerate shifts in reserve currency status. Digitalization could facilitate cross-border use of currencies, reshaping the demand for and supply of safe assets.

In terms of demand, an uneven pace of technological advances across countries or currency blocs, emergence of alternative cross-border payment 'rails', or a shift to trade-invoicing and financial intermediation denominated in a CBDC or global stable coin, could reposition reserve currencies.

In terms of supply, new digital platforms could emerge and achieve global scale, offering alternative networks that CBDCs may tap into in order to spur adoption upon issuance.

Adoption and use of CBDCs may alter the incentives for both reserve holders and issuers. The official sector uses reserves as safe stores of value and for ready access to international liquidity.

or reserve holders, key drivers of the currency composition of reserves are the size and credibility of the issuers, the currency's usefulness in trade and financial transactions, including foreign exchange intervention, and inertia as safety is reinforced by coordination of beliefs.

Niche adoption of CBDC (Scenario 1) would most likely have limited implications for reserves as the unit of account of trade and financial transactions would not change. In this case the CBDC would serve purely as a conduit for completing cross-border payments, and their value would not become an important relative price that affects economic decisions. Central banks will thus see little need to adjust the composition of their reserves.

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Greater currency substitution induced by CBDC (Scenario 2) would lead central banks to increase foreign reserves for precautionary motives. For reserve holders, increased adoption of a foreign CBDC in trade and financial transactions, especially if paired with greater exposure of financial institutions to exchange rate volatility, may shift reserves into the unit of account of the CBDC.

While the qualitative impact is akin to traditional currency substitution, a potentially faster roll-out of CBDCs might lower the inertia in reserve holdings observed so far.

However, the confidence in reserve issuers, for example their ability to ensure cybersecurity or provide emergency liquidity, would still matter greatly.

For issuers, the incentives to supply more safe assets may vary. If internationalization is a policy objective, issuers would at least partially accommodate the shift in demand. Otherwise higher demand could lead to a shortage of safe assets, causing possible side effects such as depressed risk premiums and higher leverage in the financial system.

If a few CBDCs become widely adopted and compete, reserve holdings could become more diversified. With many reserve issuers, total issuance is high but individual issuance is low which protects the issuer' domestic financial stability.

However, with few issuers, coordination worsens, and instability ensues as investors can quickly substitute away from one reserve asset and towards another.

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In a multipolar world, reserve composition could be diversified between or within countries—depending on whether currency blocs form or currencies compete within each country.

When a country adopts a single CBDC, then reserves of the country will mostly be denominated in its currency bloc's unit of account. In contrast, use of multiple currencies by residents could diversify reserve holdings also within countries.

Finally, the issuance of CBDCs across borders also raise broader issues for the international payment ecosystem. The reason is obvious, as CBDCs could give countries the ability to transact separately. This would lower demand for correspondent banking services and SWIFT international financial messaging and payment systems. ■

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Monetary policy in a pandemic emergency

Europe successfully absorbed the shock of COVID-19. Christine Lagarde says the second wave presents new challenges and risks, but the blueprint for managing it is the same

The purpose of this year's conference is to examine the challenges facing central banking in a shifting world. We will be discussing many of the long-term trends monetary policy has to contend with, including shifting patterns of globalisation, climate change and a lower natural interest rate.

Actually, the largest shift central banks are facing today may well turn out to be the pandemic itself. As John Kenneth Galbraith said, *"the enemy of the conventional wisdom is not ideas, but the march of events."* And the events we are seeing today are momentous.

The coronavirus (COVID-19) has produced a highly unusual recession and is likely to give rise to a similarly unsteady recovery. I would like to talk about how the ECB's monetary policy has responded to this unique environment, and how we can best contribute to supporting the economy going forward.

A highly unusual recession

The deliberate shutdown of the economy triggered by the COVID-19 pandemic has produced a highly unusual recession. Most importantly, it has infiltrated and crippled sectors that are normally less sensitive to the economic cycle. In a regular recession, manufacturing and construction are typically hit harder by the cyclical downturn, while services are more resilient. But during the lockdown in the spring, we saw the reverse.

Compare our experience in the first half of this year with the first six months following the Lehman crash. After Lehman, manufacturing contributed 2.8 percentage points to the recession and services contributed 1.7 percentage points. But this year, the loss was 9.8 percentage points for services and much less, 3.2 percentage points, for manufacturing.

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This has three important implications. First, research finds that the recovery from a services-led recession tends to be slower than from a durable goods-led recession, as services create less pent-up demand than consumer goods[1]. For example, people are unlikely to take twice as many holidays abroad next year to compensate for their lack of foreign travel this year.

Second, as services are more labour-intensive, services-led recessions have an outsized effect on jobs. Five million people in the euro area lost their jobs in the first half of this year. Of those, almost half worked in retail and wholesale trade, accommodation and food services, and transportation, despite these activities representing less than one-fifth of output. In the six months after Lehman, the worst affected sector – industry – suffered only 900,000 job losses.

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The ECB was there for the first wave and we will be there for the second wave. We are, and we continue to be, totally committed to supporting the people of Europe

And third, these job losses hurt socio-economic groups unevenly. In the first half of 2020, the labour force contracted by almost 7% for people with low skills – who typically also have lower incomes – while it fell by 5.4% for those with medium skills and rose by 3.3% for those with high skills. This is double the loss of low-skilled jobs we saw in the six months after Lehman.

In addition to their social impact, job losses for people with lower incomes present a particular threat to the economy, because around half of those at the bottom of the income scale face liquidity constraints and therefore consume more of their income[2]. The labour-intensity of the worst-hit sectors also heightens the risk of hysteresis and 'scarring' in the labour market.

While job retention schemes have played a key role in mitigating these risks, they could not eliminate them entirely. Even though many workers quickly returned to regular employment once restrictions were lifted, a large number of people who lost their jobs in the spring left the labour force and stopped looking for work, with 3.2 million workers classified as 'discouraged'. This is so far different from the post-Lehman period, when the drop in employment was matched by a rise in unemployment.

And young people have been particularly affected, seeing disproportionate lay-offs and delayed entry into the labour market. Research finds that this can have a variety of long-lasting effects, including lower earnings ten to fifteen years later, and worse future health conditions[3].

So, from the outset, this unusual recession has posed exceptionally high risks. That is why an exceptional policy response has been required. And what has defined this policy response, in Europe in particular, is the policy mix. Learning the lessons of the last decade, there has been a renewed consensus that the composition of policies

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matters for overcoming the crisis. More than ever before, macroeconomic, supervisory and regulatory authorities have dovetailed and made each other's efforts more powerful.

Policy responses to the pandemic

What has this meant for monetary policy? There are two main ways in which we have adapted the ECB's policy to the pandemic: via the design of our tools and via the transmission of our monetary policy.

First of all, we have responded to the unique features of the recession by designing a set of tools specifically tailored to the nature of the shock, including recalibrating our targeted longer-term refinancing operations (TLTROs), expanding eligible collateral, and launching a new €1.35 trillion pandemic emergency purchase programme (PEPP).

The PEPP in particular has the dual function of stabilising financial markets and contributing to easing the overall monetary policy stance, thereby helping to offset the downward impact of the pandemic on the projected path of inflation.

The stabilisation function of the PEPP is ensured by its flexibility, which is crucial given the unpredictable course of the pandemic and its uneven impact across economies. In this context, the PEPP's flexibility allows us to react in a targeted way and counter fragmentation risks. This was key in reversing the tightening of financing conditions that we saw in the early days of the crisis.

In parallel, the stance function of the PEPP gives us the scope to counter the pandemic-driven shock to the path of inflation – a path that has also been greatly influenced by the specific characteristics of this recession. Not only has inflation fallen into negative territory, but we have already seen services inflation, which is normally the more stable part of the price index, drop to historic lows.

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But the PEPP, together with the other measures we have taken this year, has provided crucial support to the inflation path and prevented a much larger disinflationary shock[4]. And its impact has been amplified by interactions with other policies. For instance, the combined effect of the ECB's monetary and supervisory measures is estimated to have saved more than one million jobs[5].

At the same time, the nature of the pandemic also affects the transmission of monetary policy. Normally, an easing of financing conditions boosts demand by encouraging firms to borrow and invest, and households to bring forward future income and consume more. In turbulent times, monetary policy interventions also eliminate excess risk pricing from the market.

But when interest rates are already low and private demand is constrained by design – as is the case today – the transmission from financing conditions to private spending might be attenuated. This is especially true when firms and households face very high levels of uncertainty, leading to higher precautionary saving and postponed investment[6].

In these circumstances, it is crucial that monetary policy ensures favourable financing conditions for the whole economy: private and public sectors alike. Indeed, these are the times when fiscal policy has the greatest impact, for at least two reasons.

First, fiscal policy can respond in a more targeted way to the parts of the economy affected by health restrictions. Research shows that, while monetary policy can increase overall activity in this environment, it cannot support the specific sectors that would be most welfare-enhancing. Fiscal policies, on the other hand, can directly respond where help is most needed[7].

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We have seen the efficacy of such targeting in the euro area this year. The ECB's Consumer Expectations Survey shows that households with lower income have seen a greater reduction in the hours they work, but they have also received a higher share of government support.

As a result, while compensation of employees fell by more than 7% in the second quarter, household disposable income fell by only 3%[8], because government transfers compensated for the loss of income.

Second, fiscal policy can break 'paradox of thrift' dynamics in the private sector when uncertainty is present. Public expenditure accounts for around 50% of total spending in the euro area and can therefore act as a coordination device for the other 50%.

Our consumer survey demonstrates this: people who consider government support to be more adequate display less precautionary behaviour. And in this way, by brightening economic prospects for firms and households, fiscal policy can help reinvigorate monetary transmission through the private sector.

The risk of an unsteady recovery

But regrettably the economic recovery from the pandemic emergency could well be bumpy. We are seeing a strong resurgence of the virus and this has introduced a new dynamic. While the latest news on a vaccine looks encouraging, we could still face recurring cycles of accelerating viral spread and tightening restrictions until widespread immunity is achieved.

So the recovery may not be linear, but rather unsteady, stop-start and contingent on the pace of vaccine roll-out. In the interim, output in the services sector may struggle to fully recover.

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Indeed, services were already showing a declining trend before the latest round of restrictions: the services PMI fell from 54.7 in July to 46.9 in October. And while manufacturing has so far remained relatively resilient, there is a risk of the recovery in manufacturing also slowing once order backlogs are run down and industrial output becomes better aligned with demand.

In this situation, the key challenge for policymakers will be to bridge the gap until vaccination is well advanced and the recovery can build its own momentum. The strength of the rebound in the third quarter suggests that the initial policy response was effective and the capacity of the economy to recover is still in place. But it will require very careful policy management to ensure that this remains the case.

Above all, we must ensure that this exceptional downturn remains just that – exceptional – and does not turn into a more conventional recession that feeds on itself. Even if this second wave of the virus proves to be less intense than the first, it poses no less danger to the economy.

In particular, if the public no longer sees the pandemic as a one-off event, we could see more lasting changes in behaviour than during the first wave. Households could become more fearful about the future and increase their precautionary saving.

Firms that have survived up to now by increasing borrowing could decide that remaining open no longer makes business sense. This could trigger a 'firm exit multiplier', where the closure of businesses faced with health restrictions cuts demand for complementary businesses, in turn causing those firms to reduce their output[9].

If that were to happen, the recession could percolate through the economy to sectors not directly affected by the pandemic – and potentially trigger a feedback loop between the real economy and the financial sector. Banks

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might start tightening credit standards in the belief that corporate creditworthiness is deteriorating, leading to firms becoming less willing or able to borrow funds, credit growth slowing and banks' risk perceptions rising further.

The ECB's bank lending survey is already signalling a possible tightening in the months to come. We are also seeing indications that small and medium-sized firms are expecting their access to finance to deteriorate.

A continued, powerful and targeted policy response is therefore vital to protect the economy, at least until the health emergency passes. Concerns about 'zombification' or impeding creative destruction are misplaced, especially if a vaccine is now in sight.

Remember that lockdowns are a non-economic shock that affects productive and unproductive firms indiscriminately. Policies that protect viable businesses until activity can return to normal will help our productive capacity, not harm it.

The right policy mix is essential. Fiscal policy has to remain at the centre of the stabilisation effort – the draft budgetary plans suggest that fiscal support next year will be significant and broadly similar to this year, and the Next Generation EU package should become operational without delay.

Supervisory authorities are working to ensure that banks can continue to support the recovery by readying them for a potential deterioration in asset quality[10]. And structural policies have to be stepped up so that policy support can accompany the wide-ranging changes that the pandemic will bring, such as an accelerating spread of digitalisation and a renewed focus on climate issues[11].

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The outlook for monetary policy

So what is the role of monetary policy in this response? It is clear that downside risks to the economy have increased. The impact of the pandemic is now likely to continue to weigh on economic activity well into 2021.

Moreover, demand weakness and economic slack are weighing on inflation, which is expected to remain in negative territory for longer than previously thought. This is partially due to temporary factors, but the fall in measures of underlying inflation also appears to be connected to the weakening of activity. And developments in the exchange rate may have a negative impact on the path of inflation. Continued policy support is therefore necessary to achieve our inflation aim. But we should also consider how best to provide that support.

The unusual nature of the recession and the unsteadiness of the recovery make assessing the inflation path harder than in normal times. Shifts in consumption baskets caused by supply-side restrictions are creating significant noise in the inflation data[12]. And the stop-start nature of the recovery means the short-term path of inflation is surrounded by considerable uncertainty.

In these conditions, it is vital that monetary policy underpins inflation dynamics by supporting demand and preventing second-round effects, where the negative pandemic shock to inflation feeds into wage and price-setting and becomes persistent. To that end, the best contribution monetary policy can make is to ensure favourable financing conditions for the whole economy. Two considerations are important here.

First, while fiscal policy is active in supporting the economy, monetary policy has to minimise any 'crowding-out' effects that might create negative spillovers for households and firms. Otherwise, increasing fiscal interventions could put upward pressure on market interest rates and crowd out private investors, with a detrimental effect on private demand.

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Second, monetary policy has to continue supporting the banking sector to secure policy transmission and prevent adverse feedback loops from emerging. Firms are still dependent on new flows of credit. And those that have borrowed heavily so far need certainty that refinancing will remain available on attractive terms in order to avoid excessive deleveraging.

In other words, when thinking about favourable financing conditions, what matters is not only the level of financing conditions but the duration of policy support, too. All sectors of the economy need to have confidence that financing conditions will remain exceptionally favourable for as long as needed – especially as the economic impact of the pandemic will now extend well into next year.

Currently, all conditions are in place for both the public and private sectors to take the necessary measures. The GDP-weighted sovereign yield curve is in negative territory up to the ten-year maturity. Nearly all euro area countries have negative yields up to the five-year maturity. Bank lending rates are close to their historic lows: around 1.5% for corporates and 1.4% for mortgages. And our forward guidance on our asset purchase programmes and interest rates provides clarity on the future path of interest rates.

But it is important to ensure that financing conditions remain favourable. This is why the Governing Council announced last month that we will recalibrate our instruments, as appropriate, to respond to the unfolding situation. The Council is unanimous in its commitment to ensure that financing conditions remain favourable to support economic activity and counteract the negative impact of the pandemic on the projected inflation path.

In the weeks to come we will have more information on which to base our decision about this recalibration, including more evidence on the success of the new lockdown measures in containing the virus, a new set of macroeconomic projections and more clarity on fiscal plans and the prospects for vaccine roll-outs.

While all options are on the table, the PEPP and TLTROs have proven their effectiveness in the current environment and can be dynamically adjusted to react to how the pandemic evolves. They are therefore likely to remain the main tools for adjusting our monetary policy.

Looking beyond our next policy meeting, our ongoing strategy review gives us an opportunity to reflect on the best combination of tools to deliver financing conditions at the appropriate level, how those tools should be implemented, and what features our toolkit needs to have to deliver on such a strategy.

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Conclusion

The pandemic has produced an unusual recession and will likely generate an unsteady recovery. All policy areas in Europe have responded promptly and decisively. The European policy mix has proven that when different authorities work together – within their respective mandates – countries can successfully absorb the pandemic shock.

The second wave of COVID-19 presents new challenges and risks, but the blueprint for managing it is the same. The ECB was there for the first wave and we will be there for the second wave. We are, and we continue to be, totally committed to supporting the people of Europe.

In pursuit of our mandate, we will continue to deliver the financing conditions necessary to protect the economy from the impact of the pandemic. This is the precondition for stabilising aggregate demand and securing the return of inflation to our aim. ■

Christine Lagarde is President of the ECB

Endnotes

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