

INTERNATIONAL TRADE IN DIGITAL ERA

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Abstract: Several features of the digital economy underline the evolution of this new phase of industrial and innovation policies. As data become an essential input in every aspect of economic activity, many digital technologies have the potential to alter economies and redefine innovation, and they are thereby considered to be general-purpose technologies. In particular, digital technologies foster collaboration and help to form innovative ecosystems. Firms in the digital economy rely less on physical assets and more on intangible assets. This makes firms much more scalable (i.e. capable of expanding), allowing them to reach global markets, and some market players have come to hold dominant positions in the digital sector.

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JEL Classification: F1, F6, F13.

1. The digital age – and the need to catch up in this „race”

In the digital age, a growing number of governments have adopted policies aimed at boosting growth through innovation and technological upgrading. The domestic economic fallout linked to the COVID-19 pandemic is leading countries to strengthen these policies. There is a significant role for international cooperation to make countries’ pursuit of such goals more effective, while minimizing negative spill-overs from national policies.

Historically, governments have sought to use policy to enhance long-term economic growth or societal welfare. These policies have always had to balance multiple objectives, from attempts to correct real or perceived market failures, to the dual task of managing change in mature sectors, while promoting emerging industries and technologies. Over the past two decades, countries have targeted these objectives with increasingly outward-oriented policies, in recognition that openness by access to larger markets and increased competition leads firms to innovate.

Trade and trade policy have historically been important engines for innovation. The certainty and predictability in global market conditions fostered by the multilateral trading system has made a major contribution to innovation and technology diffusion globally, notably by underpinning the rise of global value chains.

In many countries, government policies attempt to improve the business environment or to tilt the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention.

Governments are generally motivated to implement policies at the sectoral level in order to boost longterm growth, increase incomes and productivity, and, in doing so, promote entrepreneurship, innovation, technology transfer, skill development and competition as specific policies to achieve these objectives.

Over time, there have been several phases of government policies, with considerable variance across economies. In the early days, industrial policies were narrowly defined as policies that aimed to build capacity mainly in the manufacturing sector.

The 1980s marked a gradual shift away from policies based on import substitution, infant industry protection and direct intervention into the production process, towards more outward-oriented policies. Some countries anticipated that shift even earlier.

In the 1990s, industrial policies further embraced open economy requirements: skills upgrading, acquisition of technological capacity, reduction of business and trade

costs, and infrastructure development, for example, as important medium-term objectives. Industrial and trade policies aimed to improve the international competitiveness of firms and their integration into global value chains. Governments also introduced strong horizontal, or cross-sectoral, objectives aimed at providing the infrastructure for economic growth, although the horizontal focus did not completely displace sectoral policies, which remained a prominent feature of industrial policies.

By the turn of the millennium, the notion of industrial policy had shifted significantly, with the concept of “industrial” extending beyond the manufacturing sector and evolving towards a model of greater strategic collaboration between the private sector and governments, characterized by the relatively large presence of public-private partnerships and programmes to boost research and development (R&D).

Since the 2008-09 financial crisis, there has been an undeniable resurgence of government policies aimed at fostering change in the allocation of resources by economies, as reflected in the number of economies in which such policies have been developed and in the ambition of policy plans. “New industrial policies”, “Industrial 4.0”, “digital transition plans” have been designed in a context of profound industrial reorganization and parallel to the emergence of ground-breaking digital technologies and advanced manufacturing supply chains. For many countries, the principal aim is to modernize their economies, including their traditional manufacturing sectors, in a way that promotes the shift from mechanical and analogic production to digitally enabled production processes and services.

Hence a key and defining feature of “new industrial policies” is their prime focus on innovation, technological development and upgrading in the digital field.

Innovation can be understood as the transformation of an invention into marketable products and services, new business processes and organizational methods, as well as the absorption, adaptation and dissemination of novel technologies and know-how.

Innovation-oriented government policies are therefore public interventions to support the generation and diffusion of innovation.

In practice, technological upgrading and the digitalization of production processes and services are embodied in the economic development plan of many countries, while in others, a specific digital development plan and an innovation plan complements an industrial strategy.

Many developing countries have adopted proactive policy frameworks to promote digital development and technological innovation with a view, for example, to catching up on digital and telecommunications infrastructure, developing the digitalization of production and building capacity for a software/app economy reliant, in the main, on open-source technologies. Policy instruments evolve, certain policy tools and instruments are clearly integral to the digital economy: data policies, R&D support applied to digital technologies, skill and knowledge diffusion; other policy instruments such as investment incentives and intellectual property rights regimes are more “conventional” and need to adapt when applied to the digital sector. “New industrial policies” can also display “defensive” aspects, particularly in non-digital sectors, which are the most mature, and which may be subject to competition and technological transition. A snapshot of the use of government policy tools, based on public sources including the WTO Trade Monitoring Database, complemented by the Centre for Economic Policy Research (CEPR)’s Global Trade Alert database, shows the relatively active use of industrial and trade policy instruments of a “defensive” nature in traditional sectors such as minerals, metals and chemical industries, and to a lesser extent in textiles and clothing, electrical machinery, and transport equipment. This is notably the case for new border measures

including import tariffs, export duties and non-tariff measures, which account for onethird of the policy measures implemented since the 2008-09 financial crisis. The analysis of domestic support measures is less clear, as many of the domestic support measures are horizontal in nature.

Where they are identifiable, sector-specific support measures tend to focus on sectors such as transport equipment, minerals and metals. Investment policies, which are still at the heart of industrial strategies, are characterized by a trend to offer incentives and attract foreign direct investment (FDI), notably in increasingly popular special economic zones (i.e. areas in a country in which the business and trade laws differ from those of the rest of the country). Fiscal and financial incentives, such as tax or tariff exemptions and subsidized services, are the most prevalent investment promotion tools among economies of all development levels. Meanwhile, FDI policies adapt to the characteristics of the digital economy, in which firms no longer need to serve foreign markets by building large manufacturing capacity and hence firms' criteria to invest abroad emphasize skills and the quality of digital infrastructure.

The novelty of government policies in the digital age is perhaps in the requirement for a better articulation of the various policies supporting the establishment of a new digital supply chain. While ambitions to innovate in digital technologies may vary from one economy to another, many countries – including least-developed countries – do have explicit digital strategies to make the most of the digital technologies, with a view to producing software, providing e-services and/or participating in e-commerce. The concept of innovation in some developing countries may differ somewhat from that of the few frontier countries in this field, as in these cases innovation indicates adopting existing technologies rather than inventing new ones. For these countries, their objectives include catching up with more technologically advanced economies and building alternative capacity for software/ domestic “app” economies which can rely on opensource technologies.

2. World trade recovers uneven after COVID pandemic shock

Prospects for a quick recovery in world trade have improved as merchandise trade expanded more rapidly than expected in the second half of last year. According to new estimates from the WTO, the volume of world merchandise trade is expected to increase by 8.0% in 2021 after having fallen 5.3% in 2020, continuing its rebound from the pandemic-induced collapse that bottomed out in the second quarter of last year.

Trade growth should then slow to 4.0% in 2022, and the effects of the pandemic will continue to be felt as this pace of expansion would still leave trade below its pre-pandemic trend (Chart 1).

The relatively positive short-term outlook for global trade is marred by regional disparities, continued weakness in services trade, and lagging vaccination timetables, particularly in poor countries. COVID-19 continues to pose the greatest threat to the outlook for trade, as new waves of infection could easily undermine any hoped-for recovery.

“The strong rebound in global trade since the middle of last year has helped soften the blow of the pandemic for people, businesses, and economies,” WTO Director-General Ngozi Okonjo-Iweala said. “Keeping international markets open will be essential for economies to recover from this crisis and a rapid, global and equitable vaccine roll-out is a prerequisite for the strong and sustained recovery we all need.”

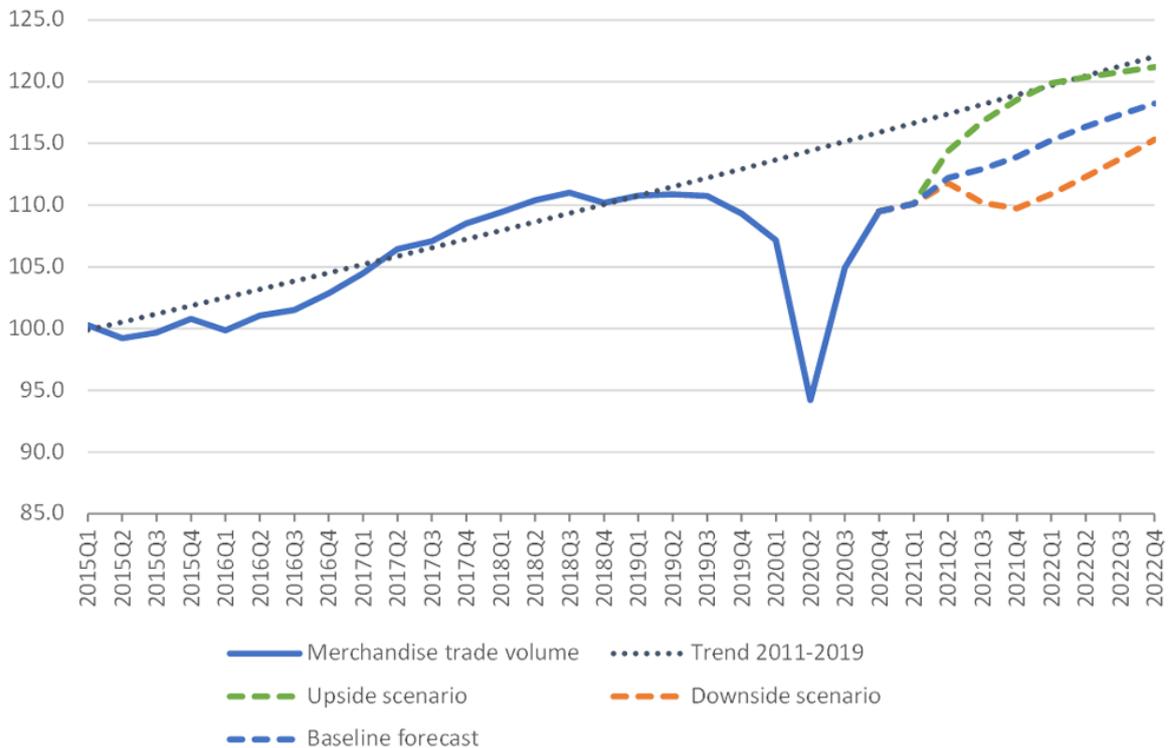
“Ramping up production of vaccines will allow businesses and schools to reopen more quickly and help economies get back on their feet. But as long as large numbers of people and countries are excluded from sufficient vaccine access, it will stifle growth,

and risk reversing the health and economic recovery worldwide,” she said.

The Director-General added that trade through value chains has helped countries access food and essential medical supplies during the crisis.

“Manufacturing vaccines requires inputs from many different countries. One leading COVID-19 vaccine includes 280 components sourced from 19 different countries,” she said. “Trade restrictions make it harder to ramp up production. The WTO has helped keep trade flowing during the crisis. Now, the international community must leverage the power of trade to expand access to life-saving vaccines.”

Chart 1. World merchandise trade volume, 2015Q1-2022Q4
Index, 2015=100



Source: WTO and UNCTAD for trade volume data; WTO for forecasts

Short-term risks to the forecast are firmly on the downside and centred on pandemic-related factors. These include insufficient production and distribution of vaccines, or the emergence of new, vaccine-resistant strains of COVID-19. Over the medium-to-long term, public debt and deficits could also weigh on economic growth and trade, particularly in highly indebted developing countries.

The forecast illustration in Chart 1 shows two alternative scenarios for trade. In the upside scenario, vaccine production and dissemination would accelerate, allowing containment measures to be relaxed sooner. This would be expected to add about 1 percentage point to world GDP growth and about 2.5 percentage points to world merchandise trade volume growth in 2021. Trade would return to its pre-pandemic trend by the fourth quarter of 2021. In the downside scenario, vaccine production does not keep up with demand and/or new variants of the virus emerge against which vaccines are less effective. Such an outcome could shave 1 percentage point off of global GDP growth in 2021 and lower trade growth by nearly 2 percentage points.

For the whole of 2020, merchandise trade was down 5.3%. This drop is smaller than the 9.2% decline foreseen in the WTO's previous forecast in October 2020. The

better than expected performance towards the end of the year can partly be explained by the announcement of new COVID-19 vaccines in November, which contributed to improved business and consumer confidence.

The volume of world merchandise trade plunged 15.0% year-on-year in the second quarter of 2020 (revised up from -17.3 % in October) as countries around the world imposed lockdowns and travel restrictions to limit the spread of COVID-19. Lockdowns were eased in the second half of the year as infection rates came down, allowing goods shipments to surge back to near 2019 levels by the fourth quarter.

Faster trade and output growth in the second half of 2020 was supported by major government policy interventions, including significant fiscal stimulus measures in the United States. These measures boosted household incomes and supported continued spending on all goods, including imports. In addition, many businesses and households adapted to the changing circumstances, finding innovative ways to sustain economic activity in the face of health-related restrictions on mobility. Effective management of the pandemic limited the extent of the economic downturn in China and other Asian economies, allowing them to continue importing. These actions helped prop up global demand and may have prevented an even larger trade decline.

Trade in nominal US dollar terms fell even more sharply than trade in volume terms in 2020. World merchandise export values were down 8% compared to the previous year, while commercial services receipts tumbled 20%. Services trade was especially weighed down by international travel restrictions, which prevented the delivery of services requiring physical presence or face-to-face interaction.

The impact of the pandemic on merchandise trade volumes differed across regions in 2020, with most regions recording large declines in both exports and imports. Asia was the sole exception, with export volumes up 0.3% and import volumes down a modest 1.3%. Regions rich in natural resources saw the largest declines in imports, including Africa (-8.8%), South America (-9.3%) and the Middle East (-11.3%), probably due to reduced export revenues as oil prices fell around 35%. In comparison to other regions, the decline in North American imports was relatively small (-6.1%).

In 2021, demand for traded goods will be driven by North America (11.4%) thanks to large fiscal injections in the United States, which should also stimulate other economies through the trade channel. Europe and South America will both see import growth of around 8%, while other regions will register smaller increases.

Much of global import demand will be met by Asia, exports from which are expected to grow by 8.4% in 2021. European exports will increase nearly as much (8.3%), while shipments from North America will see a smaller rise (7.7%). Strong forecasts for export growth in Africa (8.1%) and the Middle East (12.4%) depend on travel expenditures picking up over the course of the year, which would strengthen demand for oil. Meanwhile, South America will see weaker export growth (3.2%), as will the Commonwealth of Independent States (CIS), including certain former and associate Members (4.4%).

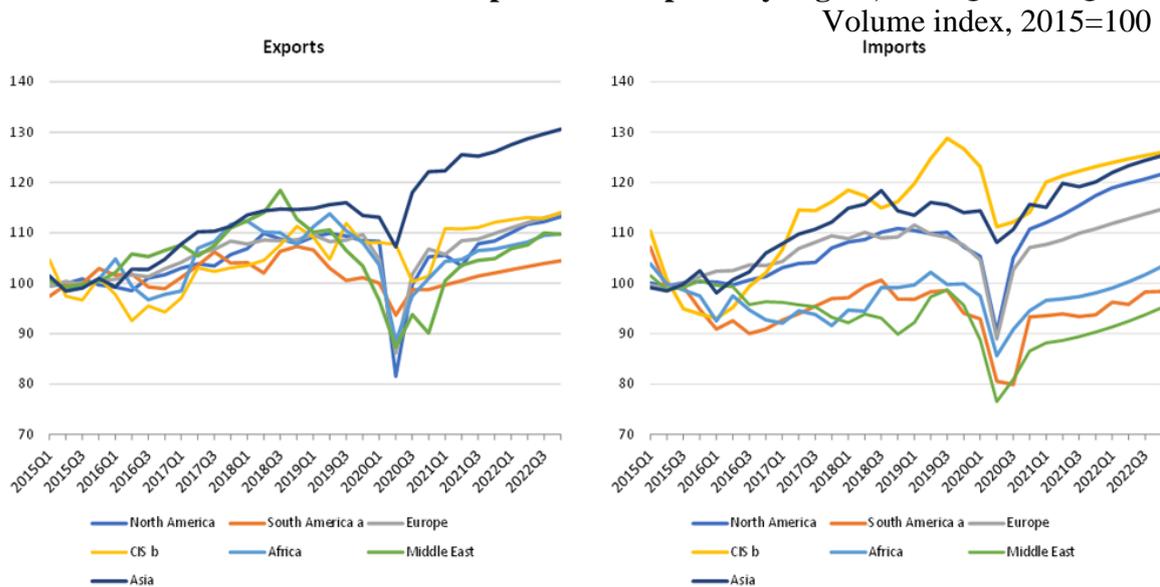
As we can see, the chart 2 shows quarterly merchandise export and import volume indices by region for 2015 to 2020, plus projections for 2021 and 2022. In the second quarter of 2020, North America and Europe saw sharp year-on-year declines in export volumes, down 25.8% and 20.4% respectively. By the fourth quarter these regions had recovered much of their lost ground, with respective year-on-year declines of just 3.0% and 2.4%. Middle Eastern exports also fell precipitously in the second quarter as oil consumption slumped worldwide due to restrictions on international and domestic travel.

Asian exports saw a much smaller decline of 7.2% in the second quarter, but by the fourth quarter they were up 7.7% compared to the previous year. Their rapid recovery can

be explained by the relatively small impact that COVID-19 had on certain Asian economies, and by the fact that the region has been supplying the world with consumer goods and medical supplies during the pandemic, driving up regional export totals.

In the forecast periods we see a divergence between regions with faster and slower trade growth. On the import side, Africa, South America and the Middle East will continue to see their merchandise trade stagnate while other regions will pull ahead. On the export side, most regions will only see modest gains while Asia continues to supply large quantities of goods to global markets.

Chart 2. Merchandise exports and imports by region, 2015Q1-2022Q4



a Refers to South and Central America and the Caribbean.
 b Refers to Commonwealth of Independent States, including certain associate and former member States.

Source: WTO and UNCTAD.

In terms of the quarterly evolution of merchandise trade over the course of 2020 the WTO reports indicates that the value of world trade in manufactured goods was 6% higher in the fourth quarter of 2020 than in the same period of the previous year. This resurgence may be attributable to the resumption of factory operations in alignment with safety measures required to protect workers from COVID-19. Trade in agricultural products was up by a similar amount over the same period. In contrast, the value of Fuels and mining products trade was still down 19% in the fourth quarter. The value of merchandise trade overall was up slightly compared to the previous year (2%), but this increase might be exaggerated due to the fact that world trade was already slowing in the fourth quarter of 2019, before the pandemic.

Most categories of manufactured goods saw significant gains in the second half of 2020. World trade in Iron and steel was down 17% in the third quarter, but this decline was reduced to 2% by the fourth quarter. Iron and steel trade is indicative of broader economic conditions as these products are heavily used in both automobile manufacturing and building construction, both of which were hit hard by the pandemic.

Strong growth in textiles trade in both the third and fourth quarter probably reflects high demand for medical face coverings, which is included in this category. Electronic goods including computers also saw steady growth of 12% in the second half of 2020,

reflecting strong demand as households and businesses upgraded equipment to facilitate working remotely.

Year-on-year changes in world commercial services trade by major category, for the whole of 2020, shows that Travel and Transport services were down 63% and 19%, respectively. Meanwhile, the category Other commercial services (including financial services and computer services) held up well, falling only 2%. Finally, Goods-related services fell 13%. Transport and Travel services were directly impacted by containment measures designed to limit the spread of COVID-19, many of which remain in place or have been tightened in response to the resurgence of the disease.

The number of daily international flights fell around 80% in the first quarter of 2020 as countries closed their borders to reduce the spread of COVID-19. This number gradually picked up as cases declined and people resumed limited travel. The end of 2020 saw an uptick in flights as people travelled to meet friends and family for seasonal holidays, but a resurgence of the virus has reduced flights again in 2021. International flights are closely related to travel services, but also to transport services and goods trade, as passenger aircraft frequently carry air freight shipments.

In contrast to international flights, seaborne transport has been steadier during the pandemic. The number of port calls dipped in February and April of last year as well as in January of this year, reflecting peak periods of infection. The recent dip is worrying since countries have become increasingly reliant on international trade to obtain vital necessities such as food and medicine.

Daily prices of copper futures contracts declined sharply in March 2020 as news of the pandemic spread, but have risen since then, reflecting improving economic prospects. Copper feeds into the manufacture of electronics, demand for which has been strong as people and businesses have invested in technology to allow remote work. An uptick in November of last year probably reflected expectations of stronger economic growth after the announcement of new vaccines against COVID-19. The recent rise in 2021 may reflect expectations that stimulus measures in the US and elsewhere will boost economic growth.

3. The future of the global trade

The world trade has been impacted of the story of the container ship that blocked the Suez Canal for nearly a week. As a consequence, hundreds of ships were backed up in a traffic jam. Others went around the Cape of Good Hope adding considerable number of days and costs to their journey. Estimates said nearly \$10 billion dollars of trade was being affected each day. The fact that the Ever Given was able to cause so much disruption is a sign that global merchandise trade is relatively robust — and that global supply chains have held up through the pandemic.

The word ‘relatively’ is important: the volume of world merchandise trade still contracted by 5.3% in 2020. But this contraction was smaller than initially feared.

Following a sharp decline in the first half of the year, trade recovered more quickly than expected in the second half of 2020. This rebound has continued, and the WTO’s baseline trade forecast foresees an 8% increase in the volume of world merchandise trade for 2021.

Trade growth is expected to slow to 4% in 2022. It's important to note that this would still leave trade below its pre-pandemic trend.

COVID-19 continues to pose the greatest threat to the outlook for trade. New waves of infection could easily further undermine any hoped-for recovery.

The rapid development of effective vaccines has given the world a realistic chance of stopping this disease in its tracks and jump-starting the world economy at the same

time, but this opportunity could be squandered if large numbers of countries and people do not have equal access to vaccines. A rapid, global and equitable vaccine roll-out is the best stimulus plan we have for the strong and sustained economic recovery that we all need.

Ramping up the production and deployment of vaccines in all countries will allow businesses and schools to reopen more quickly and help economies get back on their feet.

Depending on how quickly we can bring the pandemic to an end, trade could either see a major resurgence over the next two years, or it could experience a weaker, more prolonged recovery.

Accelerated vaccinations would allow containment measures to be relaxed sooner, which could raise trade growth up to 2.5 percentage points above the baseline forecast in 2021 — returning trade to the pre-pandemic trend.

On the other hand, if supply shortages continue, or if vaccine-resistant strains of the virus emerge, trade growth could end up 2 percentage points below the baseline forecast.

Overall, the balance of risks to the forecast is considered to be on the downside, but upside potential exists if countries make wise policy choices.

Large monetary and fiscal injections in advanced economies helped prevent a bigger downturn last year — a major factor in why growth and trade have both outperformed projections from last year. But these support measures will not be enough to bring an end to the crisis. Only by ramping up production of vaccines and making them more widely available can we hope to get the world economy back to full speed.

The possibility that many countries will be left behind as we emerge from the crisis is a major concern. Despite the broad-based nature of the global economic recovery to date, there are signs of divergence in trade flows across regions.

If the current WTO forecast is realized, exports from Asia at the end of 2021 would be 10% higher than they were in 2019, while most other regions would see smaller increases or modest declines.

For example, exports of Europe and North America's would be steady, while shipments from Africa and the Middle East would be down 4% and 3%, respectively.

The import side would see declines in South America (-3%), Africa (-2%) and the Middle East (-6%), while Asia (+5%) and North America (+7%) would increase, reflecting the relative strength of their economic recoveries.

In this context, a rise in protectionism would be damaging not just to global economic growth but to vaccine production as well. Manufacturing vaccines requires inputs from many countries. One leading COVID-19 vaccine manufacturer says that their vaccine needs 280 components sourced from 19 different countries. You can see how complicated the supply chain still is. Trade restrictions would make it even harder to ramp up production, leading to more unequal economic and health outcomes.

The WTO has helped to keep trade flowing during the crisis. Now, the international community must leverage the power of trade to expand access to life-saving vaccines.

4. Conclusions

The COVID-19 pandemic is a public health crisis, but it has also acted as a catalyst for economic, social and behavioural changes. The measures to contain the spread of COVID-19 are likely to accelerate the shift to digital platforms and technologies significantly. The enforcement of social distancing, lockdowns and other measures in response to the COVID-19

pandemic has led consumers to ramp up online shopping and use of social media and of other means of digital communication. Online e-commerce platforms have registered significant growth since the start of the pandemic. Amazon, a US-based e-commerce

company, announced revenues of US\$ 75 billion in the first three months of the year, averaging US\$ 33 million an hour. MercadoLibre, Latin America's leading e-commerce technology company, reported a 70.5 per cent year-over-year increase in net revenue in the first quarter of 2020. The Chinese e-commerce giant Alibaba reported that its sales grew by 22 per cent in the first three months of 2020, despite virus-related restrictions denting activity.

Much of the digital innovation is taking place in developing countries. In Senegal, the Ministry of Trade is partnering with the private sector to facilitate delivery of essential goods and services through e-commerce. In Uganda, the Ministry of Information and Communications Technology and National Guidance has called to develop digital solutions in the fight against COVID-19 to support health systems and public service delivery.

Digital payments help people to avoid potential COVID-19 infection while keeping economies running, and they also help to put stimulus funds into consumers' hands more rapidly. For example, local governments in China have distributed vouchers through WeChat Pay to encourage immediate spending. The digital option also applies to the transfer of remittances, since restrictions to mobility during the COVID-19-related lockdowns limited the possibility of sending cash remittances. In addition, central banks have temporarily permitted companies and banks to lower or scrap transaction costs and fees on digital payments and mobile money transfers in order to encourage the use of mobile money in preference to cash (WTO, 2020).

Spurred by social distancing and stay-at-home requirements, digital services that can be delivered electronically have flourished. An average of 40 per cent of workers in the European Union and the United States have worked from home due to the pandemic, although the rate of telework has been lower in developing economies. In particular, levels of remote work have significantly increased in sectors such as IT services, professional and business services, and financial activities. To make teleworking possible, firms invested in digital transformations, especially in the services sector. Workers have learned to use collaborative software

Spurring innovation in the digital field, whether “new in the world” or “new in the country”, is at the core of many new industrial policies adopted in countries at all levels of development in recent years.

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