Preface

In recent years, the digital economy has experienced unprecedented growth, with rising internet access, growing values of business-to-consumer online transactions, increases in information and communication technology (ICT) trade, more widespread use of robotics and increasing automation of production. The rising prominence of the digital economy has occurred on the back of huge growth in flows of digital data. Between 1992 and 2017, global internet protocol traffic, often used as a proxy for the flow of data, increased from 100 gigabytes per day to 45,000 gigabytes per second (UNCTAD 2019). The expansion of digital data flows and the increasing use of data as an economic resource has supported the emergence of digital platforms, in the process fuelling expansion of the digital economy globally. This, in turn, promises to support new jobs in digital services and new forms of digital work, while also creating opportunities for higher levels of growth, productivity and value-added.

While digitalisation is broad and all encompassing, its impact is cross-cutting as well as specific. For example, digital trade and e-commerce are extremely broad and range from online transactions or the purchase and sale of traditional goods and services, to the production and sale of increasingly advanced digital products or the use of digitally enabled platforms and the sharing economy. Digitalisation is increasingly a feature in the agriculture, manufacturing and services sectors globally, transforming business models across continents. The effect of digitalisation also has a bearing on the role of governments and institutions in instigating new regulations and policies.

If harnessed effectively, digitalisation and digital trade can accelerate economic growth, drive productivity improvements and create jobs across the Commonwealth. Digital connectivity can also help Commonwealth members overcome barriers to inclusive development. This requires leveraging digital technologies to promote entrepreneurship and innovation, empower women and facilitate access of micro, small and medium-sized enterprises (MSMEs) to markets and business services (UNCTAD 2017).

Rapid advances towards digitalisation on the back of exponential growth in technologies such as advanced robotics, artificial intelligence, the internet of things, 3D-printing and nanotechnology, have made digital connectivity an increasingly prominent feature of the global economy. This is backed by accelerating market penetration of several key technologies – such as cloud computing, the internet and mobile phones – underpinning digitalisation. At the same time, there has been enormous growth in both the volume and speed of digital data flows.

These developments have important implications for production and economic activity. Digital transformation of traditional manufacturing and production methods is already underway and advances in digital technologies are shifting manufacturing opportunities and patterns of specialisation within and between countries. Digitalisation enables greater specialisation of production processes in both manufacturing and services, facilitating fragmentation of tasks and supporting effective operation of global value chains (GVCs) (Asian Development Bank 2019). In manufacturing, the adoption of advanced technologies supports higher rates of growth in manufacturing value added (UNIDO 2019). The deployment of advanced digital technologies in manufacturing and services can support productivity improvements by minimising input requirements for scare labour and skills, automating tasks and freeing up space for workers to focus on more cognitive tasks requiring human intelligence, complementing labour and skills, assisting education and skills development, and helping to match workers to jobs and tasks more efficiently (Asian Development Bank 2019).

Advances in digital technologies are also influencing the scale, scope and speed of production (OECD 2019). The generally low marginal costs associated with digital products and services mean it is often possible to scale-up production without requiring large numbers of employees or major capital investment. Moreover, the interoperability afforded by digitalisation facilitates greater degrees of complexity and versioning and makes it easier to generate economies of scope. Digitalisation also facilitates rapid diffusion of ideas and innovation.

The potential impact of these developments is being compared with previous large-scale industrial transformations. A 'Fourth Industrial Revolution' is said to be approaching, marked by the increasing use of advanced technologies in industry. The so-called 'industry 4.0' will feature vertical networking of smart production system and technology-enabled horizontal integration across firms and countries through highly flexible and transparent GVC networks and relationships (Deloitte 2014).

The digital transformations that are underway are interacting with, and reinforcing, other mega-trends. For instance, by reducing communication and transaction costs, digitalisation supports the increasing fragmentation of production processes and growth of trade in tasks observed in the global supply chains and production networks of today. Digitalisation is also a critical element of the trend towards the 'servicification' of manufacturing, evident in the growing prominence of digital services embedded within manufactured products (Balchin et al. 2016).

While digitalisation brings new opportunities and development pathways, a persistent digital divide can exacerbate existing inequalities and/ or create new ones. Currently, Commonwealth countries are facing important development challenges, including: a) the need to promote more and better-quality jobs for the young Commonwealth population; b) pressure to achieve the Sustainable Development Goals (SDGs); and c) demands to increase access to finance and build resilience in small states. To keep up with new entrants into the Commonwealth labour market, 50,000 jobs need to be created every day (Sarwar et al. 2018). The rapid digitalisation of the global production and trade landscape is raising concerns regarding 'jobless growth' in Commonwealth countries, with automation substituting workers in various tasks across sectors. A persistent digital divide between developing countries in the Commonwealth and other countries also threatens to increase reshoring of manufacturing activities from less digitally prepared Commonwealth economies and limit future offshoring to these countries.

Several Commonwealth countries, such as the UK, Singapore and Canada are leading examples of digitalised economies, ranking high on the Commonwealth Innovation Index of 2018 (The Economic Times 2018), and some other Commonwealth countries (such as Kenya, Rwanda and South Africa) have shown significant strides in digital transformation. However, 31 out of 53 Commonwealth countries are classified as 'small states' and continue to face considerable challenges in terms of internet adoption, e-governance, the high cost of technology, lack of digital infrastructure, limited human capital and a weak private sector. According to the latest United Nations E-Government Survey (United Nations 2012), more than half of the Commonwealth's small member countries (17 out of 31 states) are ranked in the bottom half of the rankings in terms of their online government services. ICT penetration in these economies is affected by their unique geographic, demographic, social and economic challenges, and is marked by small populations spread over large geographical areas, low levels of skills, high vulnerability to natural disasters and climate change.

Deeper analysis of the benefits, risks and implications of digitalisation is therefore needed for Commonwealth countries, particularly in the context of potential opportunities to harness digital dividends, as well as growing concerns over the digital divide and risks of job losses and exclusion from the digital economy for the 53 Commonwealth member states. Despite several publications on

digitalisation, no study has focused specifically on the Commonwealth. The objective of this study is to better understand the state of the digital economy across the Commonwealth, unpack ways to address the challenges posed by digital transformation and explore opportunities to harness the benefits of digitalisation to boost intra-Commonwealth trade and investment.

The over-arching objective of this study is to assess the state of the digital economy in the Commonwealth, through;

i. identifying the different levels at which the Commonwealth countries are operating in the digital economy;

ii. scoping out the new opportunities for development of small states in the Commonwealth, including through investment in digital machinery, digital skills, e-commerce and e-government services, and identifying the challenges that a persistent digital divide poses in these countries;

iii. understanding the potential for digital technologies to boost intra-Commonwealth trade, and highlighting the role intra-Commonwealth co-operation can play in building digital capacity, particularly in small states; and

iv. identifying best practices and lessons from Commonwealth economies at different levels of development and digital transformation, such as the UK, India, South Africa, Kenya and Papua New Guinea.

The remainder of this study is structured as follows. Chapter 1 portrays the landscape of the digital economy and trade trends in the Commonwealth, while Chapter 2 analyses the implications of rising digitalisation on trade within global value chains. Chapter 3 examines the changing landscape of labour markets and skill needs in the digital future and draws out the implications of these changes for Commonwealth member states. Chapter 4 draws on the 'smart city' concept and identifies where and how Commonwealth countries can improve digital infrastructure. Chapters 5 analyses the role of international regulatory co-operation in supporting the development of the digital economy within Commonwealth member states. Chapter 6 scopes out sustainable and inclusive development in the digital economy, and highlights areas in which Commonwealth countries are supporting more inclusive and sustainable economies in the digital era. Finally, Chapter 7 concludes with policy recommendations for harnessing the benefits and addressing the challenges associated with digital transformation in the Commonwealth.

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