This brief discusses how the COVID-19 crisis is accelerating an expansion of e-commerce towards new firms, customers and types of products, likely involving a long-term shift of e-commerce transactions from luxury goods and services to everyday necessities. It also highlights how policy makers can leverage the potential of digital transformation in retail and related areas to support business adaptation and to enhance social distancing, while ensuring that no one is left behind.
Key Messages

- The COVID-19 crisis accelerated an expansion of e-commerce towards new firms, customers and types of products. It has provided customers with access to a significant variety of products from the convenience and safety of their homes, and has enabled firms to continue operation in spite of contact restrictions and other confinement measures.

- Despite persistent cross-country differences, the COVID-19 crisis has enhanced dynamism in the e-commerce landscape across countries and has expanded the scope of e-commerce, including through new firms, consumer segments (e.g. elderly) and products (e.g. groceries). Meanwhile, e-commerce transactions in many countries have partly shifted from luxury goods and services towards everyday necessities, relevant to a large number of individuals.

- Some of these changes in the e-commerce landscape will likely be of a long-term nature, in light of the possibility of new waves of the epidemic, the convenience of the new purchasing habits, learning costs and the incentive for firms to capitalise on investments in new sales channels.

- Despite the efforts of some governments to foster e-commerce during the COVID-19 crisis, persistent digital divides imply that not everyone has been able to participate. Moreover, regulations that are not adapted to e-commerce can create barriers to firms, such as in the case of emerging omni-channel sales models or new modes of delivery. While many of these challenges existed before COVID-19, the current crisis and the new role of e-commerce for individuals and firms has heightened the need for policy action.

  - For consumers, systemic challenges related to connectivity, financial inclusion, skills and trust (e.g. digital security, privacy and consumer protection) have been brought into sharp relief. To address this issue, governments could expand affordable and quality broadband to rural and underserved areas, enhance financial inclusion, and foster trust and the acquisition of skills to participate in e-commerce.

  - For firms, policy makers should reduce regulatory uncertainty to support the creation of innovative business models, e.g. in the context of an increasingly complementary relationship between offline and online sales strategies.

  - Governments also need to address the particular need of SMEs, including by ensuring a fair playing field in the context of intermediated services (e.g. online platforms). Ensuring sufficient competition in the retail sector and a well-functioning enabling environment for e-commerce, including communication services, logistics or trade, is also crucial.

The COVID-19 crisis is likely to have long-lasting effects on e-commerce

There has been a shift in demand from brick-and-mortar retail to e-commerce

The COVID-19 crisis has led people in many OECD countries to significantly limit physical interactions. Self-imposed social distancing to avoid contagion, together with the strict confinement measures implemented in many OECD countries, have put a large share of traditional brick-and-mortar retail virtually on hold, at least temporarily (OECD, 2020[1]). In the United States, retail and food services sales between February and April 2020 were down 7.7% compared to the same period in 2019. However, sales increased
for grocery stores and non-store retailers (mostly e-commerce providers),\(^1\) by 16% and 14.8% respectively. In the EU-27,\(^2\) retail sales via mail order houses or the Internet in April 2020 increased by 30% compared to April 2019, while total retail sales diminished by 17.9% (Figure 1). The resulting shifts from brick-and-mortar retail to e-commerce are likely significant across countries. For example, while in the United States the share of e-commerce in total retail had only slowly increased between the first quarter of 2018 and the first quarter of 2020 (from 9.6% to 11.8%), it spiked to 16.1% between the first and second quarter of 2020. The development is similar for the United Kingdom, where the share of e-commerce in retail rose from 17.3% to 20.3% between the first quarter of 2018 and the first quarter of 2020, to then rise significantly to 31.3% between the first and second quarter of 2020. Similar changes are also observed for other regions, including the People’s Republic of China (hereafter China), where the share of online retail in total accumulated retail sales between January and August 2020 reached 24.6%, up from 19.4% in August 2019 and 17.3% in August 2018.

**Figure 1. The COVID-19 crisis has increased the share of e-commerce in total retail**

![Figure 1.a. Share of e-commerce in total retail sales, United Kingdom and United States (2018-2020)](image1a)

![Figure 1.b. Retail turnover, year-on-year change, EU-27 (July 2019-20)](image1b)

Note: For the United States, data provides estimates for e-commerce as a percent of total retail sales, based on data from the Monthly Retail Trade Survey and administrative records. Data for the second quarter 2020 are preliminary estimates. For the United Kingdom, data provides Internet sales as a percentage of total retail sales. Quarterly data are simple averages over monthly estimates. For the 27 members of the European Union (EU-27), data indicates the percentage change of retail sales compared to the same period in the previous year. Total retail sales exclude motor vehicles and motorcycles. Retail sales via mail order houses or via Internet includes retail sale activities where the buyer makes his or her choice on the basis of advertisements, catalogues, information provided on a website, models or any other means of advertising and places his or her order by mail, phone or over the Internet. Only the latter can be considered e-commerce according to the OECD definition. See (OECD, 2019) for a discussion on e-commerce definitions.

Source: OECD’s elaboration based on data from the US Census Bureau, the Office for National Statistics in the United Kingdom and Eurostat.

While official statistics are not available for most other countries, estimates suggest that online orders were up across several regions during the first half of 2020, including Europe, North America and Asia-Pacific (OECD, 2020[2]). For Asian-Pacific countries, e-commerce had already increased significantly during the

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1 Sales through electronic shopping and mail-order houses account for around 90% of the total turnover from non-store retailers. Other sales channels include catalogues, door-to-door solicitation or vending machines.

2 27 member countries of the European Union.
first quarter of 2020, while the increase occurred later in Europe and North America, namely after several OECD countries followed Italy’s example and introduced confinement measures within a short period of time of each other. The fact that Google searches for delivery options almost doubled in some countries before actual confinement measures were brought in place (e.g. Germany, United Kingdom) thereby illustrates the close relationship between consumer expectations, government action and behavioural change (Figure 2).

**Figure 2. Google search interest in “delivery”, selected OECD countries (February to April 2020)**

![Figure 2](image-url)

Note: Axis represents search interest (all categories) for the term “delivery” (or equivalent in each country) for a given date and country, relative to the highest search interest for the term “delivery” (value of 100) observed in the considered period and country. Rolling three-day averages. For example, the highest number of searches for “delivery” in the UK occurred on 24 March 2020 (100). The three day average for that day (23-25 March 2020) is 91 (depicted). The number of searches at this point in time was around 9 times higher than it was around 31 January 2020. The confinement date is the day at which stay at home requirements were introduced that required “not leaving house with exceptions for daily exercise, grocery shopping, and essential trips. In Italy requirements became even stricter the 20th of March.


**Not all online sellers and product categories benefitted from the rise in e-commerce**

The effect of the COVID-19 crisis on e-commerce is not uniform across product categories or sellers. In the Unites States, for example, a surge in demand was observed for items related to personal protection (e.g. disposable gloves), home activities, groceries or ICT equipment, while demand dropped for items related to travel, sports or formal clothing (e.g. suitcases, bridal clothing, gym bags, etc.) (OECD, 2020[2]). Shifts towards e-commerce have been observed in several countries, in particular along the food supply chain, including farmers who started using digital technologies to sell their produce directly to consumers or restaurants that switched to providing food or grocery delivery services (OECD, 2020[3]). In Germany, there has also been a significant increase in demand for many digital services (e.g. music and video-streaming) in response to confinement measures. Other online services, in particular in travel services or home rentals, have seen large declines. A discussion of these trends would go beyond the scope of this policy brief.
online sales grew significantly for medicines and groceries, historically laggard sectors in terms of e-commerce, while overall online sales contracted by around 18 percent in March 2020 in comparison to the previous year (OECD, 2019b). In Korea, where official statistics are available, the e-commerce transaction value rose by 15.8% between July 2019 and July 2020. Significant increases were observed for food services (66.3%), household goods (48%) and food and beverages (46.7%), whereas online transactions involving culture and leisure services or travel arrangement and transportation services declined significantly, by 67.8% and 51.6% respectively. In China, food products were the single biggest winner in e-commerce, with an increase in accumulated sales from January to April 2020 of 36%, relative to the previous year. In contrast, total online sales over January to April 2020 remained almost constant compared to the same period in 2019 (+1.7%), after having grown significantly over 2018-19 (17.8%). Accumulated sales of clothing products contracted by 16% compared to 2019, after significant growth from 2018-19 (23.7%).

While dynamics likely vary across countries, these data suggest that despite the shift to e-commerce, a significant share of e-commerce sellers are facing the same economic repercussions as traditional brick-and-mortar retailers, following reduced spending by individuals on items considered non-essential. A sample of 200,000 third-party Amazon vendors in the United States suggests that by April 2020 around 36% of merchants were inactive, an increase from around 28% in February. Particular affected were sellers with less than 1,500 product listings (ASINs), while sellers with over 3,000 listings saw positive upswings. This highlights how the COVID-19 crisis might have involved a shift in demand from small and specialised sellers to larger and diversified sellers. The COVID-19 crisis also highlights the complementarity between online and offline sales channels. Thus, while Amazon’s own sales in the first quarter of 2020 were 26% higher than in the previous year, its share in total e-commerce in the United States fell from 42.1% in January 2020 to 38.5% in June 2020. In particular, Amazon lost market share to Walmart (from 4.2% to 5%) and Target (from 2.2% to 3.5%). It can be inferred that these and similar companies benefitted from large networks of bricks-and-mortar stores, facilitating fast delivery and pick-up by the consumer (kerbside fulfilment).

**Certain shifts brought by COVID-19 likely involve long-term changes in e-commerce**

While some demand shifts may be temporary, others are likely to have long-lasting effects. Anecdotal evidence from the outbreak of SARS in 2002 and 2003 suggests that the epidemic has been a core catalyst for the digital transformation of Chinese retail. For example, the move of JD.com, now one of the largest online retailers in the world, from brick-and-mortar to online sales in 2004 was a direct response to the SARS crisis. The same crises also provided the consumer base for Alibaba’s business-to-consumer (B2C) branch Taobao, which was launched in 2003.

In the current crisis, for example, elderly consumers who started to engage with e-commerce as a means to enhance physical distancing might in part stick to their newly acquired routines. The credit card usage of around 10 million credit card holders in Japan suggests that the increase in the share of online purchases in credit card transactions was highest for users in their 60s (from 15.4% in January to 21.9% in March 2020) and those in their 70s (from 10.9% to 16.4%). A global consumer survey measuring the adoption of digital and low-touch activities during the COVID-19 crisis by McKinsey further suggests that new users (i.e. users that had never engaged in these activities before) drove over 50% of the increase in online grocery shopping (Brazil and South Africa), kerbside pickup from restaurants (France, Germany, Italy, South Africa, United Kingdom and United States) or other stores (Italy, South Africa, United Kingdom, United States). In the United States, 21% of adults report having ordered groceries online or through an app from a local store as a direct response to COVID-19. The percentage remains almost as high (19%) if one assumes that zero feedback within 30 days indicates a lack of sales activity. Estimates therefore represent an upper bound.

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4 Monthly inactivity estimates are based on merchants’ 30-day feedback scores, assuming that zero feedback within 30 days indicates a lack of sales activity. Estimates therefore represent an upper bound.
among only the elderly (age 65+). In Brazil, around 54% of Internet users had bought food or food products over the Internet in 2020, substantially up from only 22% in 2018. Significant increases were also observed for cosmetics, toiletries and medicines. As convenience has always been one of the key drivers of e-commerce participation, it is likely that many of the new users will keep ordering at least some goods online in the future (OECD, 2019[4]). Others might continue ordering online out of fear of a pandemic blowback or because merchants manage to retain them through loyalty programmes or subscription models introduced.

On the supply side, many operators of brick-and-mortar stores, who often were forced to completely shut down their physical business, are now considering e-commerce a potentially crucial complimentary or alternative sales channel. Because the move to online sales requires an investment, many of the firms that have enhanced their participation in e-commerce during the COVID-19 crisis have an incentive to capitalise on their acquired infrastructure or skills over the long run. This is particularly the case for larger merchants that have invested in their own sales and distribution infrastructure. For example, by April 12, 2020, Amazon’s grocery branch Whole Foods Markets had increased the online order capacity by over 60% to meet the surge in demand, expanding the pickup services from about 80 stores to more than 150, with further extensions over time being likely. Even smaller merchants, many of whom have foregone larger investment by relying on the infrastructure and services provided by online platforms (e.g. fulfilment, logistics, customer service), might decide to turn their established online identity and experience into a long-term asset (OECD, 2019[4]). A similar argument holds for a number of other players, many of which are only now establishing the foundation of an online sales infrastructure, as a response to loosening of confinement measures. This includes cafes, restaurants, museums or public swimming pools, which were required in some countries to introduce an online booking system to control the number of persons on their premises at a given point in time.

Policy makers need to ensure that e-commerce delivers for everyone – now more than ever

As detailed above, the COVID-19 crisis accelerated an expansion of e-commerce towards new firms, customers and types of products.

For individuals, e-commerce enables physical distancing while retaining access to the full product variety. While e-commerce in the past for many consumer groups was centred on high tech goods, toys or books, it now increasingly involves goods for which availability is critical to a large share of the population, including groceries, medicine and other necessities. E-commerce has further enabled continued access, either online or physical, to certain areas of public life, such as concerts, museums or swimming pools, including by efficiently allocating time stamped tickets to avoid overcrowding. Similarly, for many firms e-commerce is now a vital alternative or complementary sales strategy, allowing continued operation in spite of contact restrictions and other confinement measures.

It has therefore become increasingly important to close remaining digital divides. For consumers, these can be linked to factors like access, income, awareness or skills. For example, the elderly, a segment of the population that would particularly benefit from e-commerce-enabled physical distancing, have persistently been lagging behind in terms of e-commerce participation in many countries (OECD, 2019[4]). Significant and persistent gaps also remain for low-income households or individuals with low education, which is concerning given the decreasing costs of connectivity, the ubiquity of digital technologies and the increasing scope of products available online. Besides closing these divides, governments also need to ensure that consumers, and in particular the most vulnerable, are sufficiently protected from unfair, misleading and fraudulent commercial online practices, which have been increasing in the current crisis (OECD, 2020[5]).
Persistent gaps in terms of e-commerce participation also remain for firms, and in particular small and medium enterprises (SMEs). In 2017, the participation rate for SMEs in e-commerce was less than half the rate for large firms in a majority of OECD countries (OECD, 2019[4]). This explains and adds to a low level of resilience and flexibility among SMEs in dealing with the costs of reduced demand and local containment measures (OECD, 2020[5]). Low levels of digitalisation and difficulties in accessing and adopting new technologies make it particularly difficult for those firms to change existing work processes, by introducing teleworking or an e-commerce sales channel.

The COVID-19 crisis has exacerbated many of these divides. Additionally, regulatory uncertainties about which rules to follow (e.g. offline or online) suddenly can affect a larger number of firms trying to flexibly combine and shift between offline, online and omni-channel sales channels. While many of these challenges have existed before the COVID-19 crisis (OECD, 2019[4]), the current situation has heightened the need for policy action. Some countries have already taken initiatives, in particular to support the digitalisation of business models, during the COVID-19 crisis, but challenges remain pressing in many countries.

**Closing digital divides among individuals and fostering participation of the vulnerable**

Factors that limit e-commerce participation for certain groups of individuals are often related to economic and social conditions that reach far beyond e-commerce, including rural-urban divides, income distribution, unequal access to education and an aging society. These conditions may manifest themselves in low connectivity, a lack of digital skills, low levels of trust (including security and privacy concerns) or a lack of access to online payment mechanisms, all factors that can be addressed by policy action (OECD, 2019[4]). Relevant measures in this regard include targeted information campaigns, trust building initiatives, adult training, or public-private partnerships that target the participation of low-income households and those in rural areas.

During the COVID-19 crisis, governments and businesses in several countries (e.g. Japan, the United Kingdom and the United States) announced measures to reduce the financial burden associated with Internet access for particular consumer groups, including poor or young individuals (OECD, 2020[5]). Developing and emerging countries also provide examples for innovative approaches to tackle lingering digital divides, including through mobile money (e.g. M-Pesa in Kenya), cash on delivery, deliveries through mom-and-pop stores in remote areas, or the use of landline phones and social media to co-ordinate online orders for those with limited digital skills or access to digital tools. In OECD countries, related strategies could be considered to introduce community-based delivery programmes for particularly vulnerable consumers (e.g. those in public care homes) and consumers that lack the required skills to participate in e-commerce.

Targeted actions may be needed particularly for vulnerable groups in the context of grocery shopping, a required activity with high contact probability. Experience from the first wave of the COVID-19 crisis has shown that difficulties to obtain a delivery slot or wait times of several weeks deterred many elderly with access to digital technologies from using these tools for grocery shopping. Some grocery merchants have reacted by reserving online grocery delivery slots for elderly and vulnerable shoppers or asking non-vulnerable shoppers to shop in-store in order to ease capacities for the vulnerable (e.g. Waitrose, Tesco, WholeFoods). Governments can actively support this process. Ireland’s Citizens Information Board provides information on safer shopping during COVID-19 and explicitly recommends non-vulnerable people to shop in-store or pick-up online orders at the retailer to avoid occupying delivery slots that could be used by vulnerable people. Many countries have also conditioned the opening of stores on reserving dedicated shopping hours to vulnerable groups, a practice that could be extended to home delivery. In some cases it might also be necessary to regulate how grocery stores can identify vulnerable shoppers in the context of online shopping, with current approaches often being ad-hoc and heterogeneous, e.g. based on loyalty schemes and customer accounts.
Additionally, even mainstream consumers often become financially and psychologically more vulnerable during the crisis. Governments therefore might need to foster trust, engage in a dialogue with online businesses about fair business conduct, educate consumers about possible scams, and avoid rolling back consumer protection and product safety measures (OECD, 2020[3]). Governments should also ensure sufficient competition in the retail sector, given that the COVID-19 crisis may lead to the exit of many small and local brick-and-mortar retailers, enhancing market consolidation (OECD, 2020[1]) to the benefit of larger retailers with online sales channels.

**Fostering innovative e-commerce business models and digital transformation in SMEs**

As digital transformation progresses, new business models arise in ways that are difficult to predict and that challenge traditional policy frameworks (OECD, 2019[4]). In particular, regulatory frameworks may preserve artificial distinctions between online and offline commerce, even as firms increasingly pursue business models that combine both elements. Planning and zoning rules can further hinder a swift repurposing of existing brick-and-mortar facilities (e.g. converting store fronts in warehouses or logistics hubs in urban centres). They can also prevent or slow down the use of innovative, contact-free delivery methods, such as drones or robots. This is particularly relevant in times of the COVID-19 crisis, when firms have to adapt to limitations on physical interactions or supply chain disruptions, accommodating new business functions and logistics solutions, to ensure their economic survival.

Regulatory approaches to new e-commerce business models, to the extent possible, should therefore allow for experimentation, and be transparent and flexible. Regulatory flexibility in response to the COVID-19 crisis is observable in a number of countries, including the easing of caps on contact-less payments or temporary exceptions to planning and zoning rules, e.g. allowing restaurants to increase their terrace space and creating additional biking lanes (e.g. in Paris). Governments should consider similar flexibility in the context of e-commerce, relying for example on properly monitored and evaluated experimental regulatory waivers (e.g. regulatory sandboxes), which have been successfully used to test new technologies like drones and digital payment mechanisms. Governments could also reduce uncertainty for firms, e.g. with regard to the rules for an omni-channel business models, by providing clear information about the existing rules and their implications for particular business models. For example, the Japanese Ministry of Economy, Trade and Industry provides Interpretative Guidelines on Electronic Commerce and Information Property Trading since 2002, a good practice that could help to provide specific and simplified advice to firms transforming their business models in response to the COVID-19 crisis.

Several governments have also taken targeted steps to support brick-and-mortar shops in their digital transformation and in fighting the economic repercussions of the COVID-19 crisis (OECD, 2020[1]). For example, Japan designed a business continuity subsidy, helping firms to diversify and expand their sales channels. Korea also encouraged brick-and-mortar shops to open their business online through a dedicated support programme. In this context, some governments have explicitly acknowledged the role of online platforms, which can play an important role in easing the move from offline to online sales by providing a range of services, including logistics, fulfilment or customer service (OECD, 2019[4]). For example, China and Singapore actively supported MSMEs in accessing e-commerce platforms with regional or global reach, to help them reduce costs or sell overseas through digital means.

Some online platforms have also directly supported SMEs in the transition to e-commerce as a response to the COVID-19 crisis. For example, eBay.uk temporarily dropped registration fees for small sellers (up to 250 items), set up free listings promotions for established sellers and protected sellers from downgrades in their seller ratings due to late delivery or cancellation. In Brazil, large online retailers or platforms opened up their sales platforms to SMEs, including by providing access to their logistics infrastructure, or have
supported SMEs financially. Recent regulatory approaches to promote fairness and transparency for business users of online intermediation services are particularly relevant in this regard. Related platform-to-business regulation has, for example, been recently enacted in Japan and is being applied in the EU since July 2020.

**Fostering the enabling environment for e-commerce**

To ensure an efficient e-commerce landscape that delivers for everyone, policy makers should further foster the enabling environment for online transactions in areas such as digital connectivity, (international) logistics and trade, including in digital goods and services. For example, an area with immediate bearing for e-commerce are postal services. While logistics and postal services have been slowed in many countries, due to new COVID-19 related safety guidelines and government recommendations, the fact that they were considered critical sectors by many governments helped to retain their functioning as key enablers of e-commerce on the supply side. Additionally, service providers have reacted by fostering contact-less delivery options in several countries, including via parcel lockers or by replacing signatures with alternative proofs of delivery. Governments can actively support such solutions. For example, Italy is considering different measures to encourage the use of automated parcel lockers, including increasing the coverage of parcel locker networks or promoting a more efficient use of lockers, such as through increased interoperability or sharing between different providers.

**Key Recommendations**

- Close existing digital divides among individuals, for example by expanding affordable and quality broadband to rural and underserved areas, enhancing financial inclusion, and fostering trust and the acquisition of skills to participate in e-commerce.
- Foster e-commerce participation by the most vulnerable, for example by introducing community based delivery programmes for elderly and reserved delivery slots. Ensure that vulnerable consumers are protected from unfair business practices and unsafe products.
- Support the creation of innovative e-commerce business models, ensuring that regulatory frameworks remain flexible enough to accommodate combinations of online and offline business functions. Reduce regulatory uncertainty and promote transparency through information sharing.
- Ensure that SMEs can participate in e-commerce, for example by providing policy, regulatory or financial incentives for sales diversification and establishing a level playing field for SMEs relying on the services of online platforms.
- Reduce bottlenecks in the enabling environment for e-commerce, including areas such as connectivity, trade, logistics and postal services.

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5 There are also examples illustrating how governments can cooperate with online platforms to harness e-commerce technologies for a more efficient response to the COVID-19 crisis. For example, in the United Kingdom, eBay has been working with several government agencies to build and test a new portal, of exclusive access to healthcare professionals, which aims to supply personal protective equipment to NHS primary and social care workers. In South Africa, Uber has partnered with the Western Cape Department of Health and The Bill and Melinda Gates Foundation to deliver medications to those most vulnerable to COVID-19. Additionally, platforms like Amazon are offering free access to remote education, working and research tools to the public sector.

6 The new EU regulation ensures that terms and conditions of online platforms are drafted in plain and intelligible language, cannot be changed without an advance notice of at least 15 days, and exhaustively spell out any reasons that could lead to the delisting of business users among many others.

7 According to the WTO, global trade may shrink between 13 and 32%, raising additional concerns for e-commerce and the functioning of global supply chains.
References


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