



International Centre for Trade
and Sustainable Development



Regulatory Guide for the ICT Services Sector

Developed by the New Markets Lab
for the International Centre for Trade and Sustainable Development

September 2016

* The New Markets Lab (NML) is a legal and regulatory think tank and innovation lab that improves systems for economic law and regulation to generate broad-based opportunity and entrepreneurship. Through an international team of lawyers and diverse partnerships around the world, the organization develops and tests new models for inclusive economic legal and regulatory change. Since 2010, NML has acted as both a repository of international economic legal best practices and a training ground for the next generation of lawyers. The Regulatory Guide for the Transport Services Sector was developed by NML President Katrin Kuhlmann and NML Senior Fellow Karen Bosman. NML would like to acknowledge the significant contributions of Shannon Keating, Brooke Tenison, and Tvisha Shroff in developing this Regulatory Guide.

TABLE OF CONTENTS

LIST OF FIGURES, TABLES AND BOXES.....	2
ABBREVIATIONS AND ACRONYMS.....	3
EXECUTIVE SUMMARY.....	4
1. INTRODUCTION.....	6
2. NATURE, SCOPE AND CONTENT OF THE ICT REGULATORY ENVIRONMENT.....	8
2.1. Nature of the ICT Industry.....	8
2.2. Scope of ICT Regulations: Mechanisms and Institutions.....	9
3. REGULATORY AND DEVELOPMENT OBJECTIVES.....	16
3.1 Good Business Environment.....	16
3.2 Sustainable Development Goals.....	18
4. REGULATORY PRIORITIES, TRADE-OFFS, AND APPROACHES.....	20
4.1. Independent Regulatory Authority.....	20
4.2. Licensing.....	22
4.3. Spectrum Management.....	23
4.4. Interconnection and Unbundling.....	24
4.5. Universal Access Objectives.....	26
4.6. Measures to Foster a Good Business Environment.....	27
5. CONCLUSION.....	31
REFERENCES.....	34
ENDNOTES.....	38

LIST OF FIGURES, TABLES AND BOXES

Figure 1: Regulatory Goals and Approaches in ICT Services	5
Figure 2: Related Areas of Law	14
Figure 3: National, Regional, and International Regulatory Frameworks	15
Figure 5: Sustainable Development Goals	19
Table 1: ICT Regulatory Authority Institutional Structure	21
Table 2: ICT Regulatory Authority Governance Structure	22
Table 3: Regulatory Goals, Objectives, Trade-offs and Options	31
Box 1: Modes of Service Supply.....	8
Box 2: Regulations and Modes of ICT Service Supply.....	10
Box 3: Principles Contained in the WTO Telecommunications Reference Paper.....	12
Box 4: Ex Ante and Ex Post Regulation.....	23
Box 5: Good Practices: Regulatory Transparency and Accountability.....	24
Box 6: Regulatory Tools for Interconnection.....	26
Box 7: Regulatory Trade-offs: Discriminatory Investment Measures.....	29
Box 8: Trade and Investment Agreements can support Investment.....	30
Box 9: Special Economic Zones.....	31
Box 10: Advocacy Bodies.....	32

ABBREVIATIONS AND ACRONYMS

BIT	Bilateral Investment Treaty
CAFTA-DR	Dominican Republic-Central America- United States
CARICOM	Caribbean Community and Common Market
CFTA	Continental Free Trade Area
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
EEA	European Economic Area
EEU	Eurasian Economic Union
ECTEL	Eastern Caribbean Telecommunications Authority
EFTA	European Free Trade Association
FDI	Foreign Direct Investment
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ICTSD	International Centre for Trade and Sustainable Development
IGO	Intergovernmental Organization
IP	Internet Protocol
ISM	Industrial, Scientific, and Medical
ITU	International Telecommunications Union
LDC	Least Developed Country
LIC	Low-Income Country
MERCOSUR	Southern Common Market
MFN	Most Favoured Nation
MOU	Memorandum of Understanding
NAFTA	North American Free Trade Area
NGO	Non-governmental Organization
NML	New Markets Lab
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
REC	Regional Economic Community
RIO	Reference Interconnection Offer
RTA	Regional Trade Agreement
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SME	Small and Medium-Sized Enterprises
TFTA	Tripartite Free Trade Area
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

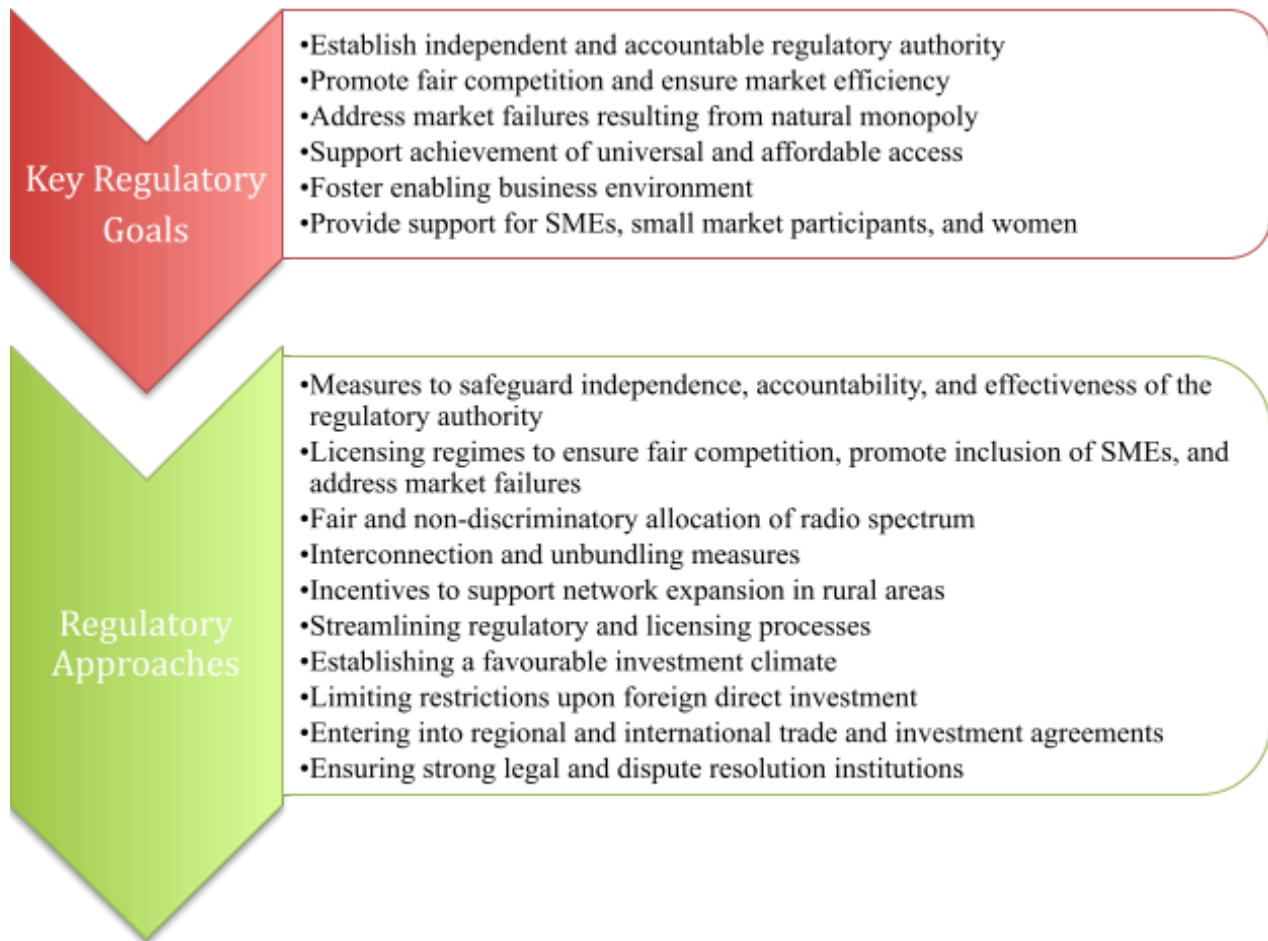
EXECUTIVE SUMMARY

Information and Communication Technology (ICT) services are unique in their potential to enable unprecedented and widespread achievement of social and economic policy objectives. It has been estimated, for example, that for every 10 percent growth in broadband penetration in low and middle income economies, there is a 1.38 percent multiplier for GDP.¹ Realizing this potential, however, remains unattainable for many least developed countries (LDCs) and low-income countries (LICs) that need these services the most. Although many challenges exist with respect to the development of the ICT sector, the design and implementation of strong and effective legal and regulatory frameworks can significantly enhance competitiveness within the sector and support sustainable development. In this regard, regulatory frameworks could be better designed to attract and harness private sector investment and stimulate local economic opportunities and skills development.

Regulation of the ICT sector is particularly important in order to promote the achievement of universal and affordable access to ICT, encourage investment, and facilitate entry for new market participants, ensuring sufficient diversity in the market and safeguarding against monopolistic pricing. Due to the nature of the ICT industry, regulatory frameworks can be complex and multifaceted. However, particular attention to a few key regulatory priorities can have a significant impact. Regulatory goals to support competitiveness for the ICT sector (set out in Figure 1) include, among other things, creation of an independent and accountable regulatory authority; fair competition and market efficiency; universal and affordable access; a good business environment; and support for small and medium-sized enterprises (SMEs). Different regulatory approaches can support the achievement of these goals, including additional measures to foster competition, encourage development of the ICT services sector, and establish a good business environment overall.

Various considerations and trade-offs exist in the choice of regulatory options and the design of legal and regulatory frameworks for ICT. For example, different approaches may be explored with respect to the structure of the of the regulatory authority, and regulatory measures can be balanced to ensure fairness while maintaining sufficient incentives to encourage market entry and investment. Preserving public policy space may also be viewed in light of international and regional commitments, although both can be pursued in a mutually reinforcing way. In addition, all countries seek to balance development of a domestic industry with gains from foreign direct income (FDI). This Regulatory Guide will discuss all of these considerations, and, in each case, policymakers and regulators need to consider the best options for their domestic situation, the country's economic and development goals, and the path to development of the local ICT sector.

¹ Christine Zhen-Wei Qiang and Carlo M. Rossotto, "Economic Impacts of Broadband," in *2009 Information and Communications for Development: Extending Reach and Increasing Impact*, 35 – 50. World Bank: Washington, D.C. 2009. 45.
http://siteresources.worldbank.org/EXTIC4D/Resources/IC4D_Broadband_35_50.pdf (accessed 16 September 2016).

Figure 1: Regulatory Goals and Approaches in ICT Services

Source: New Markets Lab, 2016.

This Regulatory Guide is one of four sector-specific Regulatory Guides developed by the New Markets Lab for the International Centre for Trade and Sustainable Development (ICTSD). These Regulatory Guides are designed to serve as practical tools to highlight key regulatory intervention points for best leveraging development benefits and sustainable market growth in the development of key services sectors. They are part of a larger project geared towards supporting the development of service sector capacity in LDCs and LICs through regulatory and policy improvements and will be used to guide further stakeholder discussion and engagement around regulatory and policy change.

1. INTRODUCTION

ICT is not only a priority service sector for all developing and developed economies, it also plays an increasing role in facilitating trade in numerous other goods and services. It has enabled the integration of national economies into global value chains, while simultaneously offering a platform to an increasingly competitive, technology-based economy.² Fast-paced changes in technology have led to a changing role for ICT, from infrastructure facilitation to a complex digital ‘ecosystem’ that enables the constant evolution of ideas and innovation.³ In particular, through its effect on ease of market entry, lowered transaction costs, and improved communication for services provision across global markets, ICT has revolutionized international trade.⁴ However, from a development perspective, the enormous potential of the ICT sector must be benchmarked not only against the goal of universal access to ICT services but also assessed in light of its ability to advance economic growth and social objectives.⁵ As a result, the choice of regulatory methods for the governance of the ICT sector has become an issue of keen interest to policymakers, including in connection to the Sustainable Development Goals (SDGs).⁶

LDCs and LICs, which have the most to gain from the development benefits of ICT, also face the most significant challenges in harnessing this potential. Not only is the digital divide most real in these countries, but legal and regulatory frameworks are also often not well suited for maximizing the development benefits of ICT.⁷ A number of challenges confront many countries, including how to increase broadband penetration, address infrastructure deficits, lower high Internet prices, and remedy market inefficiencies, all of which can be addressed through the careful introduction of key regulatory reforms. Efficient regulation aimed at bringing down costs, fostering investment, and increasing availability of ICT services in the market can bring

² United Nations Conference on Trade and Development (UNCTAD), *International Trade in ICT Services and ICT-Enabled Services*, UNCTAD Technical Notes on ICT for Development No. 3, 2015. 2. http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d03_en.pdf (accessed 17 June 2016).

³ International Telecommunications Union, *Trends in Telecommunication Reform 2015: Getting Ready for the Digital Economy*, ITU. 2015. ix. http://www.itu.int/en/publications/Documents/Trends2015-short-version_pass-e374681.pdf (accessed 18 July 2016).

⁴ Boutheina Guermazi and David Satola, “Creating the ‘Right’ Enabling Environment for ICT,” in *E-Development: From Excitement to Effectiveness*, edited by Robert Schware. World Bank. 37. <http://213.154.74.164/invenio//record/8311/files/341470Edevelopment.pdf> (accessed 17 June 2016).

⁵ Guermazi and Satola, *Creating the right enabling environment*, xiii.

⁶ UNCTAD, *International Trade in ICT Services*, 2.

⁷ World Bank. *Digital Dividends*. World Bank Report 2016. 5. http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/13/090224b08405ea05/2_0/Rendered/PDF/World0developm0000digital0dividends.pdf (accessed 4 July 2016).

significant growth in the sector and support the achievement of sustainable development objectives.

Understanding the needs of different actors and the tradeoffs that can be involved in the development of legal and regulatory systems will impact whether sectors grow in an inclusive way. The public sector may be responsible for regulating to encourage market growth (for example, creating new regulations to encourage development of a robust ICT services sector) but may be unaware of the full range of equity considerations to take into account, inadvertently overlooking an aspect of regulation that could be critical for start-ups, SMEs or women entrepreneurs. In other cases, law and regulation may need to be adapted to expand access to market services that are currently lacking. How and when to enforce standards is also a critical role for government (for example what to require of new businesses entering), yet when and how to regulate can follow different models. Some countries maintain controls before any market activity occurs (ex ante), while others regulate existing activity in the market and take action if a problem arises (ex post). Best practices, including those from the global south, should be considered, as should the needs of all participants in the market. Finally, putting in place a system for effective regulatory decision-making and change (applying workable standards rather than creating standards so high they discourage most activity) is of paramount importance, particularly when assessing possibilities for services sector development.⁸

This ICT Regulatory Guide provides an overview of laws and regulations governing the sector and presents key intervention points that policymakers, regulators, and other stakeholders in the system can focus on to unlock sustainable development benefits of the information economy. This Regulatory Guide is one of four sector-specific Regulatory Guides that are designed to serve as practical tools focused on good regulatory practices, including approaches that have fostered innovation in other markets and common regulatory mechanisms in each sector. By providing an overview of different regulatory options, along with discussion of the objectives and implications that underpin them, stakeholders will be equipped to assess regulatory options that are best suited for different circumstances.

No single model fits all, but rather, regulators need to assess regulatory objectives and implement regulatory measures best suited to their domestic situation. Good regulatory practices do, however, exist that can guide LDCs and LICs in identifying priorities, dealing with regulatory trade-offs, and designing and implementing effective legal and regulatory systems.

This Regulatory Guide is structured as follows:

- Section 2 of the ICT Regulatory Guide provides an overview of the nature, scope, and content of the regulatory environment, explaining the need for regulation in relation to the nature of the ICT industry. This section also outlines the regulatory mechanisms and institutions that govern ICT at the national, regional, and international levels. In addition, Section 2 presents related areas of law that affect domestic regulation of the ICT sector.

⁸ Kuhlmann, Katrin. *Planning for Scale Brief #6: Enabling Environment*. 2013. http://media.wix.com/ugd/095963_2550d89477974d2eb1e190767e33bbcc.pdf (accessed 10 September 2016).

- Section 3 introduces regulatory and development objectives relevant to the ICT sector, including the importance of fostering a good business environment and the significant role of ICT in relation to the SDGs.
- Section 4 identifies and discusses regulatory priorities and specific regulatory objectives, highlights trade-offs between different regulatory goals, and discusses questions of sequencing reforms that may arise. This section also presents challenges related to FDI and constraints faced by SMEs.
- The Regulatory Guide concludes in Section 5 by reiterating the close link that exists between strengthening national regulatory frameworks and fostering international trade in telecommunications. Section 5 also includes a table summarizing various regulatory goals, objectives, trade-offs, and options.

2. NATURE, SCOPE AND CONTENT OF THE ICT REGULATORY ENVIRONMENT

The unique, network-based, nature of the ICT industry is an important consideration in the design of regulatory frameworks. The unprecedented development potential provided by ICT can be easily undermined by the industry’s tendency towards natural monopolies, and development potential can often be best leveraged where regulatory intervention is designed to address the particular nature of the industry. The following section provides an overview of the nature of the ICT industry in relation to regulatory priorities.

2.1. Nature of the ICT Industry

ICT is an umbrella term that extends to the integration of the telecommunications sector with hardware, software, and audio-visual systems that enable individuals to store and transmit information.⁹ In other words, ICT service providers are broadly defined as those whose “products are intended to enable and/or fulfil the function of information processing and communication.”¹⁰ The ICT sector thus includes all categories of telecommunication and broadcasting services, computer hardware and software, as well as internet based services and applications.¹¹ The ICT sector’s increasing share of total GDP growth is representative of both its direct and indirect contribution to the economy.¹²

In particular, ICT-enabled services, such as human resource management or accounting delivered via Mode 1 (see Box 1), may be understood as “service products delivered remotely over ICT networks.”¹³ Initiatives such as digital financial services also demonstrate how ICT can cut across other service sectors, promoting both efficiency and socially inclusive development.¹⁴

Box 1: Modes of Supply

Services trade is classified according to four “modes” of supply by the WTO GATS, including:

- Mode 1: Cross-Border Supply of Services
- Mode 2: Consumption Abroad
- Mode 3: Commercial Presence
- Mode 4: Movement of Natural Persons

Source: WTO, 2014.

⁹ Gyula Sallai. “Defining Infocommunications and Related Terms.” *Acta Polytechnica Hungarica*. 9(6) 2012. 10. http://www.uni-obuda.hu/journal/Sallai_38.pdf (accessed 27 July 2016).

¹⁰ UNCTAD, *International Trade in ICT Services*, 5.

¹¹ Sallai, “Defining Infocommunications and Related Terms,” 10.

¹² McKinsey & Company Inc. “Fostering the Economic and Social Benefits of ICT” *The Global Information Technology Report 2009-2010*. World Economic Forum. 61 – 62.

http://www.darden.virginia.edu/uploadedFiles/Darden_Web/Content/Faculty_Research/Directory/Chap%2005_Fostering%20the%20Economic%20and%20Social%20Benefits%20of%20ICT.pdf (accessed 25 July 2016).

¹³ UNCTAD, *International Trade in ICT Services*, 9.

¹⁴ United Nations Conference on Trade and Development. *Services, Development and trade: The regulatory and institutional dimension*. UNCTAD Multi-year Expert Meeting on Trade, Services and Development, Fourth Session: Geneva, 18 -20 May 2016. 14.

http://unctad.org/meetings/en/SessionalDocuments/c1mem4d11_en.pdf (accessed 20 June 2016).

The scale of the ICT industry and the nature of goods and services it offers together contribute to its enormous potential as a driver of economic growth,¹⁵ and investment in the ICT sector has significant development benefits. One of the major ways in which ICT enables economic growth is by promoting competition, resulting in a strong correlation between ICT penetration in a country and its overall level of competitiveness.¹⁶ The Internet provides users with greater economic choices and the ability to compare prices, matching demand with supply and reducing transaction costs.¹⁷ The ICT sector promotes inclusion by providing a global platform for small and innovative enterprises to engage in trade, but, at the same time, the nature of the industry can give rise to large monopolies and concentrated market share.¹⁸

Because of its structure, the ICT sector tends towards natural monopolies; this is due to the extremely high fixed costs (or “sunk investments”) required to establish networks which make it inefficient to duplicate the infrastructure.¹⁹ Regulatory measures are, therefore, necessary to safeguard against anti-competitive behaviour and monopolistic prices, ensure that all new and innovative companies are able to enter the market and compete fairly,²⁰ and support universal access to ICT services.²¹

Due to rapid technological innovation and the increasing use of technology in developing markets (more households in developing countries have access to a mobile phone than to electricity and clean water), the number of Internet users has increased from 1 billion in 2005 to an estimated 3.2 billion at the end of 2015.²² Development benefits have, however, not spread as rapidly as the technologies that enable them. Two main reasons have been identified for this disparity. Firstly, an estimated 60 percent of people in the world remain unconnected and thus excluded from the digital economy, and secondly, institutional and regulatory frameworks are often not suited to harnessing and supporting the full potential of ICT.²³

For a variety of reasons, LDCs and LICs in particular face significant challenges in harnessing the benefits of technology. These include poor infrastructure, intermittent energy supply, low broadband penetration, high price of ICT services, and resource and capacity constraints. In addition, regulating competition is challenging in countries without the resources to carry out extensive market analysis and build large costing models.²⁴ Restrictions on foreign investment and high costs of doing business further complicate the landscape.

¹⁵ McKinsey, *Fostering the Economic and Social Benefits of ICT*, 61.

¹⁶ McKinsey, *Fostering the Economic and Social Benefits of ICT*, 62

¹⁷ World Bank. *Digital Dividends*, 11-13.

¹⁸ World Bank. *Digital Dividends*, 3.

¹⁹ Molinuevo, Martin and Sebastián Sáez. “Regulatory Assessment Toolkit: A Practical Methodology for Assessing Regulation on Trade and Investment in Services.” World Bank, 2014. 13. http://unctad.org/en/Publichttp://documents.worldbank.org/curated/en/2014/03/19244904/regulatory-assessment-toolkit-practical-methodology-assessingationsLibrary/presspb2015d7_en.pdf (accessed 6 June 2016).

²⁰ World Bank. *Digital Dividends*, 20.

²¹ Molinuevo et al. “Regulatory Assessment Toolkit,” 13.

²² World Bank. *Digital Dividends*, 2.

²³ World Bank. *Digital Dividends*, 5.

²⁴ International Telecommunications Union. *ICT Regulation Toolkit*. Module 2.1. <http://www.ictregulationtoolkit.org/en/home> (accessed 12 September 2016).

LDCs face a major infrastructure deficit compared to developed countries, where initial state-led investment in telephone infrastructure resulted in expansive wired networks; in Africa and the LDCs, fixed broadband penetration remains below 1 percent.²⁵ Wireless technologies are, however rapidly advancing, and accessibility to ICT in these countries is being driven primarily by the expansion of wireless mobile networks. These networks are largely built by the private sector, often limiting infrastructure rollout to areas of high demand. This is a challenge exacerbated by the fact that many LDCs have sparsely populated rural and low income areas where demand is low and people have little disposable income; returns are too low in these areas to attract investment involving costly infrastructure lay-out.²⁶ Mobile networks also require the effective management of radio spectrum. In addition, landlocked LDCs face serious challenges connecting to international access cables.²⁷

Gender inequalities can also be exacerbated in an increasingly technology-driven world. Internet penetration rates are 12 percent higher for men than for women worldwide. This gap, which is only increasing, is the most pronounced in LDCs (31 percent).²⁸

2.2. Scope of ICT Regulations: Mechanisms and Institutions

The ICT sector is governed by different legal and regulatory mechanisms. Sector-specific regulations, as well as other domestic laws and regulations that impact ICT, are largely designed and implemented at the national and sub-national levels; however, regional and international agreements also significantly impact domestic regulatory structures. Implementation of regional and international agreements can strengthen national regulation, reduce the cost of trade, and provide certainty to foreign investors. The following section provides an overview of key aspects of national, regional, and international regulatory frameworks related to the ICT sector.

2.2.1. National Level Regulation

Until the 1990s, telecommunications services were commonly provided by the state under monopoly conditions, with the government acting as both operator and regulator. Institutional structures have undergone a significant shift since then, as an increasing number of countries have liberalized their telecommunications sectors, introduced competition in varying degrees, and established independent regulatory authorities to oversee market conduct.

Box SEQ Box * ARABIC 1: Regulations and Modes of ICT

Service Supply Measures Affect Mode of
Trade in ICT Services:

- Routing Restrictions: Mode 1
- Limitations on Foreign Equity Participation: Mode 3
- Immigration Laws: Mode 4

Source: WTO, 2014.

Having shifted roles from provider to regulator, states continue to pursue public policy goals through various

n, *ICT Facts and Figures 2016*.

documents/facts/ICTFactsFigures2016.pdf (accessed 20 July 2016).

n. "The Role of ICT in Advancing Growth in Least Developed Countries." ITU. 2011. 48.

2011-2011 (accessed 28 July).

²⁸ International Telecommunications Union, *ICT Facts and Figures 2016*.

regulatory measures, including issuing of licenses, allocation of spectrum, overseeing interconnection and infrastructure sharing, ensuring consumer protection, and pursuing universal access objectives where the market fails to encourage investment.²⁹ Rapid technological changes require flexibility in regulatory regimes, for example, technology neutral regulations that factor in convergence support greater efficiency and innovation.³⁰ In addition, there is a need for regulations that allow the seamless provision of services between providers and across borders; such interoperability provisions also ensure fair market conditions.³¹

Regulatory approaches in the ICT industry depend largely upon the domestic context. Regulatory frameworks in countries with a competitive ICT sector differ from countries in which the government acts as both monopoly operator and regulator. Measures also differ depending upon the level of competitive reforms that have been introduced in the market; in initial stages of reform a regulator might be established to oversee the introduction of a private monopoly, while in later stages regulation will essentially be focused upon ensuring fair participation and competition in a commercialized marketplace and taking steps to address specific market failures.³² In most cases, however, there are a few common domestic and legal regulatory instruments that are used to govern the ICT sector. These include, among others, telecommunications laws and regulations, information technology laws and regulations, electronic transactions and communications laws and regulations, and broadcasting laws and regulations.

Various regulatory measures adopted at the national level can influence ICT services according to the mode in which they are supplied (see Box 2); this is discussed in greater detail below in Section 4.6.

2.2.2. Regional and International Levels

Regional and international regulatory frameworks may interact with domestic regulation in complex ways, particularly when countries are party to multiple regional trade agreements (in sub-Saharan Africa, for example, most countries are part of several regional economic communities (RECs) as a result of these agreements). While some international agreements are aspirational in nature, many supranational regulatory frameworks are intended to be binding and apply at the domestic level. Particularly when it comes to harmonizing trade policies, maximizing economic growth and development potential requires cooperation across borders,

²⁹ UNCTAD. *Services, Development and trade*, 11; Cali, Massimiliano, Karen Ellis, and Dirk Willem te Velde. “The Contribution of Services to Development and the Role of Trade Liberalization and Regulation.” Working Paper 298, Overseas Development Institute. 2008. 71.

<https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3482.pdf> (accessed 14 June 2016).

³⁰ Guermazi and Satola, *Creating the right enabling environment*, 23 – 24.

³¹ UNCTAD. *Services, Development and trade*, 13.

³² World Bank, Infodev, International Telecommunications Union. *Telecommunications Regulation Handbook*. 2011. World Bank. 10-11. http://www.infodev.org/infodev-files/resource/InfodevDocuments_1057.pdf (accessed 28 July 2016).

and national regulators should take into account the effects of implementing international and regional agreements and consider trade-offs with national regulatory objectives.

On a multilateral level, the World Trade Organization (WTO) in particular has played a major role in shaping the regulatory landscape around telecommunications.³³ For WTO members, trade in ICT services is covered by the WTO General Agreement on Trade in Services (GATS), along with the Annex on Telecommunications. Many Members have also made specific commitments related to the ICT sector, and a large number of Members have, in addition, adopted the Telecommunications Reference Paper³⁴ on regulatory principles related to telecommunications (see Box 3).³⁵ These principles relate to both institutions and processes.

The GATS sets out the different types of market access parameters affecting the supply of services. Almost all of these involve prohibited restrictions in services which are of a quantitative nature and take the form of limitation on the number of service suppliers, transactions, outputs, persons employed, and the participation of foreign equity. Another refers to the type of legal vehicle used to supply the service. Such limitations can only be imposed in the sectors in which specific commitments have been made only insofar as they are agreed upon and scheduled by a member during negotiations. Further, the GATS also prohibits measures that have the effect of discriminating between or against countries' services and service suppliers. Through a system of exceptions, the rules also set out to ensure that ICT services regulations are designed and correctly applied so as to serve legitimate regulatory objectives are consistent with the WTO.

Also noteworthy is the WTO LDC Services Waiver (decision on the “Preferential Treatment to Services and Service Suppliers of Least-Developed Countries” adopted in 2011, and the 2013 decision on the “Operationalization of the Waiver Concerning Preferential Treatment to Services and Service Suppliers of Least developed countries”).³⁶ The LDC Services Waiver has allowed WTO Members to waive their most-favoured nation (MFN) obligation under the GATS and grant preferential treatment to services and service suppliers from LDCs. Any preferential treatment granted under the LDC Services Waiver is to be granted immediately and unconditionally to like services and service suppliers of all LDCs. The LDC Services Waiver allows preferential treatment with respect to market access (Article XVI of the GATS) to be implemented once a notification has been submitted to the Council for Trade in Services.³⁷ To date, 21 countries have submitted notifications to the WTO setting out particulars of the services for which they will grant preferential access to LDCs. A number of countries have included ICT and ICT related services in their notifications, for example, Australia, Chile, and the United

³³ Guerhazi and Satola, *Creating the right enabling environment*, 25.

³⁴ World Trade Organization Website, *Telecommunications Services: Reference Paper*. 1994. https://www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm (accessed 17 August 2016).

³⁵ World Trade Organization Website, *Telecommunications Services*. https://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_e.htm (accessed 16 June 2016).

³⁶ World Trade Organization Website, *Trade in services and LDCs*. https://www.wto.org/english/tratop_e/serv_e/ldc_mods_negs_e.htm (accessed 12 September 2016).

³⁷ World Trade Organization. *Preferential Treatment to Services And Service Suppliers of Least-Developed Countries*, Decision of 17 December 2011, WT/L/847; Ministerial Conference; Eighth Session; Geneva; 19 December 2011. https://www.wto.org/english/thewto_e/minist_e/min11_e/official_doc_e.htm#adopted (accessed 9 September 2016).

States. Australia³⁸ and Chile have indicated that they would grant preferential access to LDCs in “computer and related services,” under which, for example, Chile has included, among other things, “consultancy services related to the installation of computer hardware, software implementation, and data processing services.”³⁹ The United States, on the other hand, has included “information services” which includes “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications,” and includes electronic publishing.⁴⁰

Other significant aspects of domestic telecommunications regulation, including regulation of radio spectrum and satellite orbits, are also regulated internationally by the International Telecommunication Union (ITU).⁴¹ In addition, members of the World Intellectual Property Organization (WIPO) have also committed at a multilateral level to certain intellectual property protection provisions related to the Internet.⁴²

Regional and bilateral agreements on ICT services, or those that include provisions related to ICT services, can also play a critical role in the regulation of the ICT sector by strengthening regulatory cooperation, ensuring fair competition and bringing down costs, encouraging larger regional markets, and providing regulatory certainty for investors. These agreements often include provisions related to, for example, access and use, interconnection, cross-border data flows, resale of public telecommunications services, and international mobile roaming.⁴³ Competition provisions in regional agreements can also help to strengthen regional ICT regulatory frameworks.

Box SEQ Box * ARABIC 2: Principles Contained in the WTO

Telecommunications Reference Paper

- *Require interconnection between suppliers on non-discriminatory, cost-oriented, transparent basis, subject to dispute settlement by independent body*
- *Administer universal service programs in transparent, non-discriminatory, competitively neutral manner*
- *Establish an impartial regulatory body separate from, and not accountable to, any supplier of telecommunication services and networks*
- *Allocate scarce resources in an objective, timely, transparent, non-discriminatory manner*

Source: WTO, “Reference Paper,” 1994

³⁸ World Trade Organization. *Notification of Australian Preferential Treatment to Services and Service Suppliers of Least Developed Countries*. 29 May 2015. S/C/N/805.

³⁹ World Trade Organization. “Notification of Chile’s Preferential Treatment to Services and Service Suppliers of Least Developed Countries.” S/C/N/834. 12 October 2015.

⁴⁰ World Trade Organization. “Notification of U.S. Preferential Treatment to Services and Services Suppliers of Least Developed Countries.” S/C/N/825. 4 September 2015.

⁴¹ International Telecommunications Union Website, *About ITU*.
<http://www.itu.int/en/about/Pages/default.aspx>

⁴² World Intellectual Property Organization (WIPO). *WIPO Internet Treaties*.
http://www.wipo.int/copyright/en/activities/internet_treaties.html (accessed 17 August 2016).

⁴³ Hildegunn Kyvik Nordås. “Trade Policy and Regulatory Objectives in Telecommunications and ICT Services.” Organisation for Economic Co-operation and Development (OECD). Presentation at United Nations Conference on Trade and Development Multi-year Expert Meeting on Trade, Services, and Development. Fourth Session. Geneva, 18 – 20 May 2016.

http://unctad.org/meetings/en/Presentation/c1mem4_2016_p114_S3_H%20Nordas_en.pdf (accessed 20 June 2016).

The Southern African Development Community (SADC) Protocol on Transport, Communications, and Meteorology (“SADC Protocol”) provides an example of a regional agreement that can have a direct influence upon national regulation. The SADC Protocol, for example, requires that member states establish independent national regulatory bodies with specific responsibilities, including licensing of telecommunications service providers and ensuring efficient use of radio spectrum. The SADC Protocol also requires cooperation on various areas of telecommunications regulation, including universal service, broadcasting, network provision and maintenance, technical standards, and human resource development.⁴⁴ The SADC Protocol is an example of a good practice in sub-Saharan Africa, and the other African RECs are not yet as advanced in regional harmonization for ICT.

Regional cooperation can be particularly significant in countries that lack skills and resources, and a regional regulatory authority, another example of a good regulatory practice, could provide expertise unavailable in each member state.⁴⁵ An example is the Eastern Caribbean Telecommunications Authority (ECTEL), which serves as the regulatory body for telecommunications in its five member states.⁴⁶ ECTEL consists of a Council of Ministers, a regional Directorate, and a National Telecommunications Regulatory Commission in each member state.⁴⁷ ECTEL provides expertise on a regional level, including for example tariff reviews and impact assessment studies.⁴⁸ Another example of a regional ICT cooperation is the Asia-Pacific Telecommunity, which serves as a focal organization for ICT in the region,⁴⁹ with specific objectives including the development of telecommunications services and information infrastructure, particularly in less developed areas.⁵⁰ Figure 3 below illustrates the layout of national, regional, and international regulatory frameworks that affect the ICT sector.

In addition to regional agreements related specifically to ICT, a number of regional trade agreements (RTAs) include provisions on trade in services more generally. While many RTAs are focused primarily on trade in goods, trade in services is increasingly being included. The East African Community (EAC) Common Market Protocol,⁵¹ for example, provides for the free movement of services within the EAC.⁵² Notably, in sub-Saharan Africa, the Tripartite Free

⁴⁴ Southern African Development Community. *Protocol on Transport, Communications, and Meteorology in the Southern African Development Community (SADC) Region*. 1996. Article 10.

⁴⁵ International Telecommunications Union, *ICT Regulation Toolkit*, Module 6.

⁴⁶ Commonwealth of Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines.

⁴⁷ Eastern Caribbean Telecommunications Authority (ECTEL) Website, *About Us*. <http://www.ectel.int/about-ectel/> (Accessed 16 August 2016).

⁴⁸ International Telecommunications Union, *ICT Regulation Toolkit*, Module 6.

⁴⁹ Asia-Pacific Telecommunity Website. *Introduction*. <http://www.aptsec.org/APT-Introduction> (Accessed 17 August 2016)

⁵⁰ Asia-Pacific Telecommunity Website. *Objectives*. <http://www.aptsec.org/APT-Objectives> (Accessed 17 August 2016)

⁵¹ East African Community. *Protocol on the Establishment of the East African Community Common Market*, 2010, Articles 16-23.

⁵² Other RTAs that have been notified at the WTO which include trade in services include the Southern Common Market (MERCOSUR), the Caribbean Community and Common Market (CARICOM), the Eurasian Economic Union (EEU), the European Free Trade Association (EFTA), the European Economic Area (EEA), the North American Free Trade Area (NAFTA), the Trans-Pacific Strategic Economic Partnership, and the Dominican Republic- Central America-United States Free Trade Agreement (CAFTA-DR) (World Trade

Trade Area (TFTA) between the Common Market for Eastern and Southern Africa (COMESA), EAC, and the Southern African Development Community (SADC), launched in June 2015, will also include trade in services,⁵³ as will the Continental Free Trade Area (CFTA), for which negotiations were launched also in June 2015.⁵⁴

Bilateral Investment Treaties (BITs) may also contain provisions that affect how national regulatory frameworks are designed and applied, particularly towards foreign investors. BITs, for example, may protect foreigners investing in ICT infrastructure from expropriation without compensation, guarantee fair and equitable treatment to foreign investors, and provide for specific dispute settlement mechanisms between foreign investors and host states.

The implementation of international and regional agreements can differ from country to country and depends upon the legal system of the country as well as the institutional structure of the regional economic community. In some cases, regional regulations are automatically binding at national level, while in other cases a process of domestication is required.⁵⁵ In order to maximize economic growth and development potential, regulators need to take into account the effects of implementation of international and regional agreements and consider trade-offs against national regulatory objectives.

2.2.3. Related Areas of Law

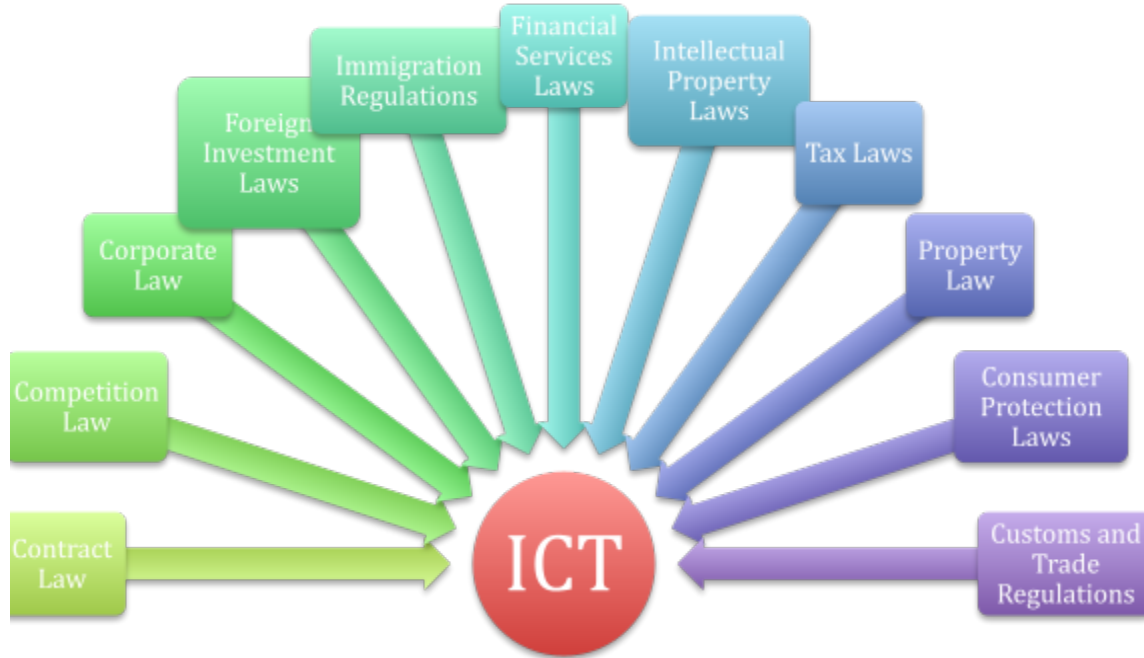
Many national legal and regulatory frameworks impact the ICT services sector that may not directly regulate the sector. These also play a role in the efficiency of the sector, and regulators need to consider the broader system of law and regulation in order to assess opportunities for maximising economic growth and development potential.

Organization. *World Trade Organization RTA Information System*.
<http://rtais.wto.org/UI/PublicAllRTAList.aspx> (accessed 6 September 2016.)

⁵³ Tralac Trade Law Centre Website. SADC-EAC-COMESA Tripartite Free Trade Area Legal Texts and Policy Documents. <https://www.tralac.org/resources/by-region/comesa-eac-sadc-tripartite-fta.html> (accessed 12 September 2016).

⁵⁴ African Union (AU). *AU Declaration on the Launch of the Negotiations for the Establishment of the Continental Free Trade Area (CFTA)*. Southern African Legal Information Institute (SAFLII). <http://www.saflii.org/au/AUDECLARATIONS/2015/2.html> (access 10 September 2016).

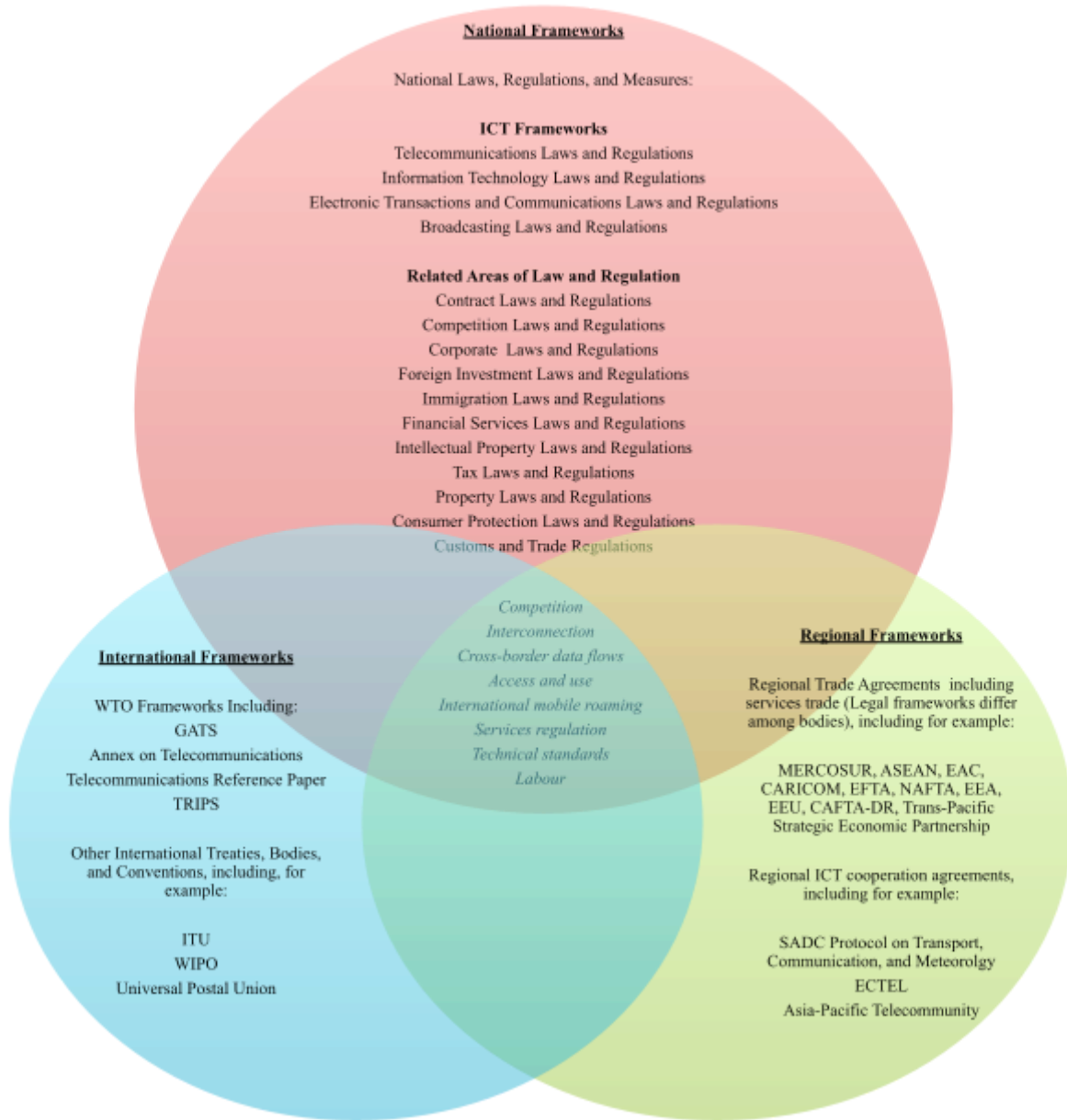
⁵⁵ RECs use different legal instruments, for example, regulations, directives, protocols, and MoUs, that can be binding or non-binding depending on the institutional structure of the RECs and the legal instrument used. For example, in the EAC regulations are automatically binding upon member states and supersede national law, although implementation generally requires domestication through the amendment of national laws and regulations, while in the SADC MoUs are not binding upon members (Kuhlmann, 2015). In addition, the application of international law at the domestic level varies from nation to nation. While not all countries fall into these categories, most are either “monist” or “dualist” when it comes to treaties. Civil Law countries tend to be “monist”: when civil law countries ratify a treaty, they agree to be bound internationally, and the state’s obligations become part of domestic law automatically. In contrast, most Common Law countries are “dualist”: dualist countries require implementing legislation at the domestic level, following ratification of an international agreement. That is, domestic and international law are considered to be separate bodies, and international law may only apply once it has been “domesticated,” or enacted at the national (or local) level (O’Connor 2012, 14).

Figure 2: Related Areas of Law

Source: New Markets Lab, 2016.

Related areas of law include, for example, contract law, which governs all contractual relationships and significantly impacts investor certainty, and competition law, which in many cases is applied directly to certain aspects of ICT and can largely influence market structures in the ICT sector. Corporate law determines structures for ICT service providers, and streamlined regulatory processes around the establishment of corporations can have a positive impact on investment economy-wide, including in the ICT sector. Foreign investment legislation and immigration regulations can influence the ability of foreign investors to enter the market and provide ICT services. Financial services laws and regulations (for example Banking Laws and Regulations) impact all financial transactions and contribute to the ease of doing business, and these measures can largely influence the availability of credit and financing for potential entrepreneurs. Intellectual property laws, particularly when well implemented, will provide greater incentive for investors to enter the market. A country's tax regime can also be a significant tool for attracting investment, but it can also be a deterrent, requiring careful consideration and balance between incentives and revenue collection. Property law impacts ICT infrastructure rollout, and regulatory processes around ownership, leasing, and zoning can significantly influence service providers' business decisions. Customs and trade regulations will influence the importation or exportation of ICT hardware. In addition, depending upon the domestic legal system, general consumer protection laws can have direct application for the provision of ICT services, with additional regulatory considerations for service providers.

Figure 3: National, Regional, and International Regulatory Frameworks



Source: New Markets Lab, 2016.

Many related areas of law and regulation, including regional and international regulatory frameworks, affect the functioning of the ICT sector and can add additional layers of regulation and operational costs, impacting ease of entering the market for potential smaller market participants and influencing investment considerations of larger service providers. In each case, regulatory objectives, goals, and trade-offs need to be considered.

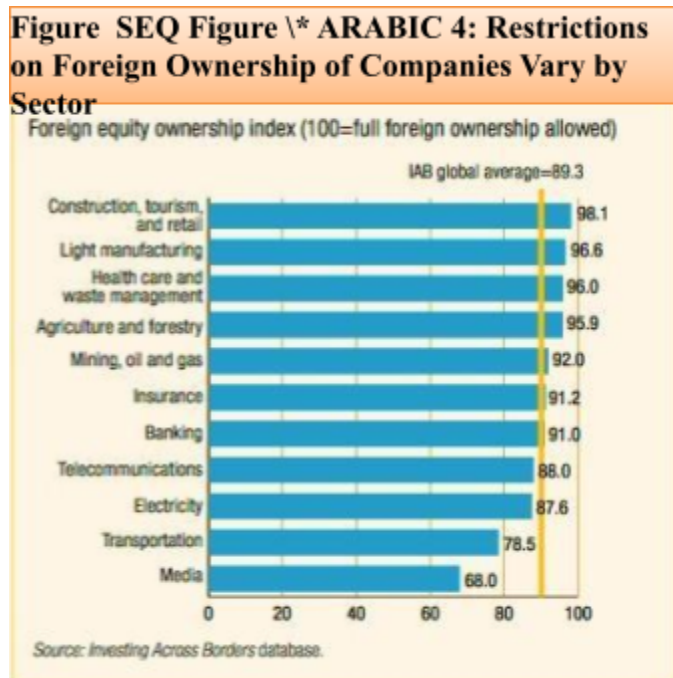
3. REGULATORY AND DEVELOPMENT OBJECTIVES

The design and function of legal and regulatory frameworks can significantly support the achievement of development objectives, including the SDGs. Setting specific goals can guide regulatory strategies and clarify key intervention points. In LDCs and LICs, investment in the ICT sector is one of the most crucial challenges to meeting development goals; this can be addressed through regulatory frameworks that are carefully designed to foster market development. This section will discuss the importance of fostering a good business environment as well as the significant role of ICT in relation to the SDGs.

3.1 Good Business Environment

Internationally, development in the ICT sector has largely been driven by reforms such as market liberalization, introduction of competition, and private sector participation, coupled with effective regulation.⁵⁶ Positive affects are clear from the high levels of fixed and mobile penetration achieved in countries with GATS commitments in basic telecommunications versus those without. Revenue growth as a percentage of GDP is also higher following reforms. For example, revenue from the ICT sector in Uganda after reforms was much higher than in Ethiopia where no sector reform had taken place.⁵⁷ Investment in the ICT sector is, however, crucial to maximise the development potential of reforms.

Liberalization and privatization enable private sector investment to be harnessed to increase availability of ICT services and support the achievement of public goals, while the introduction of competition can significantly bring down prices and increase the affordability of ICT services. Increasing affordability and accessibility of ICT services through regulatory interventions also supports governments in achieving public policy goals related to economic development, health and education, and service delivery.



Source: World Bank, 2010

In order to attract investment and support privatization, however, it is important to create regulatory structures that can foster a good business environment. The creation of an investment-friendly, predictable legal, regulatory, and policy environment will help facilitate

⁵⁶ Cali et al, "The Contribution of Services to Development," 63.

⁵⁷ Guermazi and Satola, *Creating the right enabling environment*, 30

growth among enterprises of all sizes.⁵⁸ The ease with which new players can enter the market is a significant factor, and various regulatory mechanisms can be implemented to support new market entrants.

A number of issues can impact the growth of the sector. In particular, certain regulatory measures may affect FDI inflows, and regulators need to consider the significant gains that FDI can bring to the ICT sector when implementing measures that restrict FDI. For example, FDI can increase investor confidence, help establish transparent legal and regulatory processes, and improve the enforceability of contracts and dispute resolution. Regulations do, however, need to be designed to ensure that the benefits of FDI are harnessed to support development and technology transfer (see Section 4.6 for a more detailed discussion on measures to foster a good business environment). FDI-specific restrictions may include, for example, requirements for foreign companies to obtain investment approval. Such restrictions can add time (up to six months in some countries) and costs that can discourage foreign investment.⁵⁹ Restrictions on foreign investments are found across various sectors in almost 90 percent of countries, with a number of limitations on foreign participation in telecommunications services. Limitations on foreign participation may arise from legislative restrictions, for example requirements for foreign equity ownership, or from state-owned monopolies that prevent private firms (both foreign and domestic) from participating in the sector. Figure 4 illustrates restrictions on foreign ownership by sector.

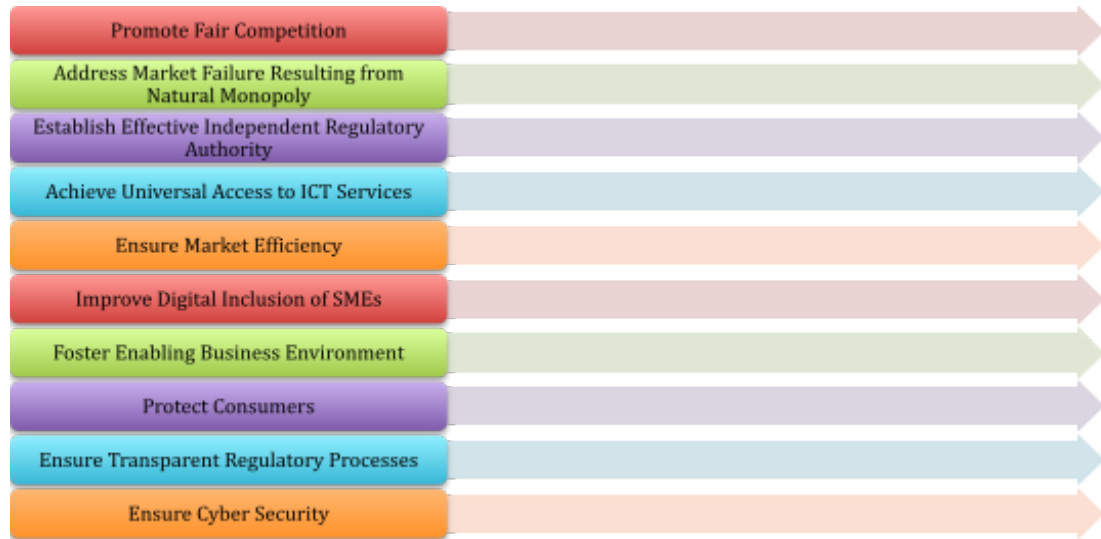
Additional factors that can impact growth in the ICT sector include access to finance, capacity constraints, and quality of infrastructure. In order to foster a good business environment, regulatory options also need to be considered in relation to their impact upon the competitiveness of service providers. For example, the application of licensing and registration requirements can be applied in different ways in order to best balance market and development goals, ensure competition, and promote consumer confidence. Licensing and registration requirements may also be designed and applied in a way that is too cumbersome, however, affecting the ability of small market participants to operate.

Figure 5 illustrates various regulatory goals that support a good business environment and the achievement of development goals in the ICT sector.

⁵⁸ Guermazi and Satola, *Creating the right enabling environment*, 25.

⁵⁹ World Bank, *Overview: Investing Across Borders*. 2010. 8.

<http://iab.worldbank.org/~media/FDKM/IAB/Documents/Overview-IAB.pdf> (accessed 15 September 2016).

Figure 5: Regulatory Goals

Source: New Markets Lab, 2016.

As discussed above in Section 2.1, the nature of the ICT sector tends toward natural monopoly, and regulatory intervention is thus required to address instances where market failure gives rise to monopolistic behaviour. The promotion of fair competition and market efficiency ensures ease of market entry, supports innovation, increases the number of service providers and availability of services, improves service quality, and improves affordability by driving down prices. Additional measures can be introduced to expand the inclusion of SMEs, which will enhance the domestic economy, provide opportunities for economic inclusion of women and smaller market participants, improve skills, and create employment opportunities. Establishing an independent and accountable regulatory authority separates the regulatory function from policymaking and operation, which, along with transparent regulatory processes, ensures credible and fair market regulation and provides regulatory certainty for investors. Protecting consumers and ensuring cyber security promote consumer confidence and address security concerns. These are crucial building blocks for development of the ICT sector and should be reflected in regulatory approaches. In addition, universal and affordable access is one of the most fundamental goals for the realization of the development potential of the ICT sector and is discussed in greater detail in the section below.

3.2 Sustainable Development Goals

Building on the Millennium Development Goals, the SDGs, adopted in September 2015 at the United Nations Sustainable Development Summit, set ambitious social, economic, and environmental development targets.⁶⁰

⁶⁰ United Nations, *Sustainable Development Goals*.

<http://www.undp.org/content/undp/en/home/sdgooverview/post-2015-development-agenda.html> (accessed 30 July 2016).

Figure 5: Sustainable Development Goals

Source: United Nations, “Sustainable Development Goals”

These targets, set out in Figure 5, not only form a shared global agenda for development through 2030 but also provide a clear roadmap for domestic policy objectives in each country. ICT can play a major role in supporting achievement of the SDGs, particularly in LDCs and LICs where ICT provides unprecedented opportunities to leapfrog historic development gaps.⁶¹

Digital financial services, for example, offer unparalleled solutions to financial inclusion; e-agriculture has the potential to revolutionize the rural economy; e-health applications bring extraordinary advancement in global health objectives; technology fundamentally transforms access to education; and ICT and ICT-enabled services provide immeasurable opportunities for entrepreneurs to trade on a global platform.⁶²

SDG 9.c relates directly to ICT and sets the following target: “Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.” By setting SDG 9.c as a national policy goal, LDCs and LICs will enable not only the achievement of universal and affordable access to the Internet, but, in doing so, will also unleash the potential to achieve a number of the other SDGs. Achieving SDG 9.c at the national level can be supported through the implementation of a legal and regulatory framework that enables a competitive ICT sector. In

⁶¹ The Earth Institute, Columbia University, “ICT and SDGs: How Information and Communications Technology can Accelerate Action on the Sustainable Development Goals.” 13 <https://www.ericsson.com/res/docs/2016/ict-sdg.pdf> (accessed 28 July 2016).

⁶² Sofie Maddens. “Building Blocks for Smart Societies in a Connect World: A Regulatory Perspective. on Fifth Generation Collaborative Regulation.” ITU. GSR Discussion Paper. 2016. 7. https://www.itu.int/en/ITU-D/Conferences/GSR/Documents/ITU_BuildingBlocksReg_GSR16.pdf (accessed 16 July 2016).

addition, SDG 9.c can be achieved at the regional level through effective regional cooperation and harmonized regulation.

SDG 5.b, which calls for enhancement of the “use of enabling technology, in particular information and communications technology, to promote the empowerment of women,”⁶³ is also an important goal that can be supported through national regulatory measures, for example, measures to encourage roll-out of ICT networks in rural areas as well as those to encourage ICT literacy among women and small scale producers. Additionally, regulations could encourage the participation of women in the design of local infrastructure projects.⁶⁴

⁶³ United Nations, *Sustainable Development Goals*.

⁶⁴ World Bank. “Transport & Gender, Gender and Development Briefing Notes.” Gender and Development Group, The World Bank. 2007.
http://siteresources.worldbank.org/INTGENDER/Resources/Transport_March07.pdf (accessed 11 September 2016).

4. REGULATORY PRIORITIES, TRADE-OFFS, AND APPROACHES

This section will discuss the most pressing regulatory priorities, trade-offs, and approaches that apply to the ICT sector, discussed in light of the nature of the transport sector, scope of regulation, and regulatory and development objectives discussed above. Regulatory priorities include areas of intervention that have been recognized through international best practices as key to the development of a competitive ICT sector that strengthens the industry and supports the achievement of universal and affordable access to ICT services.

In addition, the sequencing of regulatory reforms is crucial to maximizing the benefits of market opportunity and avoiding any negative unintended consequences. It is important to have solid legal and regulatory frameworks in place (for example, Competition Laws) as sectors are privatized or liberalized and the introduction of subsequent reforms continues. This legal foundation also includes general corporate, investment, contract, dispute resolution, and financial legal and regulatory frameworks, as well as specific frameworks to deal with interconnection, licensing and authorization, universal service, dispute resolution, tariff setting, and market definition methodologies.⁶⁵ In addition, data and privacy protection laws will ensure consumer protection as the ICT sector develops.⁶⁶

4.1. Independent Regulatory Authority

Objectives for ICT Regulatory Authority

- Effectiveness
- Independence
- Transparency
- Accountability
- Expertise
- Efficient dispute resolution

Because of the nature of the ICT sector, the independence of the regulatory authority is of paramount importance. An independent regulatory authority is a pillar of a good regulatory system for ICT and a competitive ICT industry. One of the most prevalent institutional structures found in the telecommunications sector today, and the first step towards reform, includes separating the regulatory function from both policymaking and service provision.⁶⁷ When removed from the influence of short-term political considerations, regulators are better able to maintain a regulatory environment that is credible to investors and facilitates

long-term investment.⁶⁸ In addition, while industry participation in the regulatory system is important, independence from undue industry influence ensures fair market conditions for all participants, particularly SMEs and new market entrants. This structure has been largely supported by the terms of the WTO Telecommunications Reference Paper. Reforms have been

⁶⁵ International Telecommunications Union, *ICT Regulation Toolkit*, Module 1.

⁶⁶ Guermazi and Satola, *Creating the right enabling environment*. 42

⁶⁷ World Bank, Infodev, International Telecommunications Union. *Telecommunications Regulation Handbook*, 17.

⁶⁸ Organisation for Economic Co-operation and Development. *Being an Independent Regulator*. 2016. OECD Publishing, Paris. 18.

http://www.keepeek.com/Digital-Asset-Management/oeed/governance/being-an-independent-regulator_9789264255401-en#.V9gtY4XLBpk (accessed 9 September 2016).

found to be more successful when an independent regulatory authority is established prior to privatization.⁶⁹

Regulator must first and foremost be effective, and independence, transparency, accountability, and predictability are all critical to establish an effective regulatory authority. Various measures can strengthen independence, including the manner in which the regulator receives funding.⁷⁰ Ensuring a regulatory framework that establishes a mix of different sources of funding, rather than relying only on government budgetary processes, can limit the influence of external interests and ensure that funding is free of influence. Additional measures such as setting clear guidelines for the way in which funding needs are determined, appropriated and spent; setting out procedures for the appointment of board members, for example, nomination of candidates by independent panels;⁷¹ and providing fixed terms of appointment can further safeguard independence.⁷² In addition, setting a clear regulatory mandate ensures transparency and accountability (see also Box 5 below on regulatory transparency and accountability).⁷³ Four different types of institutional design for regulators, which depend upon domestic conditions, have been identified as viable options (Table 1 below).⁷⁴

Table 1: ICT Regulatory Authority Institutional Structure

Institutional Design	Scope	Attributes
Single-sector Regulator	<input type="checkbox"/> Telecommunications only (possibly postal services), excludes information technology or broadcasting <input type="checkbox"/> Example: Jordan	<input type="checkbox"/> Staff possesses telecommunications-specific skills
Converged Regulator	<input type="checkbox"/> Combined to cover all aspects of ICT <input type="checkbox"/> Example: Korea	<input type="checkbox"/> Decrease overlap of regulatory functions <input type="checkbox"/> Save costs <input type="checkbox"/> Greater consistency in approach <input type="checkbox"/> More flexible

⁶⁹ Riham Ahmed Ezzat, Carlo Cambini, and Carine Staropoli. “The Impact of Reforms Sequencing on the telecom sector performance: Evidence from MENA countries.” *Network Industries Quarterly* 17 no. 3 (2015). 18.

<http://mir.epfl.ch/files/content/sites/mir/files/Newsletter/Vol%2017,%20No%203,%202015/The%20Impact%20of%20Reforms%20Sequencing%20on%20the%20telecom%20sector%20performance,%20Evidence%20from%20MENA%20countries%20-%20Riham%20Ahmed%20Ezzat%20-%20Carlo%20Cambini%20-Carine%20Staropoli.pdf> (accessed 19 June 2016).

⁷⁰ International Telecommunications Union, *ICT Regulation Toolkit*, Module 6.

⁷¹ Organisation for Economic Co-operation and Development, *Being an Independent Regulator*. 11-14.

⁷² Organization for Economic Co-operation and Development. “Designing Independent and Accountable Regulatory Authorities for High Quality Regulation.” 2005. 82-86.

<https://www.oecd.org/gov/regulatory-policy/35028836.pdf> (accessed 10 September 2016.)

⁷³ International Telecommunications Union, *ICT Regulation Toolkit*, Module 6.

⁷⁴ World Bank, Infodev, International Telecommunications Union, *Telecommunications Regulation Handbook*, 18.

<p>Multi-sector Regulator</p>	<ul style="list-style-type: none"> <input type="checkbox"/> All sectors with similar economic and legal characteristics such as telecommunications, water, energy, and transport <input type="checkbox"/> Example: Luxembourg 	<ul style="list-style-type: none"> <input type="checkbox"/> Can be done with limited resources <input type="checkbox"/> Protects against undue influence <input type="checkbox"/> Staff have less specific skills <input type="checkbox"/> Challenging when different sectors with very different considerations and varying levels of liberalization <input type="checkbox"/> Regulator overly dependent upon telecommunications for large proportion of revenue
<p>Competition Authority</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Economic and competition regulation of ICT sector <input type="checkbox"/> Example: New Zealand 	<ul style="list-style-type: none"> <input type="checkbox"/> Streamlines economy-wide competition regulation function <input type="checkbox"/> Requires established general competition regulatory framework (including Competition Law) competent to evaluate complex ICT matters

Source: ITU, 2016.

Further, regulatory authorities can consist of either a board or a single regulator; the choice presents certain trade-offs, and, again, the domestic context should be taken into account in this regard. Table 2 summarizes the key attributes of each.

Table 2: ICT Regulatory Authority Governance Structure

Board	Single Regulator
<ul style="list-style-type: none"> <input type="checkbox"/> Brings together expertise from various areas, usually from both the public and private sectors <input type="checkbox"/> Can be more resistant to influence <input type="checkbox"/> Decision-making may be slower <input type="checkbox"/> More expensive to remunerate all board members <input type="checkbox"/> Checks and balances support transparency in appointment process 	<ul style="list-style-type: none"> <input type="checkbox"/> Faster decision-making <input type="checkbox"/> Does not bring varied experience of a board <input type="checkbox"/> Can be more vulnerable to influence <input type="checkbox"/> Additional measures can safeguard independence <input type="checkbox"/> Checks and balances support transparency in appointment process

Source: World Bank, Infodev, ITU, 2011.

4.2. Licensing

Objectives for Regulation of Licensing in ICT Sector

- Ensure fair competition and market efficiency
- Address market failure
- Achieve digital inclusion of SMEs
- Protect consumers

goals, control market entry, set conditions for market operation, support competition, and promote consumer confidence.

If well implemented, licensing authorization regimes will largely determine the efficiency and availability of the supply of ICT services in the market; regulatory measures pertaining to licensing and authorization are, therefore, critical to development of a competitive ICT sector. Licences are a means of regulating market entry as well as operation; they allow service providers to operate and often set out key conditions relating to the provision of the service. As a country’s regulatory framework becomes more established, licencing agreements typically become more standardized, with specific operating conditions set out in sector rules and regulations.⁷⁵

Prior to convergence in the ICT sector, licenses were mainly issued for the provision of a specific type of telecommunications or ICT service. However, regulatory efficiency has been supported in recent years by a move away from service- and technology-specific licences towards technology neutral or multiservice licensing regimes that allow service providers to offer a range of services with a single licence or authorization.⁷⁶ In some markets, government approvals to operate have been removed entirely. Such open entry regimes, however, require strong institutions and competition laws or regulations (this is an example of *ex-post* regulatory regulation in contrast to *ex ante* regulation that is common in many developing markets; see Box 4 above).

⁷⁵ World Bank, Infodev, International Telecommunications Union, *Telecommunications Regulation Handbook*, 63-64.

⁷⁶ World Bank, Infodev, International Telecommunications Union, *Telecommunications Regulation Handbook*, 64.

Licensing regulations are another important regulatory tool in the ICT sector and are used primarily to control which entities (with which functions) can enter the sector. Licensing requirements can be applied in different ways to balance market and development

Box SEQ Box * ARABIC 3: Ex Ante and Ex Post

Regulation

Ex Ante and Ex Post Regulation

- Different approaches to regulation depending upon whether government controls regulatory process at front end or back end
- Government can apply combination to achieve desired outcomes
- Ex Ante Regulation**
 - Generally sector-specific
 - Designed in anticipation of certain behaviour
 - Usually an attempt to direct market activity towards specific desired outcomes
 - Example: Setting specific conditions connected to awarding operating licence
- Ex Post Regulation**
 - Relies upon market to direct conduct, with government providing enforcement function
 - Aims to redress misconduct
 - Example: Application of general competition laws to ICT market behaviour

Source: World Bank, Infodev, ITU, 2011.

Sequencing of privatization and the introduction of competition can influence the impact of regulatory reforms. For example, much greater cost reductions resulted from reforms in Brazil, where a framework for competition was introduced prior to privatization; this is in contrast to Argentina, where privatization preceded a competition framework, with less cost reduction in the sector.⁷⁷

Licensing regimes can also be designed to facilitate SME market entry by ensuring that licensing requirements are proportional to their objectives.⁷⁸ Transparency in the setting of licence fees can be supported by unbundling of fees where more than one type of fee is charged.⁷⁹ In addition, streamlined and transparent licensing regimes will foster an enabling business environment and ease market entry.

Box SEQ Box * ARABIC 4: Good Practices: Regulatory Transparency and Accountability

Transparency

- Crucial regulatory tool fundamental to good governance
- WTO principles based upon transparency, and central to integration into the international trading system
- Regulatory measures that facilitate transparency include publication of regulations and guidelines, strategic plans, reasons for regulatory decisions, and market information

Accountability

- Measures enhancing accountability arise in enabling legislation of regulatory authority
- Accountability to Parliament
 - Accountability in terms of carrying out mandate
 - Adherence to accounting standards and independent auditing
- Steps for judicial review and appeal processes
- Publication of annual reports

Source: OECD, 2016.

4.3. Spectrum Management

Spectrum management is another priority area of regulation and is meant to support a competitive ICT sector by ensuring fair competition with regard to access to radio spectrum and promotion of the most efficient use of spectrum. Spectrum management refers to management of the use of radio frequencies; there are a range of frequencies that allow the use of wireless technologies such as mobile telephones, broadcast television, radio, Bluetooth, baby monitors, and many industrial and scientific uses. The frequencies are regulated through an allocation and interference between different applications.⁸⁰

Objectives for Spectrum Management in the ICT Sector

- Allocate scarce resources
- Establish fair and non-discriminatory system
- Ensure fair competition and market efficiency

Spectrum allocation takes place on the national and international levels. Internationally, radio spectrum use is governed through the Radio Regulations of the ITU, within which countries manage national use of spectrum. Certain radio frequencies are assigned to service providers in the ICT industry; this can be done through

of Services to Development," 76.

Assessment Toolkit," 59.

tions Union. *Telecom/ ICT regulatory reform*

evolution: Achievements and Way Forward Arab Region. 2013. 40. ITU.

<http://www.med-media.eu/wp-content/uploads/2014/07/Arab-Book-PDF-E.pdf> (accessed 15 July 2016).

⁸⁰ International Telecommunications Union. *ICT Regulation Toolkit*. Module 5.

various measures, including administrative decisions or spectrum auctions and other market-based methods.⁸¹ Pricing methods need to be carefully considered, particularly with regard to smaller market participants.

Certain frequency bands are also unlicensed or license exempt; these include the bands that are designated for industrial, scientific, and medical (ISM) applications at an international level. Some wireless technologies such as Wi-Fi are typically configured in the ISM band, and effective spectrum management in conjunction with use of such technologies can also support the achievement of universal access goals with, for example the provision of public free Wi-Fi.⁸² The City of Tshwane in South Africa's public free Wi-Fi program provides an example of an innovative solution in this regard.⁸³

In a competitive ICT market, radio spectrum allocation measures need to be fair and non-discriminatory as well as ensure the most efficient use of this scarce resource.⁸⁴ This is of particular importance in developing countries where broadband expansion efforts rely more heavily on wireless technologies.

4.4. Interconnection and Unbundling

**Objectives for
Interconnection and
Unbundling Regulation in
the ICT Sector**

- Ensure fair competition and market efficiency
- Address market failure
- Achieve digital inclusion of SMEs

Interconnection and unbundling regulations govern the degree of concentration in the ICT value chain, splitting functions among different entities rather than promoting industry models that manage all ICT services through one entity. These regulatory measures can support a competitive ICT sector by addressing uncompetitive behaviour regarding network access and infrastructure sharing on the part of the market dominant incumbent.

Interconnection measures allow users on different networks (or different service suppliers) to communicate, or interconnect, across networks.⁸⁵ Regulatory intervention may be required if

incumbent operators try to maintain market power by denying network access to new entrants or setting unreasonable terms for access. Interconnection regulatory measures will be applied depending upon market conditions; measures can be applied equally to all service providers (symmetric regulation) or to incumbent carriers depending upon market share (asymmetric regulation).

⁸¹ International Telecommunications Union, *ICT Regulation Toolkit*, Module 5.

⁸² International Telecommunications Union, *The Role of ICT in Advancing Growth*, 18.

⁸³ Project Isizwe. "Tshwane Free Wi-Fi – Project Isizwe's Flagship Initiative Connects the Capital City." <http://www.projectisizwe.org/index.php/gauteng-wifi/> (accessed 3 August 2016).

⁸⁴ Bauer, Johannes. "A Comparative Analysis of Spectrum Management Regimes." Michigan State University. Telecommunications Policy Research Conference, Arlington, Virginia. 2002. 2. http://www.comlab.hut.fi/studies/4210/papers/1_1.pdf (accessed 25 July 2016).

⁸⁵ International Telecommunications Union. *ICT Regulation Toolkit*, Module 2.

In addition to links between local operators, interconnection is an essential measure in international and regional agreements; provisions relating to interconnection are, therefore, included in the WTO Telecommunications Reference Paper.⁸⁶ While initially relating to telephone networks, interconnection regimes have to increasingly take into account other ICT services and Internet Protocol (IP) networks.⁸⁷ Box 6 provides examples of regulatory tools to facilitate interconnection.

Unbundling refers to measures applied to incumbent operators to allow the sharing of facilities or the leasing of different functions, or “building blocks,” of a telecommunications network. Unbundling tends to split up charges (manufacturing stages) within the ICT sector, making services more affordable and available. There are various ways in which unbundling take place, including through resale, leased lines, line-sharing, local loop unbundling, and sub-loop unbundling. Sharing of facilities in particular addresses the high cost of network rollout, which is a significant barrier entry for potential new service providers.⁸⁸

Box SEQ Box * ARABIC 5: Regulatory Tools for Interconnection

Example of ICT Regulatory Tool: Reference Interconnection Offer (RIO)

- Operators required to publish RIO
 - Sets out the terms and conditions for interconnection services that other operators can choose to accept without further negotiations

Example of ICT Regulatory Tool: “Most Favoured Nation” Non-Discrimination Requirement

- Allows operator to apply terms and conditions for interconnection with one operator that it has already agreed to with another operator

Objectives

- Decrease time taken to enter market
- Ensure frameworks for efficient dispute settlement

(and
can
to

Source: ITU, 2011.

Unbundling measures are aimed at sharing infrastructure that is required for provision of ICT services but may have required costly infrastructure investment. This can include “passive infrastructure” which requires civil engineering, such as physical sites, poles, and power supplies; or “active infrastructure” which enables electronic communication, such as lit fibre and broadband remote access servers.⁸⁹ Unbundling and infrastructure sharing measures have been particularly applicable in many middle and high-income countries where telephone networks have already been widely rolled out and the objective is to open existing infrastructure to new competitors. While these measures are no less applicable in low-income countries, additional interventions are necessary to ensure continued expansion of network infrastructure. Unbundling, while critical for ensuring fair provision of ICT services at affordable prices, has been found to encourage service-based entry over facilities-based entry, thus encouraging entry of service providers that make use of existing

⁸⁶ World Trade Organization, *Reference Paper*.

⁸⁷ International Centre for Trade and Sustainable Development; World Economic Forum. *Strengthening the Global Trade and Investment System in the 21st Century*. The E15 Initiative. 2016. 84. www3.weforum.org/docs/E15/WEF_Full_Report_Strengthening_Global_Trade_Investment_System_21st_Century.pdf (accessed 17 August 2016).

⁸⁸ International Telecommunications Union, *ICT Regulation Toolkit*, Module 2.

⁸⁹ International Telecommunications Union. *ICT Regulation Toolkit*. Module 2.

infrastructure over the entry of service providers that provide an extension to existing facilities and infrastructure.⁹⁰ In countries where the expansion of facilities remains a priority, additional measures to attract entry of facilities-based services may support the achievement of infrastructure expansion. LDCs and LICs in particular often need to focus on ways to generate investment for network expansion as well as ways to maximise new wireless and next-generation networks to broaden connectivity levels.⁹¹

Interconnection and unbundling, which facilitate access, generally also require the regulation of access prices. The object of price regulation is to bring prices as close to competitive prices as possible; intervention is required in instances where large operators are able to abuse their position and control an essential facility to charge above cost for the use of the facility. Various methods exist for determining pricing, which is also addressed in the WTO Telecommunications Reference Paper. Access pricing is most effective when it is based upon economic principles and does not distort incentives of network operators to invest in building of networks.⁹²

In addition to infrastructure sharing in traditional telecommunications and ICT areas, the rise of digital financial services calls for new and innovative regulatory approaches to best harness ICT solutions for financial inclusion. Coherence between ICT and financial services regulatory frameworks, as well as cooperation and infrastructure sharing between ICT and financial services platforms, can support rapid expansion of financial inclusion. Innovations in mobile money and digital financial services have the potential to rapidly address financial inclusion challenges; however, digital financial service providers require access not only to telecommunications networks but also to certain financial services infrastructure. Interoperability among digital financial service providers, or sharing of systems and data, is also crucial to ensuring a competitive environment and enhancing the quality and benefits of the service for consumers by allowing payments to be made among users regardless of the service provider that they use.⁹³ Regulatory intervention may be required to ensure fair interoperability; however, timing of the interventions is sensitive and should be carefully considered. Mandating interoperability has been found to have more success if it is not done too early, as this may deter investment. On the other hand, if left too long, inefficiencies can arise and result in monopolistic behaviour. Favourable conditions to encourage interoperability can be supported through a mix of entry conditions for mobile financial service providers and *ex post* regulations. With such an approach, interoperability need not necessarily be mandated but rather can be left to the market to solve. This was the case in Tanzania, where an agreement was reached between service providers that allows money to be paid directly between the mobile wallet of one service provider and that of another provider.⁹⁴

⁹⁰ International Telecommunications Union, *The Role of ICT in Advancing Growth*, 12.

⁹¹ International Telecommunications Union, *The Role of ICT in Advancing Growth*, 12.

⁹² International Telecommunications Union, *The Role of ICT in Advancing Growth*, 13.

⁹³ Center for Global Development. *Financial Regulations for Improving Financial Inclusion*. CDG Task Force Report, 2016. 11.

<http://www.cgdev.org/sites/default/files/CGD-financial-regulation-task-force-report-2016.pdf> (accessed 15 June 2016).

⁹⁴ Center for Global Development, *Financial Regulations*, 11.

4.5. Universal Access Objectives

Objectives for Universal Access Regulation in ICT

- Address market failure*
- Achieve universal and affordable access*
- Create incentives for investment in low income and rural areas*

Universal access measures are aimed at increasing the availability and affordability of ICT services for all users. In LDCs and LICs, achievement of universal access objectives is of utmost development significance. While the introduction of competition to the ICT market in itself supports expansion of networks and affordable connectivity, there remain areas where the market does not extend, including remote rural and low-income urban areas. In these cases, specific intervention may be necessary. Various regulatory measures can be used to harness the competitive market and achieve universal access goals, including specially designed licences, reduction or elimination of spectrum costs for rural network expansion, flexible tariffs to facilitate network expansion in rural areas, geographically asymmetric interconnection,⁹⁵ and public-private partnerships (PPPs). In this regard having a PPP legal framework in place could be an important legal measure to support universal access efforts.

4.6. Measures to Foster a Good Business Environment

In the ICT sector and more broadly, fostering a good business environment increases investment by streamlining regulatory processes, bringing down the cost of business, and supporting market entry. Regulatory frameworks are essential to encourage investment from both domestic and foreign investors. FDI can be an important means for supporting infrastructure development and network expansion, but local investment and enterprise development is also crucial for sustainable development of the sector. Efforts to support local enterprises, including SMEs, are, therefore, fundamental to sector development.

Objectives for Fostering Good Business Environment

- Streamlined, transparent regulatory processes*
- Favourable Investment climate*
- Limited restrictions on FDI*
- Open climate for competition*
- Effective business linkages*
- Support for SMEs*
- Strong legal institutions*

If properly harnessed, FDI can provide investment in crucial infrastructure, employment opportunities, and skills development, and it can also create vital business linkages that reinforce the domestic economy.⁹⁶ In certain instances, measures that protect domestic enterprises from foreign competition may be looked to for policy and social reasons; however, regulators could consider alternative regulatory approaches that do not necessarily create a choice between attracting FDI and promoting domestic business. Rather, measures could be implemented that harness business linkages between FDI and local entrepreneurs as well as ensure that local entrepreneurs are equipped to take advantage of these connections. Initial measures may include improving ease of market entry for small market participants

communications Union. *ICT Regulation Toolkit*, Module 4.
 Mallampally. "Policy Options for Promoting Foreign Direct Investment in the Least Transnational Corporations Review 7(3). September 2015. 237-268.
[es/2015/10/KPS_PM-LDC-policies-TNCR-September-2015.pdf](https://www.kps.gov.in/2015/10/KPS_PM-LDC-policies-TNCR-September-2015.pdf) (accessed 20 July

and SMEs, ensuring sufficient access to finance, and creating an enabling environment in which local businesses can take advantage of information technology and connect to global markets. Non-governmental organizations (NGOs) and intergovernmental organizations (IGOs) could have a role in preparing local entrepreneurs to better take advantage of business linkages. Additional measures to enhance competitiveness of local business and encourage innovation are discussed in more detail below. With an effective regulatory framework, foreign investment can significantly support the development of local enterprises, and measures restricting foreign investment need to be carefully weighed in light of this positive effect of FDI.

LDCs and LICs face significant challenges in attracting FDI and integrating into global value chains. Restrictions include high trading and operating costs, insufficient infrastructure, controls on foreign capital flows, onerous regulatory processes, scarcity of a local skilled workforce, and restrictions on the movement of service providers. Cross-border trade in computer services, for example, requires technical support, and restrictions on movement of persons (Mode 4) have been found to be a major issue affecting trade in computer services.⁹⁷

In sub-Saharan Africa, many countries require additional measures for the establishment of a foreign owned business; and the establishment process can take twice as long as the process for establishing a locally owned business. For foreign investors in sub-Saharan Africa, this process takes longer than any other region in the world (with notable exceptions such as Rwanda and Mauritius). Such additional measures include, for example, investment approvals, which take on average 33 days to obtain, and requirements that foreign companies have local representatives in order to establish subsidiaries. These are examples of additional regulatory measures that are applied based upon the nationality of shareholders (discriminatory measures; See Box 7). In addition, the majority of countries in the region do not make incorporation and registration documents available online, nor do they offer the option of registering a company online; while not formally based upon nationality, this type of situation also tends to place potential foreign investors at a disadvantage in comparison to nationals. In contrast, establishing a business in some countries in Latin America and the Caribbean takes equally long for both foreign and domestic companies (the process can take up to 212 days in Haiti). Although the majority of

Box SEQ Box * ARABIC 6: Regulatory Trade-offs: Discriminatory Investment Measures

Regulations That Discriminate Against Foreign Service Suppliers Can Deter Investment

- Discriminatory regulations can be **de jure** or **de facto***
- De jure discriminatory laws and regulations** set different requirements for foreign and domestic service providers*
- De facto discriminatory laws and regulations** do not distinguish between foreign and domestic enterprises overtly, but they affect foreign service suppliers differently*
- Discriminatory measures are often justified by policy objectives; however, trade-offs need to be considered between protection of domestic industries and benefits of greater FDI inflows*

Source: Molineuvo et al, 2014.

⁹⁷ Organisation for Economic Co-operation and Development. *Services Trade Restrictiveness Index Sector Brief: Computer Services*. 2016. http://www.oecd.org/tad/services-trade/STRI_computer_services.pdf (accessed 17 August 2016).

countries in Latin America do not require onerous foreign investment approvals, many do, however, seek some form of capital importation notification.⁹⁸

Most developed countries do not require investment approvals for foreign investors, and many offer downloadable registration documents, online business registration, and streamlined business registration processes (for example, it takes only 6 days to establish a business in Canada). Reducing the time and cost of establishing a business encourages investment, innovation, and entrepreneurship. Regulatory frameworks that differentiate establishment processes and requirements based upon size, legal form, or commercial activity, rather than upon nationality of shareholders, minimize restrictions on foreign investment. In addition, ensuring that registration documents and up-to-date regulations are available online, along with offering online business registration, can further support both domestic and foreign investment.⁹⁹

Measures that have supported FDI in LDCs and LICs in recent years include significant liberalization of national policies impacting FDI and removal of restrictions on foreign ownership, fiscal incentives, and the conclusion of BITs, RTAs (see Box 8), and double taxation treaties. In addition, investment promotion agencies and one-stop shops provide information and streamline regulatory processes for foreign (and local) investors. For example, Egypt's One Stop Shop for Investment, established by the Ministry of Investment and the General Authority for Investment and Free Zones, facilitates procurement of business licences, provides technical advice and information, supports transparent and reasonable fee structures, and aims to improve the quality and speed of government related processes.¹⁰⁰ Malawi, too, has recently established a One Stop Shop Centre (OSSC), which provides streamlined processes and procedures for

Box SEQ Box * ARABIC 7: Trade and Investment Agreements can support

Investment BITs are Designed to Provide Certainty to Investors

BITs Include Provisions Governing

- National treatment
- Most-favoured nation treatment
- Clear conditions around expropriation and dispute settlement
- Unrestricted transfers of capital and earnings

Regional Investment Provisions Strengthen Investment Attractiveness

- Fragmented and small nature of many LDCs and LICs may discourage investment
- RTAs with investment provisions can offer investors larger markets along with investment certainty

Source: Sauvart and Mallampally, 2015.

⁹⁸ World Bank, Overview: Investing Across Borders. 2010.

<http://iab.worldbank.org/~media/FPDKM/IAB/Documents/Overview-IAB.pdf> (accessed 15 September 2016).

⁹⁹ World Bank, Overview: Investing Across Borders. 2010. 8.

<http://iab.worldbank.org/~media/FPDKM/IAB/Documents/Overview-IAB.pdf> (accessed 15 September 2016).

¹⁰⁰ Egypt General Authority for Investment and Free Zones One Stop Shop Website.

<http://www.gafi.gov.eg/English/Howcanwehelp/OneStopShop/Pages/default.aspx> (accessed 12 September 2016).

investment approvals, permits, and registration certificates.¹⁰¹ An online trade portal also provides information and guidelines for business registration and export and import procedures to potential investors.¹⁰² Key elements in the successful establishment of a One Stop Shop include institutional and legal reform and streamlining of procedures, including review of investment laws and unification of legal procedures.¹⁰³ Examples of recent reductions in ICT trade restrictions include elimination of foreign equity restrictions in Mexico and India and economy-wide reforms on the movement of temporary service suppliers in South Africa.¹⁰⁴

While certain measures help attract FDI, the benefits of foreign investment are best leveraged when the regulatory framework is designed with development objectives in mind; such measures can include conditions that support skills development, technology transfer, and linkages with the local economy, as well as targeted incentives.¹⁰⁵ ICT provides a platform for SMEs to access markets of all sizes instantaneously, from the local market all the way up to the global market. However, SMEs, small market stakeholders, and women in LDCs and LICs are at risk of being left behind in an increasingly digital world.

Measures aimed at fostering a good business environment need to take into consideration the particular challenges faced by small market participants and women. Approaches include ensuring that financial regulatory frameworks enable access to finance and licensing requirements that are not overly burdensome and are proportional to their purpose. In some societies, particularly rural and traditional societies, women often face more challenges than men in accessing finance or registering a business, and regulatory measures need to take these differences into account.¹⁰⁶ One way of ensuring that regulatory burdens are proportional is by setting regulations according to function. For example, in the regulation of digital service

Box SEQ Box * ARABIC 8: Special Economic Zones
Special Economic Zones can Support Investment Through

- Income tax breaks
- Duty-free importation of equipment and supplies
- Value-added tax exemptions on locally purchased goods and services
- Deduction of training expenses
- Expedited permits for key personnel
- One-stop-shop services for establishing a business
- Example: Philippine Economic Zone

green services that only provides payments versus its function, gives rise to greater risk to the be crafted accordingly.¹⁰⁷

One way in which government policy can focus on the development of ICT services and

Invest in Malawi – One Stop Shop Centre (OSSC).

Malawi (accessed 17 September 2016).

Trade Information Portal. <http://trade.mitc.mw> (accessed

One Stop Shop: The case of Egypt.” World Bank. Presented at

Economic Growth in the Arab Countries. Abu Dhabi, United

Arab Emirates, December 10-20, 2006. 1 (B).

<https://www.imf.org/external/np/seminars/eng/2006/arabco/pdf/stone.pdf> (accessed 12 September 2016).

¹⁰⁴ Organisation for Economic Co-operation and Development. *Services Trade Restrictiveness Index Sector Brief: Telecommunications*. 2016. http://www.oecd.org/tad/services-trade/STRI_telecommunications.pdf (accessed 17 August 2016).

¹⁰⁵ Karl Sauvant and Padma Mallampally, “Policy Options.” 241-242.

¹⁰⁶ World Bank. *Women Business and the Law 2016: Getting to Equal*. World Bank Group, 2015. 2-23.

<http://wbl.worldbank.org/~media/WBG/WBL/Documents/Reports/2016/Women-Business-and-the-Law-2016.pdf> (accessed 13 September 2016).

¹⁰⁷ Center for Global Development, *Financial Regulations*, 17.

ICT-enabled services, particularly where infrastructure and resource challenges exist, is through industrial and trade policy to promote the creation of software technology parks. A variety of measures can be used to support these parks, including duty-free importation of hardware, tax exemptions, access to high-speed satellite links, reliable power supply, and office space and communication facilities. The establishment of software technology parks played an important role in the growth of India's services exports.¹⁰⁸ Other options include the establishment of Special Economic Zones (SEZs), as illustrated in Box 9. While these approaches can help facilitate investment, however, it is important to consider the particular challenges facing SMEs as these policies are developed so that the benefits of the parks or SEZs can be spread as broadly as possible throughout the economy.

The table below provides a summary of key regulatory goals in the ICT sector that can be achieved through the implementation of a carefully designed regulatory framework. It also sets out regulatory objectives to guide the achievement of each goal, highlights trade-offs to be considered, and summarizes available regulatory options.

¹⁰⁸ Molinuevo, et al. "Regulatory Assessment Toolkit," 93 -94.

5. CONCLUSION

The ICT sector presents both an opportunity for services sector growth and specialization and an important avenue for development, and a good regulatory framework in ICT can act as a force multiplier for broader reform. There is a close link between international telecommunications trade and national regulation, as reflected in the principles for domestic regulation, outlined in the WTO Telecommunications Reference Paper.¹⁰⁹ This highlights the multifaceted nature of regulatory considerations and priorities and the importance of evaluating national level regulatory systems in light of broader trade and development objectives. Strengthening regulatory frameworks can promote trade competitiveness and leverage the development potential of the ICT sector, not only for the achievement of universal and affordable ICT services, but also to advance national economic and social goals and the SDGs.

Box SEQ Box * ARABIC 9:
Advocacy Bodies
Advocacy bodies have a particular role to play in building support for regulatory reforms

- Can be private sector-based or state-funded institutions with a key mandate to conduct research and share data with regulators and stakeholders on necessary reforms*
- Example: Actal in the Netherlands fulfills both advisory and advocacy functions across sectors, advising on regulatory burdens of proposed measures and advocating for reform of existing laws and regulations*

Source: OECD, 2008.

Achieving successful regulatory reform in the ICT sector will require concerted effort by all stakeholders and strong political will; politicians need to take a leading role in fostering consensus among stakeholders and building coalitions to support reform.¹¹⁰ Box 10 highlights the role that advocacy bodies, whether public, private or a mix of the two, can play in building support for reforms. In addition, regulations will be better informed where there is sector-wide dialogue, both nationally and regionally, and establishing platforms for public-private engagement can enhance the quality of and support for development-friendly regulatory frameworks.

This Regulatory Guide has highlighted various regulatory goals and possible regulatory options for achieving them. Trade-offs and considerations show that there is no simple solution, and governments and other stakeholders need to assess the best approach for their particular situation. The issues presented in this Regulatory Guide may provide points for further discussion between stakeholders to develop practical and innovative solutions

for overcoming challenges, and further study is recommended at both the country and regional levels.

Table 3: Regulatory Goals, Objectives, Trade-offs and Options

Goal	Regulatory Objectives	Trade-offs	Regulatory Options
------	-----------------------	------------	--------------------

¹⁰⁹ Robert Wolfe. “Regulatory transparency, developing countries and the WTO.” *World Trade Review* 2, no. 2 (2003). 157 – 182. 164.

¹¹⁰ Organisation for Economic Co-operation and Development. *Implementing Regulatory Reform: Building the Case Through Results*. OECD, 2007. 8. <https://www.oecd.org/gov/regulatory-policy/44683291.pdf> (accessed 21 June 2016).

<p>Independent and Accountable Regulatory Authority</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Ensure independence <input type="checkbox"/> Increase transparency <input type="checkbox"/> Encourage accountability <input type="checkbox"/> Support ability to carry out mandate <input type="checkbox"/> Develop expertise <input type="checkbox"/> Ensure efficient dispute resolution 	<ul style="list-style-type: none"> <input type="checkbox"/> Institutional design options 	<ul style="list-style-type: none"> <input type="checkbox"/> Separate from policymaking function <input type="checkbox"/> Safeguard against financial dependency <input type="checkbox"/> Establish oversight and reporting mechanisms <input type="checkbox"/> Publish information
<p>Fair Competition and Market Efficiency</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Address market failures <input type="checkbox"/> Allocate scarce resources <input type="checkbox"/> Ensure pricing as competitive as possible 	<ul style="list-style-type: none"> <input type="checkbox"/> Balance between ensuring fairness and maintaining sufficient incentives to encourage market entry and investment <input type="checkbox"/> Balance efficiency, flexibility, and innovation 	<ul style="list-style-type: none"> <input type="checkbox"/> Licensing conditions <input type="checkbox"/> Interconnection <input type="checkbox"/> Unbundling <input type="checkbox"/> <i>Ex post</i> competition regulation <input type="checkbox"/> Spectrum allocation <input type="checkbox"/> Pricing
<p>Universal Access</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Consider need for regulatory or government intervention where the market does not support network expansion 	<ul style="list-style-type: none"> <input type="checkbox"/> Market based solutions versus direct government involvement <input type="checkbox"/> Cost effectiveness of options <input type="checkbox"/> Social considerations versus budgetary constraints 	<ul style="list-style-type: none"> <input type="checkbox"/> Specially designed licences <input type="checkbox"/> Reduced or eliminating spectrum costs for rural network expansion <input type="checkbox"/> Flexible tariffs to create incentives for network expansion into rural areas <input type="checkbox"/> Geographically asymmetric interconnection <input type="checkbox"/> Public-private partnerships
<p>Good Business Environment</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Streamline regulatory and licensing processes <input type="checkbox"/> Establish favourable investment climate <input type="checkbox"/> Implement limited restrictions on FDI 	<ul style="list-style-type: none"> <input type="checkbox"/> Protection of domestic enterprises versus gains from FDI <input type="checkbox"/> Protecting public policy space balanced against gains from international and regional commitments 	<ul style="list-style-type: none"> <input type="checkbox"/> Ease of market entry <input type="checkbox"/> Competitive ICT specific measures (interconnection/ infrastructure sharing) <input type="checkbox"/> Technology neutral licences <input type="checkbox"/> Discriminatory measures only to the extent necessary

	<ul style="list-style-type: none"> <input type="checkbox"/> Ensure effective climate for competition <input type="checkbox"/> Support SMEs <input type="checkbox"/> Establish strong legal institutions 		<ul style="list-style-type: none"> <input type="checkbox"/> Entry into trade and investment and regional cooperation agreements <input type="checkbox"/> Reduced cost of business, for example through streamlining business registration and licensing <input type="checkbox"/> Publicly available guidelines <input type="checkbox"/> One-stop shops for investors <input type="checkbox"/> Tax incentives <input type="checkbox"/> Measures to increase competitiveness of local enterprises
<p>Support SMEs, Small Market Participants, and Women</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Facilitate market entry <input type="checkbox"/> Promote business linkages <input type="checkbox"/> Ease regulatory burdens 	<ul style="list-style-type: none"> <input type="checkbox"/> Protection of domestic enterprises against international competition or overly burdensome conditions upon foreign /local investors versus gains from FDI 	<ul style="list-style-type: none"> <input type="checkbox"/> Improved access to finance <input type="checkbox"/> Establishment of clear guidelines <input type="checkbox"/> Assistance and incubation for SMEs <input type="checkbox"/> Provision of facilities and access to tech hubs <input type="checkbox"/> Raised awareness of ICT uses <input type="checkbox"/> Development of ICT literacy <input type="checkbox"/> Support for the local economy and development of local skills through foreign investment <input type="checkbox"/> Implementation of licensing regime accommodating to SMEs

Source: *New Markets Lab, 2016*

REFERENCES

- African Union. *AU Declaration on the Launch of the Negotiations for the Establishment of the Continental Free Trade Area (CFTA)*. Southern African Legal Information Institute (SAFLII).
<http://www.saflii.org/au/AUDECLARATIONS/2015/2.html> (access 10 September 2016).
- Bauer, Johannes. “A Comparative Analysis of Spectrum Management Regimes.” Michigan State University. Telecommunications Policy Research Conference, Arlington, Virginia. 2002. http://www.comlab.hut.fi/studies/4210/papers/1_1.pdf (accessed 25 July 2016).
- Cali, Massimiliano, Karen Ellis, and Dirk Willem te Velde. “The Contribution of Services to Development and the Role of Trade Liberalization and Regulation.” Working Paper 298, Overseas Development Institute. 2008.
<https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3482.pdf> (accessed 14 June 2016).
- Center for Global Development. *Financial Regulations for Improving Financial Inclusion*. CDG Task Force Report, 2016.
<http://www.cgdev.org/sites/default/files/CGD-financial-regulation-task-force-report-2016.pdf> (accessed 15 June 2016).
- East African Community. *Protocol on the Establishment of the East African Community Common Market*, 2010.
- Eastern Caribbean Telecommunications Authority (ECTEL) Website. *About Us*
<http://www.ectel.int/about-ectel/> (Accessed 16 August 2016).
- Ezzat, Riham Ahmed, Carlo Cambini, and Carine Staropoli. “The Impact of Reforms Sequencing on the telecom sector performance: Evidence from MENA countries.” *Network Industries Quarterly* 17 no. 3 (2015).
<http://mir.epfl.ch/files/content/sites/mir/files/Newsletter/Vol%2017,%20No%203,%202015/The%20Impact%20of%20Reforms%20Sequencing%20on%20the%20telecom%20sector%20performance,%20Evidence%20from%20MENA%20countries%20-%20Riham%20Ahmed%20Ezzat%20-%20Carlo%20Cambini%20-Carine%20Staropoli.pdf> (accessed 19 June 2016).
- Guermazi, Boutheina and David Satola. “Creating the ‘Right’ Enabling Environment for ICT.” In *E-Development: From Excitement to Effectiveness*, edited by Robert Schware. World Bank: Global Information and Communication Technologies Department: Washington, DC. 2005.
<http://213.154.74.164/invenio//record/8311/files/341470EDevelopment.pdf> (accessed 17 June 2016).
- International Centre for Trade and Sustainable Development; World Economic Forum.

- Strengthening the Global Trade and Investment System in the 21st Century*. The E15 Initiative. 2016. 84.
www3.weforum.org/docs/E15/WEF_Full_Report_Strengthening_Global_Trade_Investment_System_21st_Century.pdf (accessed 17 August 2016).
- International Telecommunications Union. *Trends in Telecommunication Reform 2015: Getting Ready for the Digital Economy*. ITU. 2015.
http://www.itu.int/en/publications/Documents/Trends2015-short-version_pass-e374681.pdf (accessed 18 July 2016).
- International Telecommunications Union. *ICT Facts and Figures 2016*.
<http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2016.pdf> (accessed 20 July 2016).
- International Telecommunications Union. *ICT Regulation Toolkit*.
<http://www.ictregulationtoolkit.org/en/home> (accessed 12 September 2016).
- International Telecommunications Union. *The Role of ICT in Advancing Growth in Least Developed Countries: Trends, Challenges and Opportunities*. 2011.
<https://www.itu.int/pub/D-LDC-ICTLDC.2011-2011> (accessed 28 July).
- International Telecommunications Union. *Telecom/ ICT regulatory reform evolution: Achievements and Way Forward Arab Region*. 2013. ITU.
<http://www.med-media.eu/wp-content/uploads/2014/07/Arab-Book-PDF-E.pdf> (accessed 15 July 2016).
- Kuhlmann, Katrin. “Harmonizing Regional Seed Regulations in Sub-Saharan Africa: A Comparative Assessment.” Syngenta Foundation for Sustainable Development. 2015.
http://media.wix.com/ugd/095963_e897ed98f4b54238b44d0362c83434b6.pdf (accessed 10 September 2016).
- Kuhlmann, Katrin. *Planning for Scale Brief #6: Enabling Environment*. 2013.
http://media.wix.com/ugd/095963_2550d89477974d2eb1e190767e33bbcc.pdf (accessed 10 September 2016).
- Maddens, Sofie. *Building Blocks for Smart Societies in a Connect World: A Regulatory Perspective on Fifth Generation Collaborative Regulation*. ITU. GSR Discussion Paper. 2016. P7.
https://www.itu.int/en/ITU-D/Conferences/GSR/Documents/ITU_BuildingBlocksReg_GSR16.pdf (accessed 16 July 2016).
- McKinsey & Company Inc. “Fostering the Economic and Social Benefits of ICT” *The Global Information Technology Report 2009-2010*. World Economic Forum.
http://www.darden.virginia.edu/uploadedFiles/Darden_Web/Content/Faculty_Research/Directory/Chap%205_Fostering%20the%20Economic%20and%20Social%20Benefits%20of%20ICT.pdf (accessed 25 July 2016).

- Molinuevo, Martin and Sebastián Sáez. “Regulatory Assessment Toolkit: A Practical Methodology for Assessing Regulation on Trade and Investment in Services.” World Bank, 2014.
http://unctad.org/en/Publichttp://documents.worldbank.org/curated/en/2014/03/19244904/regulatory-assessment-toolkit-practical-methodology-assessingationsLibrary/presspb2015d7_en.pdf (accessed 6 June 2016).
- Nordås, Hildegunn Kyvik. “Trade Policy and Regulatory Objectives in Telecommunications and ICT Services.” Organisation for Economic Co-operation and Development (OECD). Presentation at United Nations Conference on Trade and Development Multi-year Expert Meeting on Trade, Services, and Development. Fourth Session. Geneva, 18 – 20 May 2016.
http://unctad.org/meetings/en/Presentation/c1mem4_2016_p114_S3_H%20Nordas_en.pdf (accessed 20 June 2016).
- O’Connor, Vivienne. *Practitioner’s Guide: Common Law and Civil Law Traditions*. International Network to Promote the Rule of Law (INPROL). 2012.
<http://www2.fjc.gov/sites/default/files/2015/Common%20and%20Civil%20Law%20Traditions.pdf> (accessed 28 July 2016).
- Organisation for Economic Co-operation and Development. *Being an Independent Regulator*. OECD Publishing, Paris. 2016.
http://www.keepeek.com/Digital-Asset-Management/oecd/governance/being-an-independent-regulator_9789264255401-en#.V9gtY4XLBpk (accessed 9 September 2016).
- Organisation for Economic Co-operation and Development. *OECD Guiding Principles for Regulatory Quality and Performance*. 2005. 3.
<https://www.oecd.org/fr/reformereg/34976533.pdf> (accessed 14 August 2016).
- Organisation for Economic Co-operation and Development. *Implementing Regulatory Reform: Building the Case Through Results*. Proceedings on the Meeting of the Group on Regulatory Policy, December 2007. OECD Publishing, Paris, 2008. 8.
<https://www.oecd.org/gov/regulatory-policy/44683291.pdf> (accessed 21 June 2016).
- Organisation for Economic Co-operation and Development. *The Governance of Regulators: Being an Independent Regulator*. OECD Publishing, Paris. 2016.
http://www.keepeek.com/Digital-Asset-Management/oecd/governance/being-an-independent-regulator_9789264255401-en#page1
- Organisation for Economic Co-operation and Development. *Services Trade Restrictive Index Sector Brief: Computer Services*. 2016.
http://www.oecd.org/tad/services-trade/STRI_computer_services.pdf (accessed 17 August 2016).
- Organisation for Economic Co-operation and Development. *Services Trade Restrictive*

- Index Sector Brief: Telecommunications Services*. 2016.
http://www.oecd.org/tad/services-trade/STRI_telecommunications.pdf (accessed 17 August 2016).
- Qiang, Christine Zhen-Wei and Carlo M. Rossotto, “Economic Impacts of Broadband,” in *2009 Information and Communications for Development: Extending Reach and Increasing Impact*,” 35 – 50. World Bank: Washington, D.C. 2009. 45.
http://siteresources.worldbank.org/EXTIC4D/Resources/IC4D_Broadband_35_50.pdf (accessed 16 September 2016).
- Sallai, Gyula. “Defining Infocommunications and Related Terms.” *Acta Polytechnica Hungarica*. 9 no. 6 (2012). http://www.uni-obuda.hu/journal/Sallai_38.pdf (accessed 27 July 2016).
- Sauvant, Karl and Padma Mallampally. “Policy Options for Promoting Foreign Direct Investment in the Least Developed Countries.” *Transnational Corporations Review* 7 no. 3. September 2015. 237-268.
http://ccsi.columbia.edu/files/2015/10/KPS_PM-LDC-policies-TNCR-September-2015.pdf (accessed 20 July 2016).
- Southern African Development Community. *Protocol on Transport, Communications, and Meteorology in the Southern African Development Community (SADC) Region*. 1996.
- The Earth Institute, Columbia University, “ICT and SDGs: How Information and Communications Technology can Accelerate Action on the Sustainable Development Goals.”
<https://www.ericsson.com/res/docs/2016/ict-sdg.pdf> (accessed 28 July 2016).
- United Nations Conference on Trade and Development. *Services, Development and trade: The regulatory and institutional dimension*. UNCTAD Multi-year Expert Meeting on Trade, Services and Development, Fourth Session: Geneva, 18 -20 May 2016.
http://unctad.org/meetings/en/SessionalDocuments/c1mem4d11_en.pdf (accessed 20 June 2016).
- United Nations Conference on Trade and Development. *International Trade in ICT Services and ICT-Enabled Services*. UNCTAD Technical Notes on ICT for Development No. 3, 2015.
http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d03_en.pdf (accessed 17 June 2016).
- United Nations. *Sustainable Development Goals*.
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/> (accessed 30 July 2016).

- Wolfe, Robert. “Regulatory transparency, developing countries and the WTO.” *World Trade Review* 2, no. 2 (2003). 157 – 182.
- World Bank, Infodev, International Telecommunications Union. *Telecommunications Regulation Handbook*. 2011. World Bank.
http://www.infodev.org/infodev-files/resource/InfodevDocuments_1057.pdf (accessed 28 July 2016).
- World Bank. “Transport & Gender, Gender and Development Briefing Notes.” Gender and Development Group, The World Bank. 2007.
http://siteresources.worldbank.org/INTGENDER/Resources/Transport_March07.pdf (accessed 11 September 2016).
- World Bank. *Women Business and the Law 2016: Getting to Equal*, World Bank Group, 2015.
<http://wbl.worldbank.org/~//media/WBG/WBL/Documents/Reports/2016/Women-Business-and-the-Law-2016.pdf> (accessed 13 September 2016).
- World Bank. *World Development Report: Digital Dividends*. World Bank, 2016.
http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/13/090224b08405ea05/2_0/Rendered/PDF/World0developm0000digital0dividends.pdf (accessed 4 July 2016).
- World Trade Organization. *Preferential Treatment to Services And Service Suppliers of Least-Developed Countries*, Decision of 17 December 2011, WT/L/847; Ministerial Conference; Eighth Session; Geneva; 19 December 2011.
https://www.wto.org/english/thewto_e/minist_e/min11_e/official_doc_e.htm#adopted (accessed 9 September 2016).
- World Trade Organization. “Notification of Chile’s Preferential Treatment to Services and Service Suppliers of Least Developed Countries.” S/C/N/834. 12 October 2015.
- World Trade Organization. “Notification of U.S. Preferential Treatment to Services and Services Suppliers of Least Developed Countries.” S/C/N/825. 4 September 2015.
- World Trade Organization. *Telecommunications Services: Reference Paper*. 1994. https://www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm (accessed 17 August 2016).
- World Trade Organization. *Trade in Services in the WTO: WTO E-Learning*. 2014.
https://ecampus.wto.org/admin/files/Course_627/CourseContents/GATS-R8-E-Print.pdf (accessed 10 September 2016).

ENDNOTES