

Chapter 2: Digitalisation and Trade in the Commonwealth

The Commonwealth's digital trade in the decade before the COVID-19 pandemic was strong and growing. However, in almost all categories – digital goods, services and e-commerce – trade flows within and outside the Commonwealth are concentrated in a few countries, mostly developed and Asian members, underscoring the need to bridge the digital divide between members. The rapid acceleration in adopting information and communication technologies (ICTs) during the pandemic and the prospect of greater digitalisation in the future could exacerbate this divide.


This chapter maps the Commonwealth's overall digital trade and assesses the effects of the COVID-19 pandemic on these flows. Some of the key takeaways are:

- The Commonwealth's ICT goods trade flows expanded by US\$25 billion in the decade before COVID-19, reaching \$547.7 billion in 2019, of which \$70.7 billion is intra-Commonwealth trade.
- There is a higher share of intra-Commonwealth trade in ICT services than there is in goods, and the Commonwealth advantage is likely to encourage these services. Overall, more than one-fifth of ICT services exported by Commonwealth countries went to fellow member countries in 2019.
- More than half of the Commonwealth's total services trade is now delivered by digital means and these flows were worth US\$1.2 trillion in 2019. This creates new trading opportunities for small states, least developed countries and countries in sub-Saharan Africa.
- Access to digital technologies and readiness to engage in digital trade are skewed between and within Commonwealth countries. Twelve Commonwealth countries recorded values above the world average on the E-Commerce Index, including all six developed members (four of which rank in the top twenty globally) and some developing members (Singapore, Malaysia, Mauritius, India, South Africa and Jamaica).
- The overall share of Commonwealth citizens using the internet has almost doubled in the past decade, to nearly half the combined population in 2019, while there has been a three-fold increase for African members to 32 per cent.
- To take advantage of a more digital future and the pursuit of the Sustainable Development Goals, Commonwealth countries must urgently ensure greater access, affordability and usage of the internet, especially for women and youth.

Digital technologies have helped mitigate some of the economic and social consequences of the pandemic and will be a key driver of recovery.

DIGITAL GOODS

\$70.7 BILLION
in intra-Commonwealth ICT goods trade flows in 2019



\$4.6 BILLION
in intra-Commonwealth trade in digitisable products in 2019

DIGITAL SERVICES

\$194 BILLION
in intra-Commonwealth ICT services trade flows in 2019



54%
More than half of the Commonwealth's services trade flows are digitally delivered

e-COMMERCE

Share of e-commerce sales in GDP



Country	Share of e-commerce sales in GDP
Canada	2.6%
Australia	5.5%
Malaysia	6%
United Kingdom	9.3%

2.1 Introduction

The COVID-19 pandemic has accelerated existing trends related to the digitalisation of economies, societies and work (Sneader and Singhal, 2021). With economic lockdowns, travel restrictions and social distancing measures, governments, businesses, workers, students and consumers across the world have increasingly migrated online to deliver or obtain goods and services, provide or receive education and training, stream entertainment, connect socially and do their jobs. During the initial year of the pandemic, the number of people worldwide using the internet increased by 7.3 per cent (316 million), although this figure could possibly be higher, given COVID-19-related reporting constraints.¹ Globally, internet access stands at 51.8 per cent (Kemp, 2021). Although the share of people in the Commonwealth using the internet almost doubled in the decade to 2019, to over 48 per cent, most citizens remain offline and risk being left behind by an increasingly digital future. With these challenges in mind, this chapter maps the Commonwealth's broad digital trade before the pandemic and assesses the implications of COVID-19.

Across the Commonwealth and the world, mobile phone connectivity, internet expansion and information and communication technologies (ICTs) have helped mitigate some of the economic and social consequences of the pandemic (discussed in Chapter 1). For example, digitally enabled firms, including micro, small and medium enterprises (MSMEs), and farmers have adapted or switched to e-commerce platforms, digital payments, smart contracts and blockchains to continue trading; remote work is increasingly feasible, especially through videoconferencing

and cloud computing; e-health and telemedicine services and e-learning platforms have substituted for in-person interactions; and digitised trade facilitation has minimised physical contact between traders and customs officials.

While these developments are promising, the reality noted earlier is that many Commonwealth developing countries still lag in their ICT adoption, even though technological leapfrogging, like mobile telephony, has helped improve connectivity. Many small states, least developed countries (LDCs) and countries in sub-Saharan Africa (SSA) were ill-prepared for the abrupt shift online in various sectors during the pandemic. The sudden and increased dependence on ICTs since the outbreak of the pandemic has exacerbated the existing digital divide across and within countries. A digital gender divide between women and men in mobile phone access and usage, digital connectivity and participation in the digital economy also presents a significant challenge.

This chapter consists of six sections. Section 2.2, which follows, analyses digital trade flows (representing exports *and* imports)² in the Commonwealth. Section 2.3 examines investment in the ICT sector in the Commonwealth, which has strong linkages to broader trade flows. Section 2.4 then assesses the effects of the COVID-19 pandemic on digital trade, especially e-commerce. Section 2.5 examines some of the challenges involved in providing internet access in Commonwealth countries, even as mobile internet coverage grows, and highlights the need for greater investment in ICT and digital infrastructure so countries can take advantage of digital trade. Section 2.6 concludes the chapter.

2.2 Digital trade in the Commonwealth pre-COVID-19

Advances in digital technologies, alongside the emergence of new digital products and platforms, have facilitated rapid expansion in cross-border digital trade flows in recent years (Box 2.1). This section analyses trends in the Commonwealth's digital trade in the decade preceding the outbreak of COVID-19.³ Guided by the available data, it does so for the following

categories: the Commonwealth's trade in ICT goods, including electronically transmitted (ET) products (2.2.1); trade in digital services, including ICT (2.2.2); digitally deliverable services (DDS) trade (2.2.3); and e-commerce sales in Commonwealth countries (2.2.4).

2.2.1 Commonwealth trade in digital goods

Commonwealth ICT goods trade

Commonwealth countries collectively accounted for 11.7 per cent of global trade in ICT goods in 2019. This share has fallen steadily over the past decade, from a high of 14.5 per cent in 2010 (Figure 2.1). Despite the decline in relative terms, the overall

value of Commonwealth ICT goods trade expanded from US\$522.1 billion in 2010 to \$547.7 billion in 2019.

Commonwealth trade in ICT goods is dominated by only a few members. Three developing Commonwealth countries (Singapore, Malaysia and India) along with three developed members (the UK, Canada and Australia) collectively accounted for 96 per cent of this trade between 2010 and 2019 (Figure 2.2).

At the regional level, Asian member countries have contributed the bulk of Commonwealth trade in ICT goods during the past decade, with their combined share reaching around 72 per cent in 2019 (Table 2.1). Within

BOX 2.1

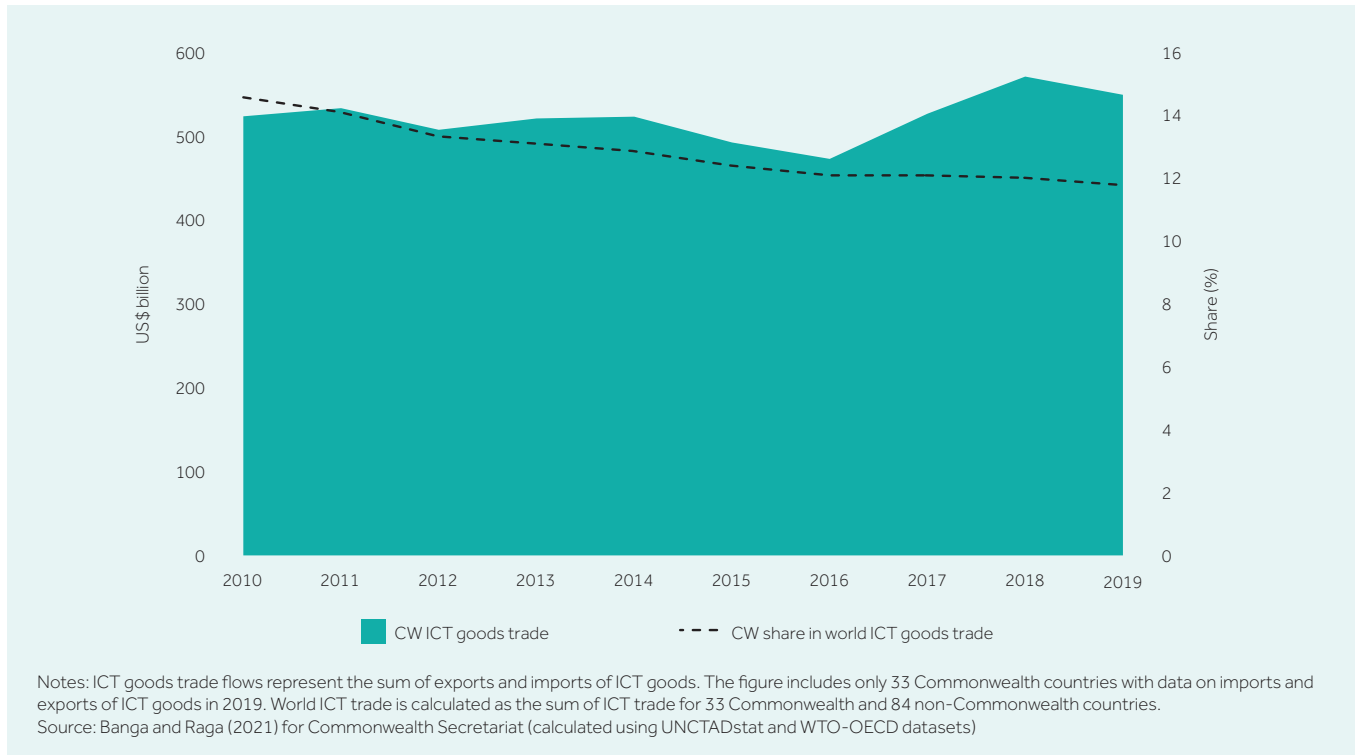
WHAT IS CROSS-BORDER DIGITAL TRADE?

Cross-border digital trade involves all international trade in goods or services that are digitally ordered and/or delivered (OECD et al., 2020). This spans an array of digital goods and digitally ordered goods as well as digitally ordered and digitally deliverable services that are, or can be, traded across borders. The digitally ordered dimension, which encompasses e-commerce activities, comprises the cross-border sale of a good or service via methods that enable orders to be placed and delivered online. In these cases, digital technologies play a critical role in enabling traditional trade in goods and services and form part of the broader category of digital trade. In turn, digitally delivered trade involves the delivery of services internationally in an electronic format through digital means (ibid.). Cross-border flows of data, information and knowledge underpin all these dimensions of digital trade.

In certain instances, the digital aspects of trade are blurring the distinction between goods and services. This is the case, for example, with software-as-a-service (SaaS) and platform-as-a-service (PaaS), which are IT infrastructure services that enable trade in both goods and services. SaaS, for instance, may enable an application that drives sales of a particular good. A PaaS may facilitate the delivery of a service or e-commerce activity online. Embedded digital content (or services) is also increasingly a part of traded goods, as, for example, in the case of exporting a smart refrigerator that requires access to the good as well as the embedded service.

Digital trade functions within a broader digital ecosystem, encompassing digital infrastructure, computer networks, mobile devices, digital intermediation platforms, e-commerce and a host of other elements comprising the digital economy. It is thus broader than purely trade in ICT goods and services and includes digital sales and purchases across a range of sectors. The need to ensure interoperability across these different dimensions, coupled with the rapid acceleration of digitalisation, has brought new attention to the policy and regulatory frameworks required to facilitate cross-border digital trade. In this respect, Commonwealth policy-makers, parliamentarians and regulators must contend with a range of often overlapping issues related to the governance of digital trade (see Chapter 5) in areas such as taxation of digitally delivered goods and services across borders, cybersecurity and data protection, the movement of data across borders, harmonisation of technical standards, online consumer protection and dispute resolution, market concentration and competition on digital platforms, and cross-border digital payments (Elms, 2020).

FIGURE 2.1
COMMONWEALTH TRADE (EXPORTS AND IMPORTS) IN ICT GOODS, 2010–2019



Commonwealth Asia, trade in these goods was dominated by Singapore and Malaysia, accounting for 57 and 32 per cent of the regional total, on average, between 2010 and 2019. The six developed Commonwealth countries collectively accounted for around one-quarter (26.1 per cent) of the Commonwealth's ICT goods trade in 2019, with their overall share having declined since 2010. The value of Commonwealth African countries' trade in ICT goods was also lower in 2019 compared with 2010, as was their share in the Commonwealth's total ICT goods trade, which had dropped to 2.2 per cent in 2019. This owed primarily to notable declines in both ICT exports and imports by South Africa, which is responsible for around 70 per cent of ICT goods trade in the region (Banga and Raga, 2021).

The shares of Caribbean and Pacific small island developing states (SIDS) in Commonwealth trade in ICT goods remained low across the decade.

Trade in electronic components (comprising intermediate goods such as valves, tubes and electrical apparatus) accounted for around half of the Commonwealth's trade in ICT goods, and their share increased between 2010 and 2019. Trade in computers and peripheral equipment (21.8 per cent) and communication equipment (18.8 per cent) also accounted for significant shares, on average, between 2010 and 2019.

Intra-Commonwealth trade in ICT goods (final two columns of Table 2.1) amounted to US\$70.7 billion in 2019, representing almost 13 per cent of the Commonwealth's total ICT goods

trade.⁴ This trade is dominated by just seven Commonwealth countries that collectively accounted for 98 per cent of intra-Commonwealth ICT goods exports in 2019 (bottom panel of Figure 2.3). Developing members contribute around 89 per cent of intra-Commonwealth trade in ICT goods (top panel of Figure 2.3), with the bulk of this trade in Commonwealth Asian members. Developing small states and SIDS (excluding Singapore) contributed less than 1 per cent of intra-Commonwealth trade in ICT goods in 2019.

Commonwealth trade in digitisable products

Trade in digitisable products that can be electronically transmitted – such as audio files, video files or video games and e-books – is significant in the

FIGURE 2.2
DISTRIBUTION OF COMMONWEALTH ICT GOODS TRADE (EXPORTS AND IMPORTS), 2010–2019

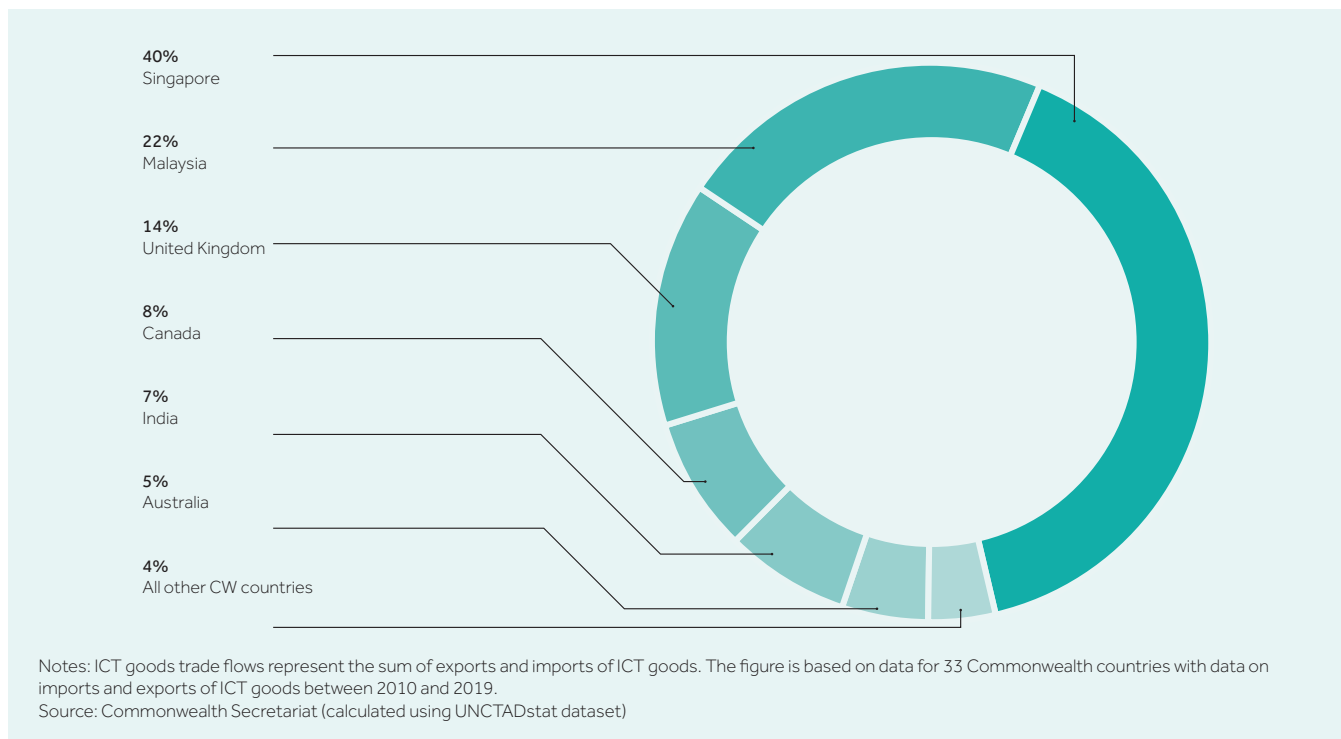


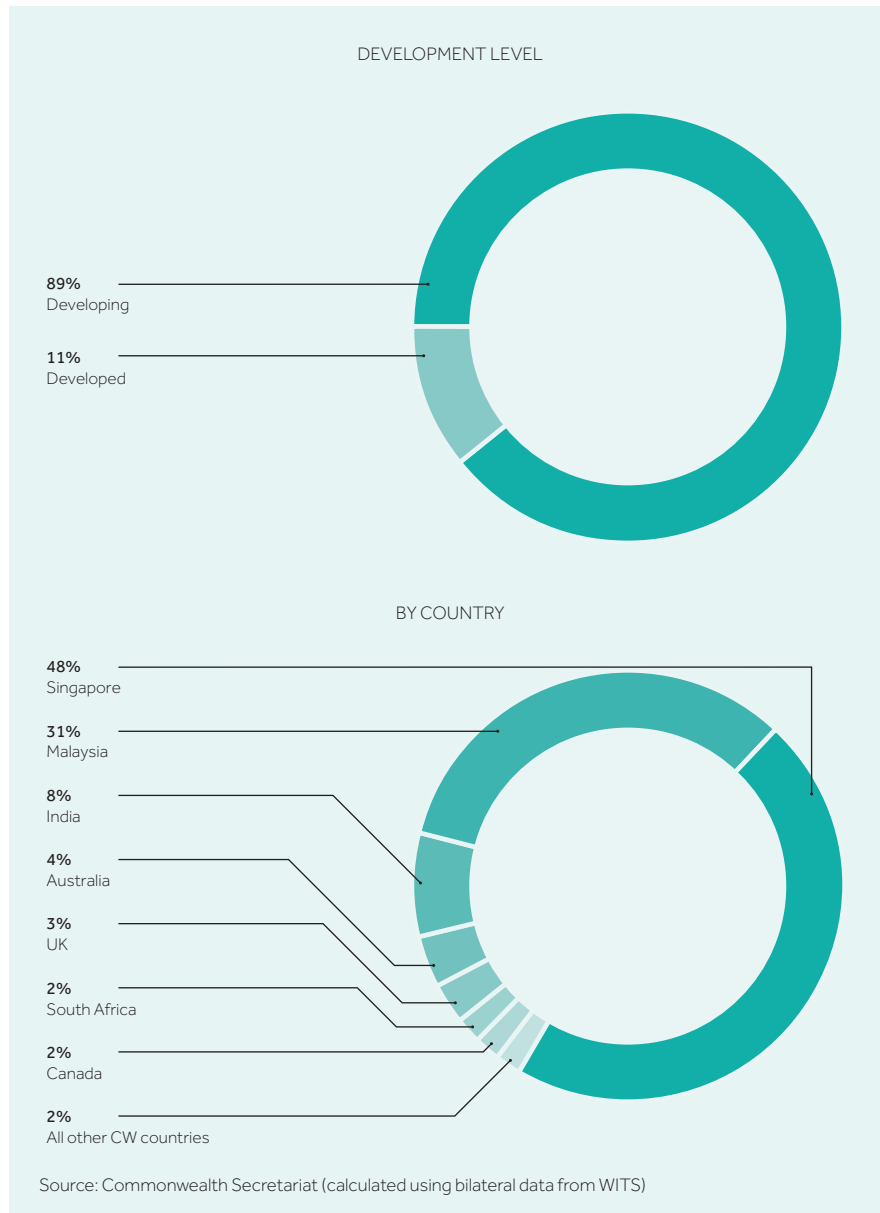
TABLE 2.1
COMMONWEALTH GLOBAL AND INTRA-COMMONWEALTH TRADE (EXPORTS AND IMPORTS) IN ICT GOODS, BY LEVEL OF ECONOMIC DEVELOPMENT AND REGION, 2010 AND 2019

	Commonwealth's global trade				Intra-Commonwealth trade	
	2010		2019		2019	
	Value (US\$ million)	Share (%)	Value (US\$ million)	Share (%)	Value (US\$ million)	Intra-CW share in share in global ICT goods trade (%)
Commonwealth total	522,093	–	547,697	–	70,652	12.9
<i>of which</i>						
Developed	156,164	29.9	143,073	26.1	7,780	5.4
Developing	365,928	70.1	404,624	73.9	62,872	15.5
<i>of which</i>						
Africa	14,214	2.7	12,019	2.2	1,469	12.2
Asia	351,229	67.3	391,968	71.6	61,280	15.6
Caribbean SIDS	405	0.08	424	0.08	23	5.5
Pacific SIDS	79	0.02	212	0.04	100	47.1

Notes: ICT goods trade represents the sum of exports and imports of ICT goods. Total Commonwealth ICT goods trade (US\$ million) is calculated as the sum of ICT goods trade for 33 Commonwealth countries. The Commonwealth sample for ICT goods trade covers six developed, thirteen African, five Asian, seven Caribbean and two Pacific countries. The data on ICT services trade covers 53 Commonwealth countries.

Source: Banga and Raga (2021) for Commonwealth Secretariat (calculated using UNCTADstat dataset for ICT goods trade and the WTO–OECD BaTIS dataset for ICT services trade; computations for intra-Commonwealth ICT goods trade in 2019 are based on bilateral data from WITS)

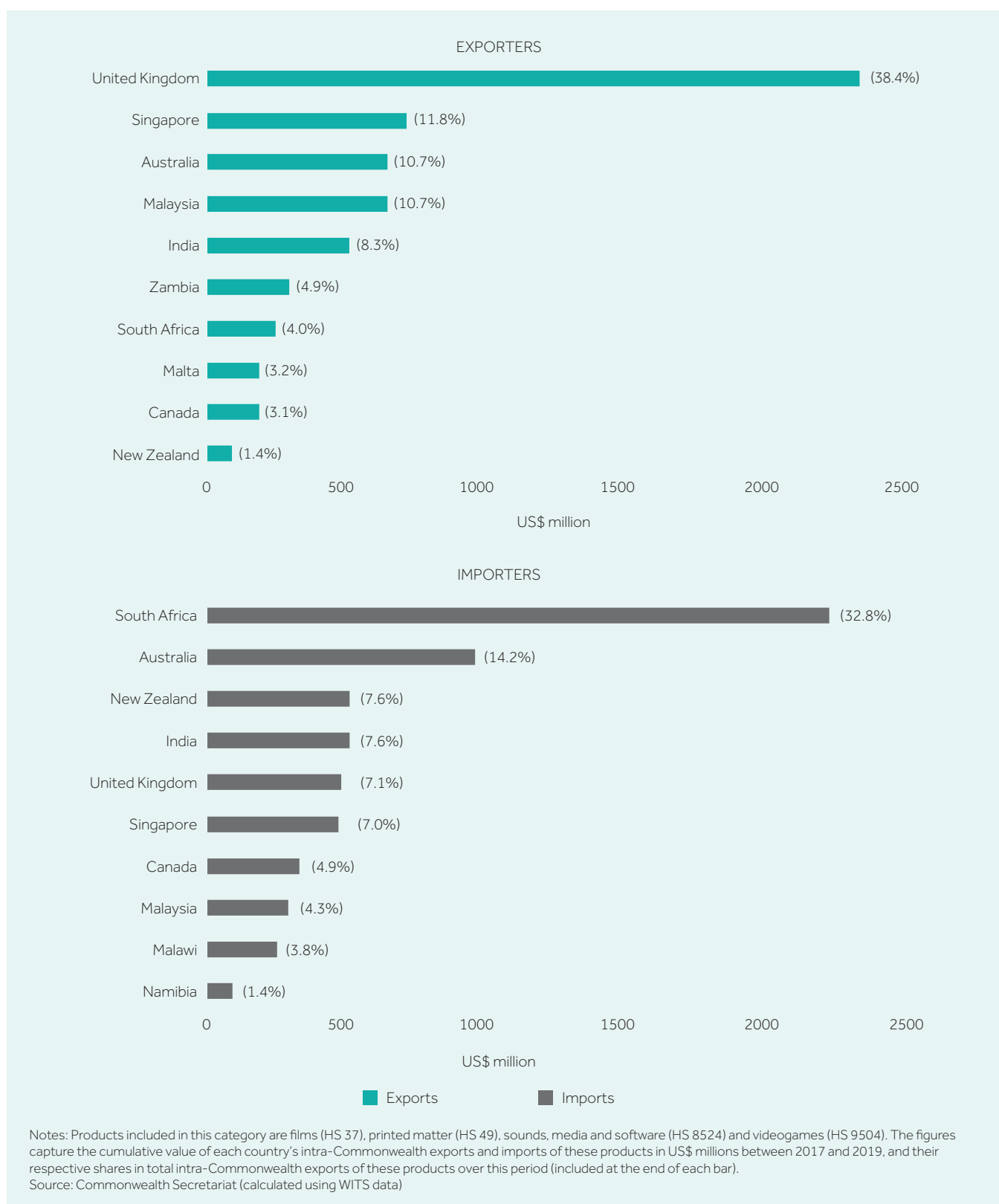
FIGURE 2.3
DISTRIBUTION OF INTRA-COMMONWEALTH TRADE IN ICT GOODS, 2019



Commonwealth, particularly in the case of intra-Commonwealth trade. New technologies such as artificial intelligence, big data applications and the Internet of Things (IoT) are fuelling growth in trade in these products by significantly reducing transaction costs and facilitating their cross-border movement (Elms, 2020).

Intra-Commonwealth trade (exports plus imports) in ET products was worth more than US\$4.6 billion in 2019.⁵ In the period immediately preceding the onset of COVID-19 (2017-2019), the UK, Singapore, Australia, Malaysia and India were major exporters of ET products to other Commonwealth countries, and two other developing African members – Zambia and South Africa – also ranked among the top ten intra-Commonwealth exporters (Figure 2.4). Around one-third of intra-Commonwealth exports of ET products went to South Africa, while Australia, New Zealand, India, the UK and Singapore were also significant importers of these products from other Commonwealth members. In addition to South Africa and Zambia, artists in other Commonwealth African countries are also increasingly creating digitisable products and content (Box 2.2).

FIGURE 2.4
 MAIN INTRA-COMMONWEALTH EXPORTERS AND IMPORTERS OF DIGITISABLE PRODUCTS, 2017–2019 (CUMULATIVE)



BOX 2.2**AFRICA AND THE DIGITAL DELIVERY OF CREATIVE CONTENT**

Music and audio-visual are creative industries that increasingly deliver their content by digital means or through streaming. In Africa, the internet and smartphones have helped Nigeria's Nollywood become a fully fledged film industry, with 89.6 per cent of its revenues coming from its online presence. Nollywood ranks second in the world behind Bollywood (India) in terms of the number of films produced and third after Hollywood and Bollywood in terms of revenues. The industry is worth around US\$3 billion (or 1.4 per cent of Nigeria's gross domestic product, GDP) and employs more than a million people directly or indirectly, making it Nigeria's second-largest source of employment after agriculture (AUC/OECD, 2021).

Africans are consuming more digital content as a result of expanding internet connectivity and the availability of an array of devices. However, high data costs have contributed to rampant piracy and this puts the sustainability of the entertainment industry at risk. Yet African entertainment start-ups had their best funding year on record in 2020, securing 2 per cent of the available funding, compared with 0.15 per cent in 2019. The immensity of the growth reflects the success of a handful of companies – all that funding went to just 10 films – and not of the sector overall. The main funding recipient was Kenya's Mdundo, a music streaming and downloading platform. Investors are reportedly looking for opportunities beyond congested spaces like fintech, health and e-commerce (Quartz Africa Weekly Brief, 2021).

2.2.2 Commonwealth trade in digital services**Commonwealth ICT services trade**

The Commonwealth has consistently been a relatively more significant contributor to global ICT services trade than it has been to ICT goods trade over the past decade. Even

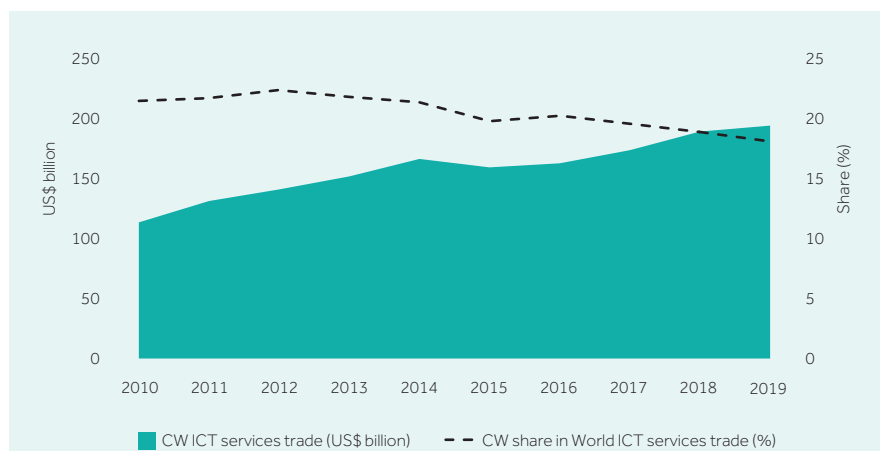
so, the Commonwealth's share in global ICT services trade declined between 2010 and 2019, falling by more than 3 percentage points to reach 18.1 per cent in 2019 (Figure 2.5). Despite this, ICT services have become an increasingly important component of the Commonwealth's total services trade, and as a share

of services GDP (Commonwealth Secretariat, 2020). Total trade in ICT services across the Commonwealth expanded from US\$113.7 billion in 2010 to \$194.5 billion in 2019.

Developing members accounted for almost two-thirds of the Commonwealth's ICT services trade in 2019, a share more than 8 percentage points higher than in 2010 (Table 2.2). Commonwealth Asian countries were responsible for a large portion of this trade (60.5 per cent in 2019, up by 9 percentage points compared with 2010), driven mostly by India and Singapore.

The share of African countries in the Commonwealth's ICT services trade, at 2.2 per cent in 2019, was identical to their share in Commonwealth ICT goods trade in that year; in both cases, their share declined after 2010. Caribbean and Pacific SIDS hold higher shares of Commonwealth trade in ICT services relative to their shares in Commonwealth trade in ICT goods, although their combined shares still amount to less than 1 per cent, and either stagnated (in the case of Pacific

FIGURE 2.5
COMMONWEALTH GLOBAL TRADE (EXPORTS AND IMPORTS) IN ICT SERVICES, 2010–2019



Notes: ICT services trade flows represent the sum of exports and imports of ICT services. The figure includes only countries with data on imports and exports of ICT services in 2019. World ICT trade is calculated as the sum of ICT trade for 33 Commonwealth and 84 non-Commonwealth countries. Source: Banga and Raga (2021) for Commonwealth Secretariat (calculated using UNCTADstat and WTO-OECD datasets)

TABLE 2.2
COMMONWEALTH GLOBAL TRADE (EXPORTS AND IMPORTS) IN ICT SERVICES, BY LEVEL
OF ECONOMIC DEVELOPMENT AND REGION, 2010 AND 2019

	2010		2019		Average share 2010-2019 (%)
	Value (US\$ million)	Share (%)	Value (US\$ million)	Share (%)	
Commonwealth total	113,681	–	194,491	–	–
<i>of which</i>					
Developed	51,433	45.2	71,815	36.9	40.8
Developing	62,248	54.8	122,676	63.1	59.2
<i>of which</i>					
Africa	2,982	2.6	4,299	2.2	2.6
Asia	58,592	51.5	117,644	60.5	56.2
Caribbean SIDS	552	0.49	491	0.25	0.3
Pacific SIDS	122	0.11	242	0.12	0.1

Notes: ICT services trade represents the sum of exports and imports of ICT services. The data on ICT services trade covers 53 Commonwealth countries.

Source: Commonwealth Secretariat based on Banga and Raga (2021) (calculated using WTO-OECD BaTIS dataset)

SIDS) or declined (for Caribbean SIDS) between 2010 and 2019. Likewise, the share of developing small states in the Commonwealth's ICT services trade declined over this period.

Fellow Commonwealth members are important destinations for Commonwealth ICT services exports. Based on recently released bilateral

data in the Organisation for Economic Co-operation and Development (OECD)-World Trade Organization (WTO) Balanced Trade in Services (BaTIS) dataset, intra-Commonwealth exports accounted for more than one-fifth (21.8 per cent) of ICT services exports by Commonwealth countries in 2019. This was higher

than the intra-Commonwealth share in the Commonwealth's total services exports (20.1 per cent). Intra-Commonwealth ICT services exports remain highly concentrated, with just six countries – India, the UK, Singapore, Australia, Malaysia and Canada – accounting for more than 90 per cent of these exports, on average, between 2017 and 2019 (see Table 2.3).

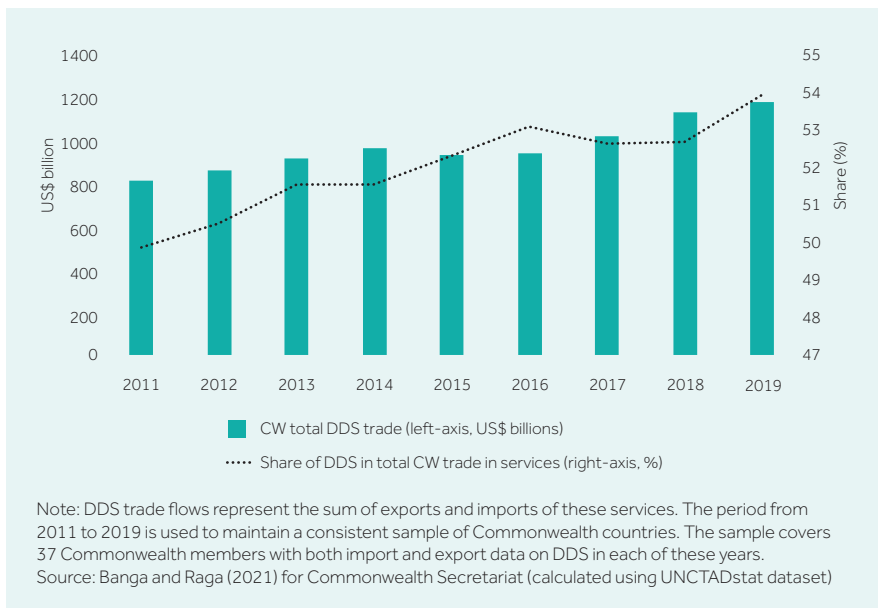
The Commonwealth represents a key market for ICT services exports from several member countries. The Commonwealth advantage, which was discussed in Chapter 1, is likely to play a key role in encouraging intra-Commonwealth trade in these services, with common language, similar legal systems and other factors potentially aiding the interoperability of ICT services across Commonwealth borders. More than half of the ICT services exported by Brunei Darussalam, New Zealand and Cameroon between 2017 and 2019 were destined for other Commonwealth countries, as were more than one-third of these exports from Australia, Bangladesh and Malaysia, and more than one-quarter of ICT services exported by Papua New Guinea, South Africa, Mauritius, Pakistan, Sri Lanka and Singapore.

TABLE 2.3
INTRA-COMMONWEALTH ICT SERVICES EXPORTS, AVERAGE 2017-2019

Country	Value (US\$ million)	Country share (%)	Reliance on Commonwealth (%)
United Kingdom	3,178	16.6	9.5
Singapore	3,109	16.4	26.3
Australia	1,155	6.1	35.9
Malaysia	710	3.8	34.9
Canada	515	2.7	6.2
Cyprus	457	2.4	23.8
Bangladesh	429	2.3	35.4
New Zealand	245	1.3	50.3
South Africa	180	1	28.5
Pakistan	102	0.5	25.7
Mauritius	92	0.5	28.4
Malta	54	0.3	12.1
Maldives	45	0.2	16.5
Nigeria	38	0.2	22.1
Barbados	37	0.2	10.9
Seychelles	26	0.1	20.1
Fiji	17	0.1	20.7
Jamaica	16	0.1	20.1
Sri Lanka	15	0.1	27.6
Papua New Guinea	12	0.1	30.1
Brunei Darussalam	9	0.1	55
Belize	8	0	12.9
Kenya	8	0	23.5
Namibia	3	0	15
Tanzania	2	0	13
The Bahamas	1	0	8.4
Cameroon	1	0	50
Eswatini	0	0	11.1

Note: The last column on reliance indicates the share of intra-Commonwealth exports in each country's total ICT services exports.
Source: Banga and Raga (2021) for Commonwealth Secretariat (calculated using WTO-OECD BaTIS dataset)

FIGURE 2.6
COMMONWEALTH TRADE (EXPORTS AND IMPORTS) IN DIGITALLY DELIVERABLE SERVICES,
2011–2019



2.2.3 Commonwealth trade in digitally deliverable services

ICT services are also a key enabler of trade in other services, for example when they facilitate the delivery of services remotely. Digitally deliverable services (DDS) include both ICT services (e.g. SaaS or Infrastructure-as-a-Service in, for instance, the case of data processing services) and ICT-enabled services such as legal services, financial services, IT consulting services, education and training, marketing and sales, health care, intellectual property charges, management and other business services (e.g. engineering, technical, and research and development services), and audio-visual and related services (UNCTAD, 2019).

Commonwealth trade in DDS has increased steadily over the past decade, both in absolute terms and as a share of the Commonwealth's total trade in services.⁶ Between 2011 and 2019, the

value of these services grew by 44.8 per cent from US\$815 billion to \$1.2 trillion.⁷ By 2018, more than half (54 per cent) of the Commonwealth's total services trade flows were delivered by digital means (Figure 2.6).

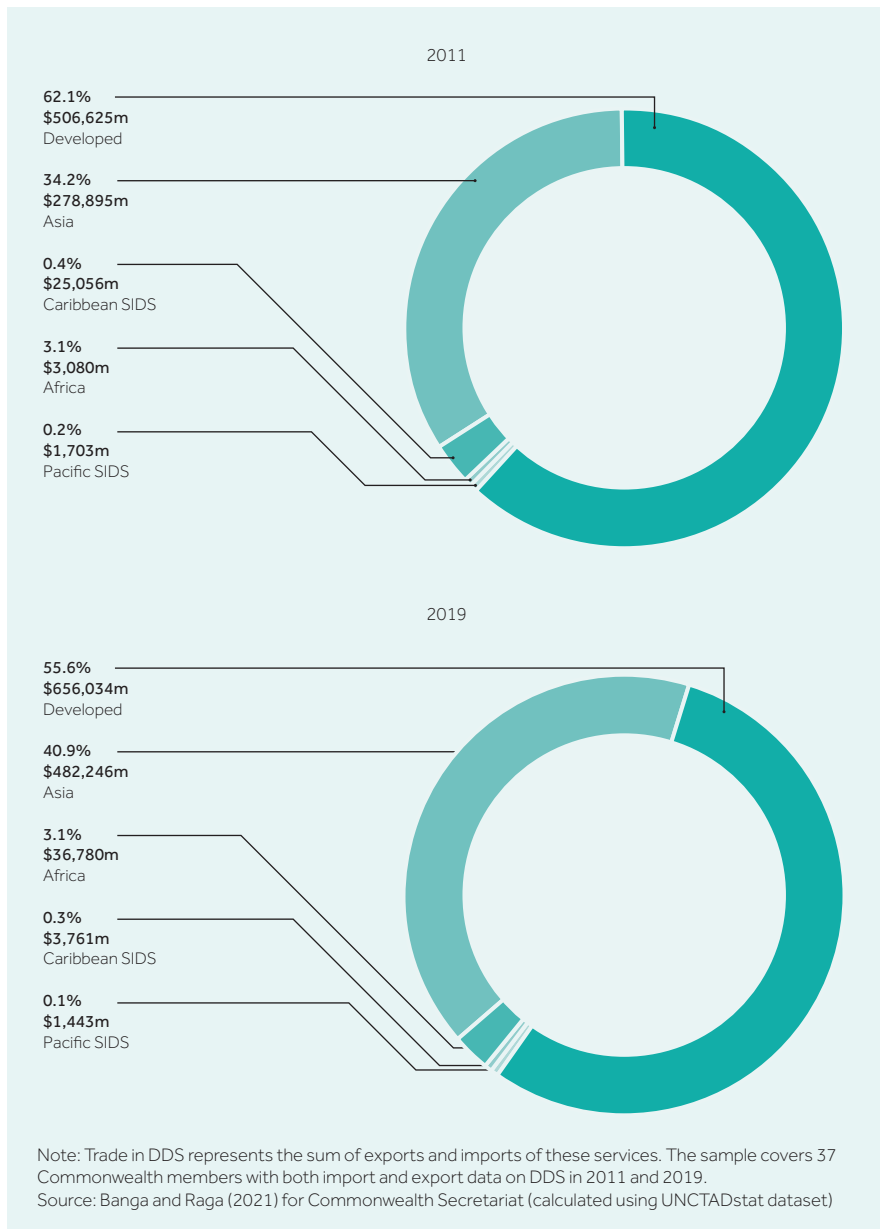
Despite this rapid growth in DDS, this trade is highly concentrated in only a few Commonwealth members, reflecting the broader pattern of the Commonwealth's global exports (see Chapter 1). In 2011, the six developed economies accounted for 62 per cent of total Commonwealth trade in these services, although their share declined by 2019, as shown in Figure 2.7. At the same time, the share of Commonwealth Asian members expanded by more than 6 percentage points to 40.9 per cent in 2019, mostly driven by Singapore and India. The share of African member countries remained stable across the decade, collectively accounting for 3.1 per cent

of Commonwealth trade in DDS in 2019. Caribbean and Pacific SIDS made only marginal contributions over this period, amounting to less than 1 per cent of the Commonwealth's trade in these services in any given year. This partly reflects the small populations in these countries, which translates into lower numbers of consumers importing DDS and fewer individuals and firms supplying DDS across borders (discussed further at the end of this section).

Likewise, eight Commonwealth LDCs⁸ with available data contributed less than 1 per cent of the Commonwealth's annual trade in DDS across the past decade, although the absolute value of their exports and imports of these services more than doubled from US\$3.6 billion in 2011 to \$7.7 billion in 2019. The overall shares of Commonwealth small states and SIDS in trade in DDS were equally small, and declined from 1 per cent to 0.7 per cent in the case of small states and from 0.9 per cent to 0.6 per cent for SIDS between 2011 and 2019. Despite these small shares, there is potential for Commonwealth LDCs, small states and SIDS to leverage DDS for trade and development, particularly given the limitations they face in terms of capital investment and shortages in physical infrastructure (Banga and Raga, 2021). Harnessing digital technologies can help entrepreneurs and businesses in these countries overcome geographic barriers to accessing and delivering services across borders, enabling them to be provided remotely at lower cost and to larger markets.

Among developed Commonwealth members, trade in DDS is largely dominated by the UK, Canada and

FIGURE 2.7
REGIONAL SHARES OF TOTAL COMMONWEALTH TRADE (EXPORTS AND IMPORTS) IN DIGITALLY DELIVERABLE SERVICES, 2011 AND 2019



Australia. All three of these countries ranked among the Commonwealth's top five by value of trade in these

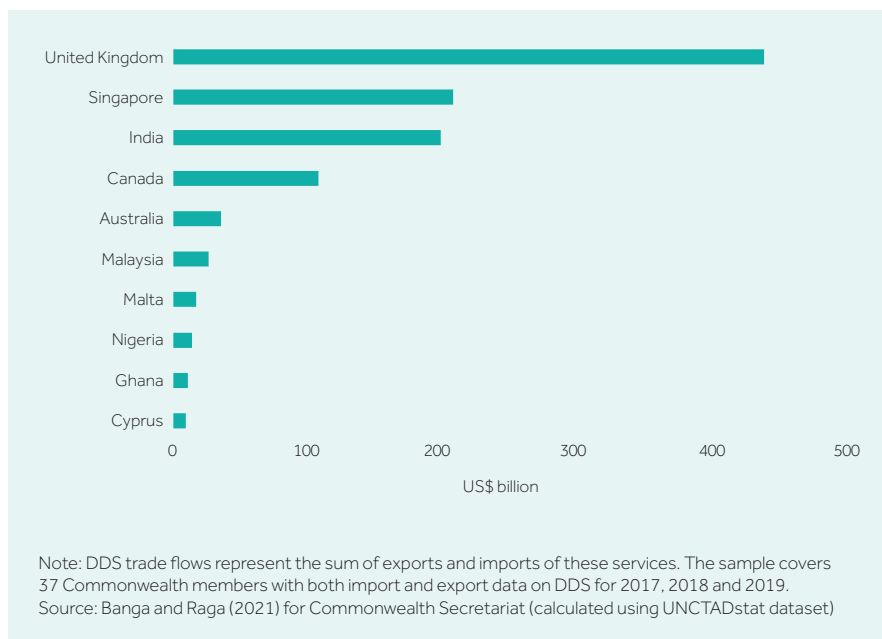
services during the most recent period preceding the COVID-19 pandemic (2017–2019) (Figure 2.8). In

Commonwealth Asia, trade in these services is mostly led by Singapore and India, and, to a lesser extent, Malaysia. The annual value of trade in DDS averaged US\$209.7 billion in Singapore and \$200.4 billion in India between 2017 and 2019. Two Commonwealth African countries – Nigeria and Ghana – rank among the top 10, with, on average, \$14.4 billion and \$11.7 billion in annual trade in DDS, respectively, over this period. Several other developing members – South Africa, Pakistan, Sri Lanka, Kenya, Trinidad and Tobago, Mauritius and Cameroon along with two LDCs (Bangladesh and Mozambique) – sat just outside the top 10 but within the top 20 Commonwealth countries by average annual value of trade in these services between 2017 and 2019.

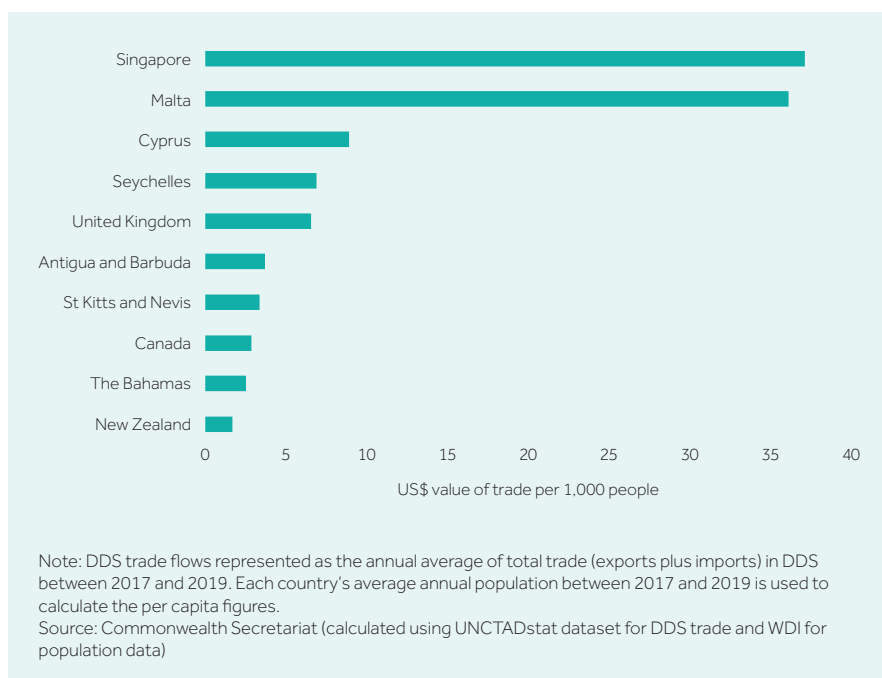
This aggregate picture masks important nuances. Several of the top 10 Commonwealth countries by absolute value of trade in DDS are large members with substantial populations. This translates into more consumers to consume digitally imported services and more individuals and firms to export such services across borders. When trade in DDS is considered on a per capita basis (as in Figure 2.9, which shows top countries by average value of DDS exports and imports per 1,000 people between 2017 and 2019), several other Commonwealth small states and Caribbean SIDS (Antigua and Barbuda, St Kitts and Nevis and The Bahamas) feature among the top 10, with others such as Grenada, Dominica and Saint Lucia falling just outside.

FIGURE 2.8

TOP 10 COMMONWEALTH COUNTRIES BY VALUE OF TRADE (EXPORTS AND IMPORTS) IN DIGITALLY DELIVERABLE SERVICES, AVERAGE 2017–2019

**FIGURE 2.9**

TOP 10 COMMONWEALTH COUNTRIES BY VALUE OF TRADE (EXPORTS AND IMPORTS) IN DIGITALLY DELIVERABLE SERVICES PER 1,000 PEOPLE, AVERAGE 2017–2019

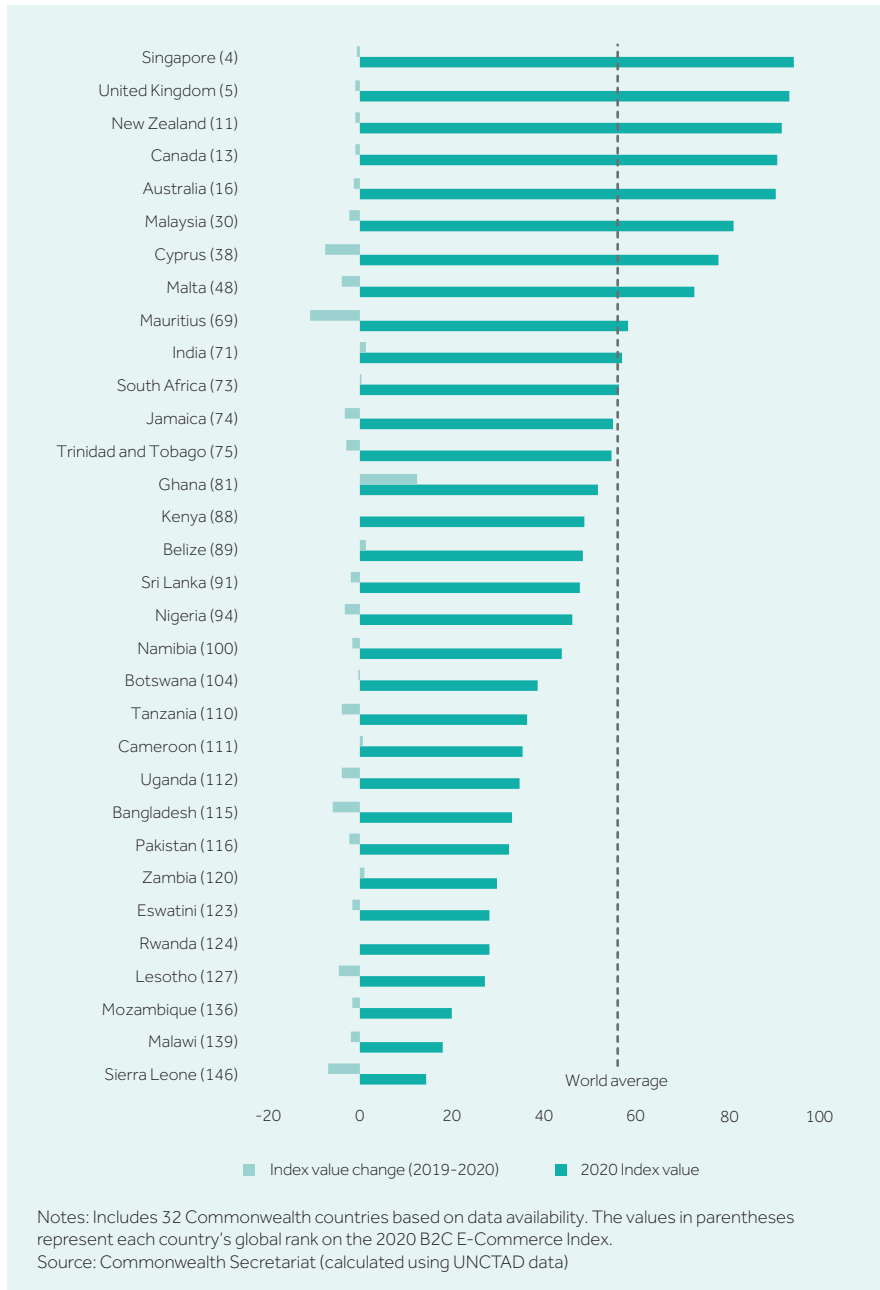


2.2.4 E-commerce in the Commonwealth

E-commerce involves the sale or purchase of goods and services via electronic means specifically designed for the purpose of receiving or placing orders (OECD et al., 2020). This may involve business-to-business, business-to-consumer, business-to-government or consumer-to-consumer transactions. The prevailing evidence based on data for the years preceding the COVID-19 crisis suggests levels of e-commerce activity vary widely across Commonwealth countries, and readiness to engage in e-commerce is uneven within and between member countries. This is clear from the 2020 edition of the United Nations Conference on Trade and Development Business-to-Consumer (B2C) E-Commerce Index, which ranks 152 countries across the world based on one dimension⁹ of their readiness to support online commerce (Figure 2.10).¹⁰

Twelve Commonwealth countries recorded values above the world average on the 2020 B2C E-Commerce Index, including all six developed members (four of which rank in the top twenty globally) and some developing members (Singapore, Malaysia, Mauritius, India, South Africa and Jamaica). However, a few African and Asian members – most of which are LDCs – are located on the bottom half of the Index globally. Moreover, overall scores on the Index deteriorated in 2020 compared with 2019 for 22 of the Commonwealth countries covered, with the largest declines observed in Mauritius, Cyprus, Sierra Leone and Bangladesh. This suggests there is significant scope to improve levels of preparedness to engage

FIGURE 2.10
COMMONWEALTH COUNTRIES' PERFORMANCE ON THE 2020 B2C E-COMMERCE INDEX



effectively in e-commerce across a range of Commonwealth countries.

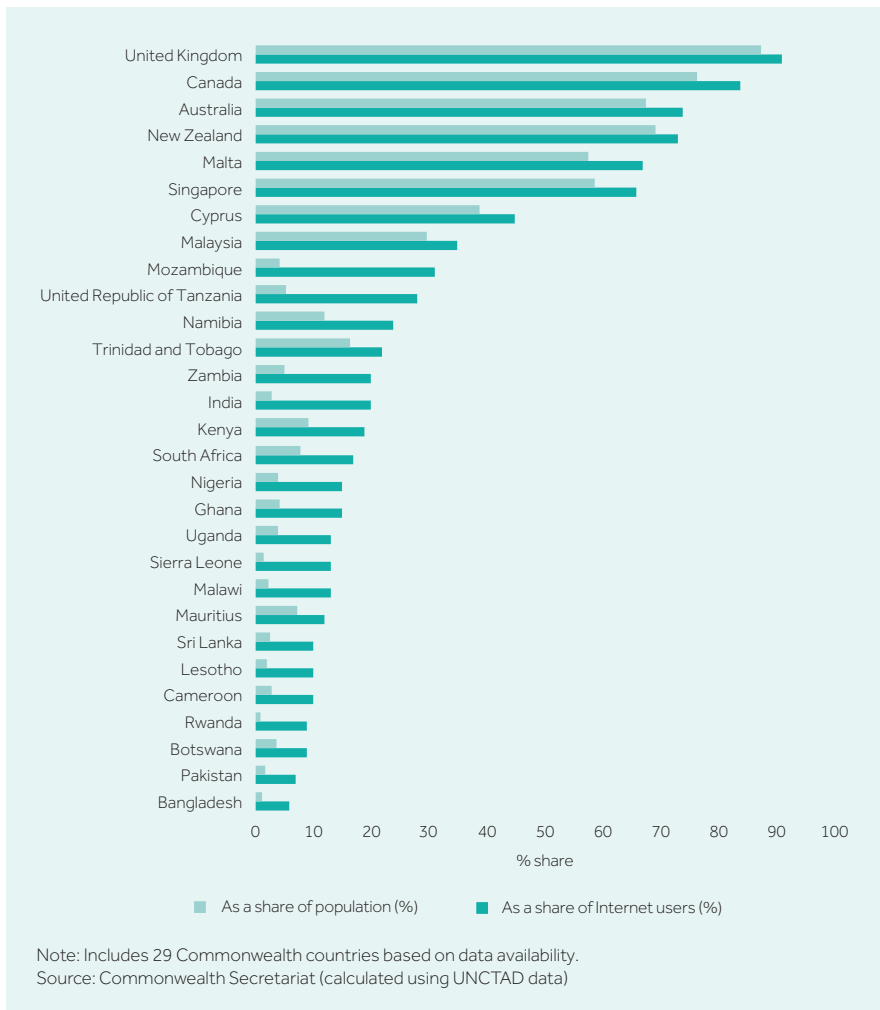
Disparities in levels of preparedness and engagement with e-commerce

across the Commonwealth are also evident in the significant variation in the proportion of individuals in Commonwealth countries participating in online shopping. Based on UNCTAD

data for the latest available year between 2017 and 2019, Figure 2.11 shows sharp differences between developed Commonwealth countries and most developing members in terms of the shares of individuals engaging in online shopping. More than 90 per cent of internet users, and 87 per cent of the population in the UK, make purchases online. These shares are also high in Canada (84 per cent of internet users and 76 per cent of the population), Australia (74 per cent and 68 per cent) and New Zealand (73 per cent and 69 per cent). In contrast, under 10 per cent of internet users participate in online shopping in Rwanda, Botswana, Pakistan and Bangladesh, and these individuals account for less than 2 per cent of the total populations of Pakistan, Bangladesh and Rwanda. In 19 of the 29 Commonwealth countries for which data is available, fewer than one-quarter of internet users engage in online shopping; in all but two of these countries (Trinidad and Tobago and Namibia), those participating represent less than 10 per cent of the total population.

Commonwealth developed countries, which are generally better prepared in terms of e-commerce readiness (Figure 2.10), have sound digital infrastructure in place and have larger proportions of their populations shopping online (Figure 2.11), also recorded sizeable B2C e-commerce sales in 2017 and 2018 (Table 2.4). In the UK, the value of these sales increased by US\$60 billion between 2017 and 2018 to reach \$266.4 billion, or 9.3 per cent of GDP. B2C e-commerce sales accounted for 5.5 per cent of Malta's GDP in 2017, and between 1.5 and 2.6 per cent of GDP in Australia, Cyprus, New Zealand and

FIGURE 2.11
 ONLINE SHOPPERS AS A SHARE OF INTERNET USERS AND TOTAL POPULATION IN
 COMMONWEALTH COUNTRIES. LATEST AVAILABLE YEAR BETWEEN 2017 AND 2019



Canada in 2018. Among developing country members, Malaysia is one of the Commonwealth's top performers in terms of B2C e-commerce readiness and this is matched by substantial B2C e-commerce sales, amounting to \$19.2 billion, or 6 per cent of GDP, in 2017. Malaysia aside, the generally lower shares of e-commerce sales in GDP in developing countries compared with developed members suggest considerable scope to grow e-commerce in Commonwealth developing regions. To do so, these countries need to improve their enabling environments for e-commerce and eliminate obstacles to e-commerce adoption (see Chapter 5).

TABLE 2.4
B2C E-COMMERCE SALES FOR SELECTED COMMONWEALTH COUNTRIES, 2017 AND 2018

Economy	2017		2018	
	Value (US\$ billion)	% of GDP	Value (US\$ billion)	% of GDP
Australia	18.6	1.4	21.3	1.5
Canada	60.8	3.7	44.3	2.6
Cyprus	0.4	1.8	–	–
India	15.0	0.6	16.9	0.6
Malta	0.7	5.5	–	–
Malaysia	19.2	6.0	–	–
Nigeria	1.1	0.3	–	–
New Zealand	1.7	0.8	3.2	1.5
Pakistan	–	–	0.9	0.4
Singapore	2.0	0.6	–	–
South Africa	0.8	0.2	–	–
United Kingdom	206.2	7.9	266.4	9.3

Note: Countries selected on the basis of data availability. No data for 2018 for Cyprus, Malta, Malaysia, Nigeria, Singapore and South Africa.
Source: Commonwealth Secretariat (calculated using data from UNCTAD)

2.3 Investment in digital sectors in the Commonwealth

There has been notable growth in investment in specific digital sectors across the Commonwealth in the past decade. Data from the International Telecommunication Union (ITU) indicates the value of investment in telecommunication services – a crucial enabler of digitalisation – in Commonwealth countries increased by 24 per cent between 2010 and 2017, rising to US\$50.6 billion in 2017. The Commonwealth attracted a cumulative total of \$355.6 billion in investment

in telecommunications services over the period, the largest shares of which went to India (\$106.1 billion), Canada (\$78.1 billion) and Australia (\$62.9 billion). A few other large developing members also received significant shares: Malaysia (\$18.9 billion), Nigeria (\$13.8 billion), South Africa (\$13.7 billion) and Pakistan (\$6.7 billion). In addition, sizeable investments in telecommunications services were made in some Commonwealth LDCs, with the largest inflows to Bangladesh (\$8.8 billion), Zambia (\$2.3 billion) and Rwanda (\$630.6 million) between 2010 and 2017.

The overall pattern of strong growth in investment is echoed in more recent data on announced greenfield foreign direct investment (FDI) projects in the communications and software and IT services sectors. In 2019,

both sectors ranked among the top five in terms of capital investment inflows to the Commonwealth, with US\$12.3 billion and \$12.6 billion in announced projects, respectively.

Growth in greenfield FDI inflows to the communications sector over the decade was mostly concentrated in developed Commonwealth economies and developing members in Asia (Table 2.5). This sector generally fared much better than most others in attracting greenfield FDI in the face of the economic shocks generated by COVID-19 (see Chapter 3), highlighting the importance of communications technologies in sustaining economic activity during the pandemic. Overall inflows to the Commonwealth grew by more than 50 per cent in 2020 compared with 2019, driven by strong growth in developing Asian and African members, including LDCs. Intra-Commonwealth greenfield investment in the sector has been more volatile.

Growth in announced greenfield FDI into software and IT services was even more impressive. Overall greenfield inflows to the sector in the Commonwealth expanded by 91.5 per cent between 2010 and 2019. Inflows grew across all Commonwealth regions and levels of development, except for LDCs (Table 2.5). In relative terms, Commonwealth Asian members and small states recorded the largest growth in FDI inflows.

Intra-Commonwealth greenfield FDI in software and IT services has also grown considerably since 2010 – more than doubling to reach nearly US\$2.2 billion in 2019. The share of these services in total intra-Commonwealth greenfield investment flows increased from just 1.5 per cent in 2010 to more than 8

TABLE 2.5
ANNOUNCED GREENFIELD INVESTMENT IN COMMUNICATIONS AND SOFTWARE AND IT SERVICES

	Communications		Software & IT services	
	Capital investment in 2019 (US\$ million)	% change 2010-2019	Capital investment in 2019 (US\$ million)	% change 2010-2019
Commonwealth total	12,303	5.5	12,573	91.5
<i>Of which</i>				
Developed	4,933	44	7,658	77.6
Developing	7,370	-10.5	4,915	118
<i>Of which</i>				
Africa	3,382	-33.2	518	8
Asia	3,831	20.7	4,397	147.7
Caribbean SIDS	157	–	–	–
Pacific SIDS	–	–	–	–
<i>Vulnerable groups</i>				
LDCs	99	-89.4	29	-50.8
Small states	195	29.7	83	228.9
SIDS	560	-35.5	1,041	85.1

Source: Commonwealth Secretariat (calculated using fDi Markets data, from the Financial Times Limited 2021)

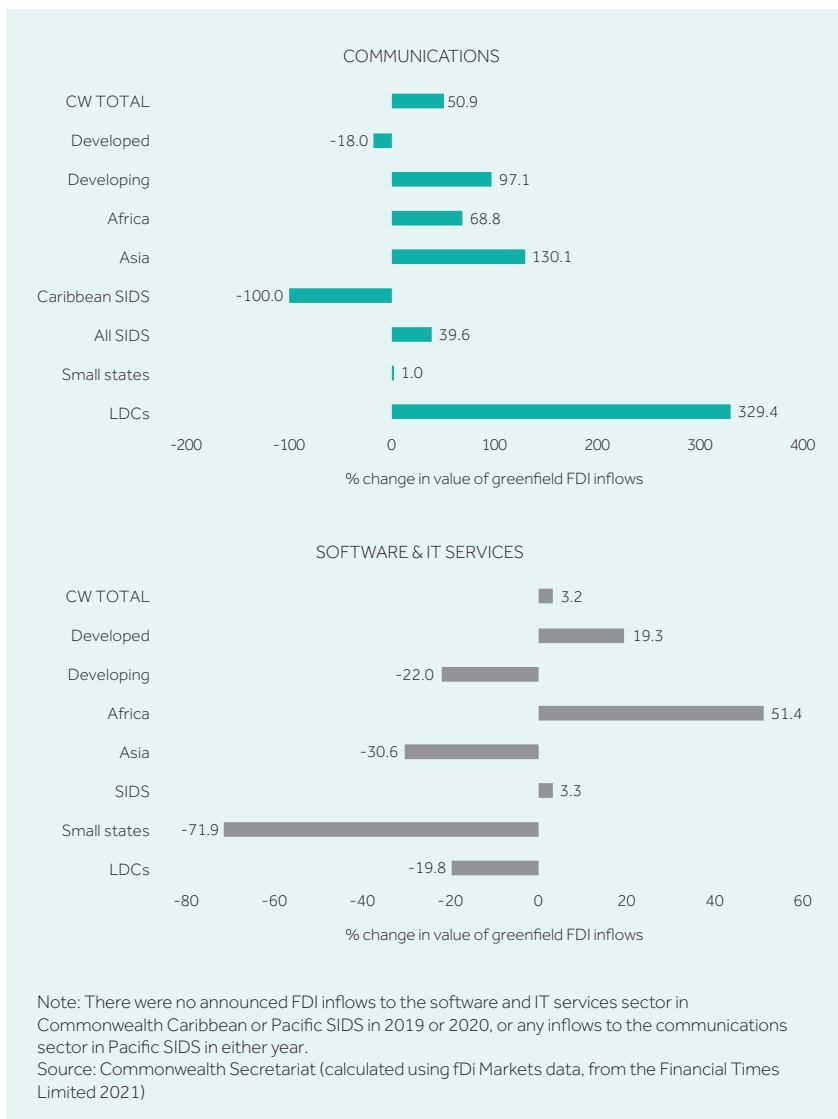
per cent in 2019. However, these flows remain highly concentrated. Just five Commonwealth countries – Australia, Singapore, the UK, India and Canada – absorbed more than 85 per cent of intra-Commonwealth inflows to the sector between 2010 and 2019. Aside from these five countries, the next

largest recipients were South Africa, Nigeria and Malaysia. Among LDCs, Rwanda, where the government has prioritised the development of digital capabilities (see Box 5.5 in Chapter 5), was the largest recipient, with a cumulative \$47 billion in announced intra-Commonwealth greenfield FDI.

The bulk of greenfield investments in the sector originated from the UK, India or Canada – these three countries accounted for nearly three-quarters of announced intra-Commonwealth flows.

As explained further in Chapter 3, greenfield investment in key digital sectors in the Commonwealth has not been immune to the economic shocks associated with COVID-19 (Figure 2.12). For instance, global greenfield FDI inflows to software and IT services sectors in developing Commonwealth countries fell by 22 per cent in 2020 compared with the 2019 level, and overall intra-Commonwealth greenfield FDI inflows to this sector declined by 8 per cent. Nevertheless, investments in digital sectors, particularly related to communications, have generally been more resilient, in keeping with the upward trend witnessed prior to the pandemic. India, for example, attracted record numbers of new mergers and acquisitions deals in digital sectors in the second half of 2020 (UNCTAD, 2021a). Pre-COVID-19 trends, accentuated by the rapid acceleration in the use of digital technologies owing to the pandemic, suggest growth in FDI into digital sectors in Commonwealth countries is likely to be sustained in the long run.

FIGURE 2.12
CHANGES IN ANNOUNCED GREENFIELD FDI INFLOWS TO COMMUNICATIONS AND SOFTWARE AND IT SERVICES SECTORS IN THE COMMONWEALTH, 2019 VS. 2020



2.4 COVID-19 and digital trade

Digital trade globally and in the Commonwealth has not escaped the adverse effects of COVID-19. The pandemic's impact has operated through both supply and demand

channels. On the supply side, for example, the manufacturing of ICT goods has been hampered by the suspension of operations during lockdowns, slower productivity and labour shortages resulting from the need to maintain social distancing and, in some cases, engage in staff rotation, shortages of raw materials and intermediate inputs, and border

restrictions affecting the flow of goods. More labour-intensive and less automated ICT manufacturing segments have been most affected (Banga and te Velde, 2020). Disruptions to agricultural and manufacturing activity and labour shortages have also affected the supply of products in e-commerce value chains. Similarly, disruptions to transport and logistics services have hampered cross-border e-commerce activity.

Despite these challenges, lockdowns and restrictions on physical movement introduced to contain COVID-19 heralded a major uptake of e-commerce, both domestic and cross-border, to keep goods and services flowing (Box 2.3). The digital economy and digital trade have been central in mitigating some of the economic losses generated by the pandemic; and new opportunities in e-commerce and digital trade arising from the resulting acceleration in the adoption of digital technologies are likely to play a key role in stimulating post-COVID-19 economic recovery. However, the growth of e-commerce also presents new challenges for ensuring consumer trust and safety and can fuel illicit trade. For example, smuggled wildlife, cigarettes, counterfeit medicines, substandard personal protective equipment and even children's toys that bypass safety checks are reportedly among the worrisome goods traded illicitly in some Southeast Asian markets (Goh, 2021).

Certain types of digital products and digital and digitally enabled services have benefited from positive shocks associated with COVID-19. For example, demand for certain categories of consumer electronics has increased rapidly in response to

BOX 2.3**COVID-19 LEADS TO GROWTH IN EXPORTS AND E-COMMERCE SALES**

Emerging evidence suggests digital trade and the use of digital technologies have helped offset economic losses incurred in traditional sectors as a result of COVID-19. Jumia, an African e-commerce platform, recorded a 50 per cent increase in transactions in the first half of 2020 (Kituyi, 2021). Estimates suggest e-commerce usage tripled in Kenya (CNBC Africa, 2020). In the UK, the share of e-commerce in total retail sales increased by 31 per cent between the first and second quarters of 2020 (OECD, 2020a).

Banga and te Velde (2020) develop a framework to assess the first- and second-order effects of COVID-19 on the digital economy (both positive and negative),¹¹ and apply this to analyse these effects in 23 countries, mostly LDCs in Africa and the Asia-Pacific region. They find a correlation between the adoption of a digital response by firms (reflected in increased online business activity) and increased exports compared with one year ago and/or growth in their deliveries of goods and services.

Results from a survey by UNCTAD (2020b) offer useful insights into the impacts of the pandemic on e-commerce activity in developing countries and likely future areas of growth. The survey covered 257 businesses located in 23 developing countries, 20 of which were LDCs.¹² The results show e-commerce sales increased for 64 per cent of third-party online marketplaces in these countries between March and July 2020, with sales through social media a key driver.¹³ They also reveal a clear shift in consumption habits towards online purchases of essential goods and services, such as groceries, pharmaceuticals, health and hygiene products, and financial services. Moreover, the survey found evidence of rapid growth in e-payments – 60 per cent of the e-commerce businesses and 70 per cent of the third-party online marketplaces included in the sample reported higher growth rates for mobile money payments and transactions through e-banking and credit cards.

sharp growth in the numbers of people working from home or engaging in remote learning. Global shipments of personal computers grew by 13.1 per cent in 2020 compared with 2019. The UK imported 20 per cent more laptops between March and October 2020 compared with the same period in 2019 (WM REDI and CITY REDI, 2021). Similarly, demand for communication equipment and devices as well as related goods and services that enable access to the internet has surged (OECD, 2020b). At the same time, demand for digitally deliverable creative content such as streaming media and digital books, music and games increased amid lockdowns and restrictions on other activities (WTO, 2021). COVID-19 has forced many artists to expand their

digital footprints, making available digital content to compensate for the loss of live audiences.

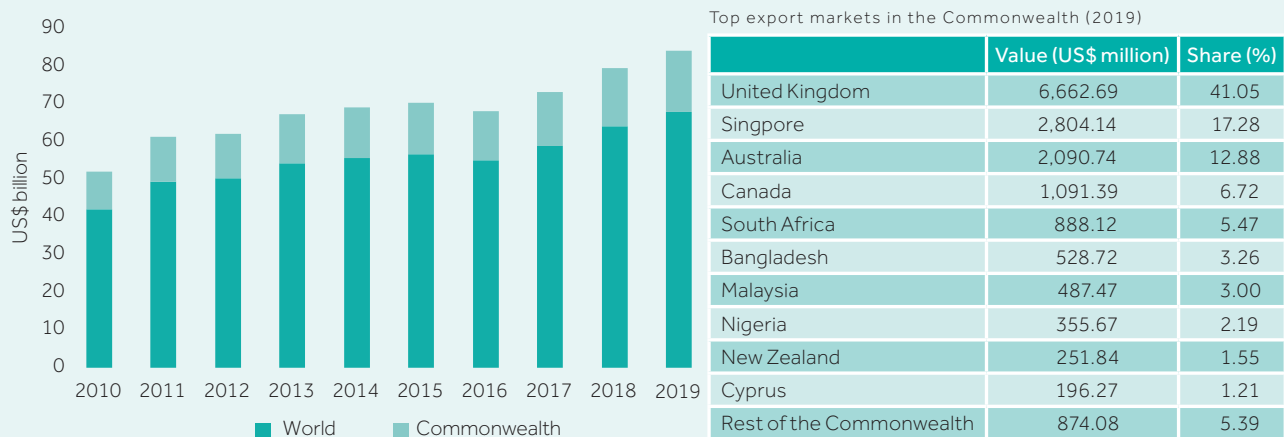
Digital technologies have been especially important for sustaining trade in services. This has mostly been enabled through switching between modes of supply, evident in a substantial shift in favour of the supply of services through Mode 1, which involves cross-border supply enabled through online or digital means (see Chapter 1). For example, as discussed in Chapter 1, to continue providing university education to international students despite government measures limiting inward travel, universities in Australia and Canada switched to online instruction, representing a shift

in the mode of supply of education services from Mode 2 to Mode 1 (Shepherd and Shingal, 2021). In India, even prior to the pandemic, a large share of the country's information technology (IT) and IT-enabled services were exported via Mode 1, meaning they have been relatively more insulated from the adverse effects generated by the pandemic (Box 2.4). Importantly, however, successfully switching to supply services via Mode 1 is contingent on having in place the requisite infrastructure, technological capacity, human capital and connectivity, meaning the extent to which this has been possible is inevitably uneven across Commonwealth countries (see Chapters 1 and 5).

BOX 2.4**INDIA'S ICT SERVICES EXPORTS AND THE PANDEMIC**

India is a leading exporter of ICT services, both globally and in the Commonwealth. In 2019, it was the second-largest global exporter of ICT services (after Ireland), and the largest ICT exporter in the Commonwealth, with exports of these services totalling US\$70 billion. India's ICT services account for around one-third of its total services exports (US\$215 billion). Around 25 per cent of these services are absorbed in Commonwealth countries, with a relatively large share destined for developed members (Figure 2.13). The value of India's ICT services exports to Commonwealth countries has almost doubled, going from US\$9 billion in 2010 to \$17 billion in 2019.

FIGURE 2.13
TRENDS IN INDIA'S EXPORTS IN ICT SERVICES AND KEY EXPORT MARKETS



Source: Commonwealth Secretariat (calculated using WTO-OECD BaTIS dataset)

In terms of delivery, nearly three-fourths of India's IT and IT-enabled services exports were delivered by Mode 1 in 2018/19, which suggests that the bulk of India's exports in this sector may be relatively insulated from the adverse effects generated by the pandemic. With close public and private sector co-operation, India was able to quickly address initial concerns around the pandemic's potential impacts on service delivery and productivity by setting up virtual private networks, improving bandwidth in the areas where employees are residing and addressing challenges related to virtual environments to support secure remote working. These innovative business solutions and government support enabled over 90 per cent of the country's IT workforce to continue working from home.

More than a quarter of India's total IT services exports delivered by Modes 1, 2 and 4 are destined for Commonwealth members and at least a fifth of Mode 3 business by foreign affiliates of Indian firms is estimated to be within the Commonwealth (UK 11 per cent; Canada 5 per cent; Singapore 3.5 per cent). While most of the non-Mode 3 exports are destined for the USA and Canada, a large proportion is sent to Commonwealth countries, including the UK (12 per cent) and Australia and New Zealand (3.3 per cent).

The pandemic has provided India with another opportunity to capitalise on this capacity as more and more services activities have moved online. The preliminary estimates show that the growth rate of the IT sector for 2019/20 has been approximately 10 per cent. Ultimately, the data will likely show some degree of cross-modal substitution in services trade, away from Modes 2 and 4 and towards Mode 1. So far, it remains unclear as to whether or not this type of substitution has compensated for

the huge demand shock that services markets have seen, as GDP growth in 2020 turned negative in much of the world as a result of the combined effect of the pandemic and the measures required to contain its spread. The Reserve Bank of India's provisional estimates show that India has continued to export services worth US\$17 billion per month since April 2020 despite the pandemic and restrictive lockdowns, which is only \$1 billion less than what the country was exporting, on average, in the first quarter of 2020.

Source: Shepherd and Shingal (2021) for the Commonwealth Secretariat

2.5 Broadening access to the internet and ICT usage

The preceding sections highlighted the growth in the Commonwealth's digital trade and investment in digital sectors prior to the onset of the COVID-19 pandemic. However, it is apparent that these flows, in almost all digital categories, are concentrated in a few larger developed and developing country members, meaning most Commonwealth countries, especially LDCs, have yet to fully benefit from some of the positive transformations brought about by digitalisation (Commonwealth Secretariat, 2020). The capabilities, readiness and skills to benefit from digital trade and participate in the wider digital economy are unevenly distributed within and between Commonwealth members as well as between women and men. This is notably the case with internet access, even as mobile internet is growing, especially in Africa (IFC and Google, 2020).

There are stark differences in internet access and usage between the Commonwealth's developed, developing and LDC members (Figure 2.14). In 2019,

the share of people using the internet in Commonwealth developed economies (89 per cent), Caribbean SIDS (62 per cent) and Asian countries (54 per cent) was above the world average (51 per cent), whereas SSA countries and the Pacific SIDS lagged at about 32 per cent.

However, internet use is growing rapidly. In simple average terms, the share of people in the Commonwealth using the internet has almost doubled in the past decade, from 27 per cent in 2010 to above 48 per cent in 2019. The corresponding increase for African members was threefold, from 11 per cent to 32 per cent. This underscores the urgent need to invest in increasing broadband access for SSA members and LDCs, where internet use is even lower, at about 20 per cent. Overall, the Sustainable Development Goal (SDG) target to provide universal access to the internet in LDCs by 2020 has been missed.

Several factors determine access to the internet, including affordable broadband, reasonably priced ICT hardware and services, investment in infrastructure and regulatory approaches to telecommunications to ensure affordability (Ashton-Hart, 2020). For example, in Commonwealth LDCs, the monthly cost for 1.5GB of mobile bandwidth in terms of per-person gross national income (GNI) is almost nine times higher than

in developed countries, and more than double the Commonwealth average (Table 2.6). However, some countries, like Rwanda, are making exemplary progress in reducing costs – from around 25 per cent in 2014 to 7.15 per cent of GNI in 2018 – while doubling their share of citizens accessing the internet.

High import tariffs on hardware, including the equipment used to develop and implement broadband networks, create further barriers to digitalisation. Import tariffs on network equipment¹⁴ in Commonwealth developing countries and LDCs are around 8 per cent, compared with 1 per cent in developed countries. Overall, the Commonwealth average tariff on these goods is a percentage point higher than that of the world. However, for the 11 Commonwealth members belonging to the WTO's Information Technology Agreement, tariffs like these will already be zero on most IT products. Although non-ITA participants have high bound tariffs on ICT goods, the applied rates are significantly lower (Ashton-Hart, 2020).

High tariffs on internet devices can also affect affordability and access. In Africa, around 60 per cent of internet users connect using mobile devices, while the remaining use laptops and personal computers. The high cost of smartphones and laptops can

FIGURE 2.14
SHARE OF THE POPULATIONS OF COMMONWEALTH COUNTRIES USING THE INTERNET, 2019



TABLE 2.6
BROADBAND COSTS AND TARIFFS ON NETWORK EQUIPMENT IN THE COMMONWEALTH

Group	GNI per capita for 1.5GB mobile broadband (%)	Import tariff on network equipment (%)
World	4.33	6.40
Commonwealth	4.26	7.50
<i>Of which</i>		
Developed	0.66	1.17
Developing	4.73	8.41
LDCs	9.30	8.45

Source: Commonwealth Secretariat (calculated using ITU ICT Price Baskets and WITS data for tariffs)

deter widespread internet use. The prices of entry-level and second-hand devices range from US\$35 to \$45, which is equivalent to almost 80 per cent of monthly wages in some African countries (IFC and Google, 2020). Asian brands are generally cheaper and account for 70 per cent of the African mobile device market. Reducing import tariffs, facilitating local manufacturing and developing structured payment plans can enable greater access to ICTs.

Speed of connectivity is also important because there is evidence it can affect GDP and productivity (Commonwealth Secretariat, 2018a). In some Commonwealth developing countries, the surge in internet demand as a result of the pandemic caused an overall decline in broadband speeds. Average download speeds during the lockdown period were higher in developed compared with developing country members, with significant differences between them. For example,

the average download speed was above 50 Mbps in Singapore, New Zealand and Canada but less than 5 Mbps in Tanzania, Mozambique, Bangladesh and Pakistan. The decline in mean speeds during lockdowns was also higher in developing countries, with declines of over 30 percentage points in Malaysia, 23 percentage points in Sri Lanka, 24 percentage points in Ghana and 21 percentage points in India (Banga and Raga, 2021). In response to the pandemic, data service providers and operators in both developed and developing countries reduced mobile transaction costs, provided free gigabits or suspended data limits and boosted capacity at no additional cost. Some governments offered additional spectrum to operators (Bajaj, 2021; Banga and Raga, 2021).

Several private sector initiatives are underway to expand internet infrastructure to developing countries and LDCs. These range from undersea cable networks, like Google's

Equiano,¹⁵ to satellite broadband (Estes, 2020) and high-altitude balloons to deliver mobile internet services. For example, balloons are now stationed over rural regions of Kenya, where they entered service on a commercial basis in July 2020 (Adegoke, 2020). China's Digital Silk Road, which is part of the Belt and Road Initiative, is also a boon for many developing countries looking to boost digital infrastructure capacity. Chinese assistance and investment through the initiative covers a range of areas from telecommunications networks, artificial intelligence capabilities, cloud computing, e-commerce and mobile payment systems to surveillance technology and smart cities (Kurlantzick, 2020). These benefits aside, Chinese investment in digital infrastructure has also fuelled some security-related concerns. This has led several countries, including Australia, Japan and the USA, to ban Chinese tech firms from building their 5G infrastructure.

Box 2.5 compares the performance of two clusters of Commonwealth countries – namely, the 14 Commonwealth countries where more than 70 per cent of the population are using the internet and the 40 countries with lower access – to illustrate some of the possible success factors associated with lower costs for mobile broadband, higher-quality ICT infrastructure and regulations, and lower tariffs applied to imports of network equipment.

BOX 2.5**PROVIDING INTERNET ACCESS IN THE COMMONWEALTH: WHAT CAN WE LEARN FROM THE TOP PERFORMERS?**

There are 14 Commonwealth countries where more than 70 per cent of the population are using the internet. Affordability and regulation have played an important role to ensure this level of access (Figure 2.15).

Affordability and access to the digital economy. One measure of affordability is the monthly cost for 1.5GB of mobile bandwidth in terms of per-person GNI. In 2018, the Broadband Commission for Sustainable Development set the affordability target for entry-level fixed and mobile broadband at 2 per cent of GNI per capita. Seventeen Commonwealth countries met this affordability threshold in 2019. On average, the cost per capita is five times cheaper for Commonwealth members where more than 70 per cent of the population use the internet. This is much higher for LDCs (9.3 per cent), which is 2.2 times higher than the Commonwealth average. The most expensive countries are Malawi, Sierra Leone and Solomon Islands, at over 16 per cent.

The second dimension affecting costs is the import tariffs on ICT hardware and networking equipment. The Commonwealth average for tariffs on networking equipment is 7.5 per cent, ranging from as high as 35 per cent in The Bahamas to zero in seven countries, four of which are SIDS. For Commonwealth countries with less than 70 per cent internet access, the average tariff rate is around 8.2 per cent.

FIGURE 2.15

AFFORDABILITY AND REGULATION FACTORS AFFECTING ACCESS TO THE INTERNET IN THE COMMONWEALTH



Source: Commonwealth Secretariat (calculated using data from A4AI, ITU and WDI)

Regulation and access to the digital economy. Adopting best regulatory practices to develop ICTs feeds into greater affordability and access for individuals and businesses. The ITU's ICT Regulatory Tracker is based on four pillars: regulatory authority, regulatory mandates, regulatory regime and competition framework for the ICT sector. Commonwealth countries average 72.06 out of 100, while those with over 70 per cent internet access score 80. For Commonwealth LDCs, this number is much lower than the average, at 68. This varies across the LDC group, with countries such as Rwanda, Uganda and Tanzania scoring above 80, while there is scope for large regulatory improvements in Sierra Leone, which scores 56.

Similarly, the ICT Infrastructure Index calculated by the Alliance for Affordable Internet (A4AI) measures the extent to which internet infrastructure has been deployed, as well as the policy framework in place to encourage future infrastructure expansion. As of September 2020, 51 Commonwealth countries, excluding Dominica, St Kitts and Nevis and Tuvalu, report having a national broadband plan (ITU, 2020). For Commonwealth countries with higher internet access, the communications index is 67, approximately 1.5 times higher than the Commonwealth average and the countries with less access. Most LDCs, with some exceptions like Rwanda, rank lower than the average, indicating a need for greater investment, policies and prioritisation of ICT infrastructure (A4AI, 2020).

2.6 Conclusion and way forward

In keeping with the increasing prominence of the digital economy globally, the Commonwealth's ICT goods trade expanded steadily in the decade preceding the emergence of COVID-19, as did Commonwealth trade in digitisable products, ICT services and DDS. Intra-Commonwealth flows accounted for sizeable, and in some instances growing, shares of this trade.

Commonwealth developing countries were collectively major contributors to digital trade. However, in almost all digital categories, a few developed and developing members dominated the Commonwealth's global and intra-Commonwealth trade. Many Commonwealth SIDS and LDCs remained marginal players.

COVID-19 has accelerated digital engagement, fuelling growth in e-commerce and digital trade in developed and developing Commonwealth countries, while

also placing greater focus on the importance of digitalisation and digital transformation. The digital economy and digital trade have been central to mitigating some of the economic losses generated by COVID-19, in many instances playing a critical role in sustaining economic activity in the face of lockdowns and restrictions on the movement of people and goods. Consequently, a raft of new opportunities has arisen in e-commerce and digital trade.

At the same time, the rapid acceleration in the adoption of digital technologies precipitated by COVID-19 has the potential to exacerbate existing digital divides in the Commonwealth and widen inequalities between individuals, firms and countries. In this sense, the pandemic has only reinforced the urgent need to address existing obstacles faced by Commonwealth countries looking to engage in e-commerce and participate effectively in digital trade. As outlined in Chapter 5, this hinges on improving a range of aspects of the enabling environment for digital trade and e-commerce

readiness, including in relation to the governance of the digital economy, the adoption or adaptation of frontier technologies for industry and trade, aid for digital trade to support the development of digital infrastructure, digital skills, e-government services and financial inclusion, and efforts to digitalise trade facilitation through, for example, paperless trade.

Moreover, a digital gender divide between women and men in mobile phone access and usage, digital connectivity and participation in the digital economy continues to present a significant challenge. Although solutions to bridge this gap are being pursued, further actions are urgently required to ensure no one is left behind, particularly because women may become correspondingly more disadvantaged as the pace of digitalisation intensifies beyond COVID-19.

Continued investment in digital infrastructure supporting digital connectivity will also be critically important, particularly in Commonwealth LDCs, as will investment

in key sectors underpinning the digital economy. This is especially important for building more resilient economies and societies post-COVID-19. The next chapter examines the impacts COVID-19 has had on FDI in the Commonwealth and shows the pandemic has had a deleterious effect on investment inflows to most sectors, even if some digital sectors have been relatively shielded from the worst effects. Investment in digitalisation will be important for economic recovery and building resilience in many Commonwealth countries, particularly given growth in e-commerce and digital trade is likely to be sustained in the wake of the pandemic.

Endnotes

- 1 This increase took place during the period 1 January 2020 to 1 January 2021. At: <https://datareportal.com/reports/digital-2021-global-overview-report>
- 2 This chapter examines trends in the Commonwealth's digital trade flows that are, unless otherwise specified, measured as the sum of exports plus imports.
- 3 This draws on analysis by Banga and Raga (2021) undertaken specifically for the Commonwealth Secretariat.
- 4 Based on bilateral ICT goods trade data for 26 Commonwealth countries from the World Integrated Trade Solution (WITS) database. The intra-Commonwealth share in overall ICT goods trade flows is lower than the intra-Commonwealth share in total Commonwealth goods trade flows, which stands at 15.6 per cent.
- 5 The United Nations Conference on Trade and Development (UNCTAD) disaggregates the products into four categories: films (HS 37), printed matter (HS 49), sounds, media and software (HS 8524) and videogames (HS 9504).
- 6 These DDS/ICT-enabled services are similar to General Agreement on Trade in Services (GATS) Mode 1 – namely, cross-border supply, as discussed in Chapter 1 (Fredriksson, 2020).
- 7 These figures are based on data on exports and imports of DDS for 37 Commonwealth countries. Data from 2011-2019 is used to maintain a consistent sample of countries across the period.
- 8 Bangladesh, The Gambia, Lesotho, Malawi, Mozambique, Solomon Islands, Uganda and Zambia.
- 9 Readiness to engage in business-to-consumer e-commerce transactions does not capture all aspects of e-commerce activity. Some businesses, particularly smaller enterprises, may be better equipped to engage in business-to-business e-commerce.
- 10 A country's level of preparedness to engage in e-commerce is established on the index using the average across four equally weighted indicators: (1) Account ownership at a financial institution or with a mobile money service provider (per cent of population aged 15+); (2) Individuals using the internet (per cent of population); (3) Postal Reliability Index; and (4) Secure internet servers (per 1 million people).
- 11 The authors consider four segments of the digital economy in their analysis: digital infrastructure, ICT and ICT-enabled services, e-commerce and online work.
- 12 This included 10 Commonwealth countries: Samoa and nine LDCs in Africa (Rwanda, Tanzania, Uganda and Zambia), Asia (Bangladesh) and the Pacific (Kiribati and Tuvalu).
- 13 Importantly, however, not all e-commerce businesses benefited, and much of the growth in e-commerce was skewed in favour of third-party marketplaces. More than half (58 per cent) of the e-commerce businesses surveyed experienced lower sales between March and July 2020.
- 14 Network equipment is defined using a list of 12 HS 6 digit codes from chapters 85 and 90 of the harmonised system of classification. It includes telecommunications equipment as well as some electronic apparatus.
- 15 The first phase of Google's new submarine cable, Equiano, is expected to be completed by 2022 and will connect Portugal and South Africa, bringing unprecedented bandwidth to the region. The first branch is planned to land in Nigeria, with other countries to follow (IFC and Google, 2020).