The development of new digital technologies has resulted in significant transformations in daily life, from the arrival of online shopping to more fundamental changes in the ways we work and communicate. Many of these changes raise questions that transcend market access and liberalisation and demand cooperation and coherent regulatory design. International trade regulation has hitherto not reacted in a forward-looking manner to the digital revolution; particularly at the multilateral level, legal engineering has yielded few tangible results.

This book examines whether WTO laws possess the necessary flexibility and resilience to accommodate the changes brought about by burgeoning digital trade. By revealing both the potential and the limitations of the WTO framework, it provides a broad picture of the interaction between digital technologies and trade regulation; links the often disconnected discourses of international trade law, intellectual property and cyberlaw; and explores discrete problems in different domains of global trade regulation.

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TRADE GOVERNANCE IN THE DIGITAL AGE

World Trade Forum

Edited by

MIRA BURRI AND THOMAS COTTIER
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The World Trade Forum has existed since 1997 and has, year after year, established itself as the meeting hub for academia, policy makers, international organisations, and civil society representatives to discuss the new and unsettled questions of the global trading system and to look for future-oriented solutions. In 2010, the fourteenth World Trade Forum, held, as tradition goes, at the World Trade Institute in Bern, took up a particularly thorny topic that challenges not only trade regulation but also many other areas, and essentially all levels of governance.

Embracing the amazing advances in digital technologies, specifically the Internet's wide spread, its deep impact on the economy and continuing integration into the social and cultural fabric of society, a group of outstanding experts gathered together to ask whether international economic law, as created in the analogue/offline era, is capable of facing the reality of digital trade. The answers given and recommendations made differed, but all agreed that both swift responses and apt regulatory design are badly needed.

This book is the result of the contributions to the World Trade Forum, albeit now in a more distilled and succinct form. Needless to say, the volume is only the end product of an exceptional cooperative effort and would not have been possible without the dedicated input of many outstanding people. Particular thanks are owed to the conference participants for their intellectually stimulating presentations and excellent texts, and to those who spurred the debates by acting as discussants. We would like in this context to express our gratitude to Carsten Fink, Rohan Kariyawasam, John Palfrey, Amy Porges, Cyrill Rigamonti, Pierre Sauvé, Rolf Weber, and Sacha Wunsch-Vincent. It is only through the collaborative work of all participants that we could meet the challenge of linking the previously disconnected discourses of international trade, intellectual property and cyberlaw with all their specific and often overly technical issues in an attempt to offer a meaningful, forward-looking analysis of trade governance in the digital age.
We thank the Ecoscientia Foundation for its continued support of the World Trade Forum. We are grateful to the Swiss National Science Foundation as some of the papers emanate from the NCCR Trade Regulation. We also wish to thank Margrit Vetter and Gaby Hofer for the smooth organisation of yet another event and for making everyone feel welcome. This volume would not have been possible without the dedicated work of Susan Kaplan in reviewing the manuscripts. Finally, our heartfelt thanks are owed to Finola O’Sullivan and her excellent team at Cambridge University Press for their unfailing support and strong commitment to the World Trade Forum series.

Mira Burri and Thomas Cottier
## Abbreviations

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<th>Abbreviation</th>
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<tr>
<td>AANZFTA</td>
<td>ASEAN–Australia–New Zealand Free Trade Area</td>
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<tr>
<td>ABTS</td>
<td>Agreement on Basic Telecommunications Services</td>
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<td>ACP</td>
<td>African, Caribbean and Pacific Group of States</td>
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<tr>
<td>ACTA</td>
<td>Anti-Counterfeiting Trade Agreement</td>
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<tr>
<td>ADP</td>
<td>automatic data processing</td>
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<td>ADSL</td>
<td>asymmetric digital subscriber line</td>
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<td>AGRA</td>
<td>Alliance for a Green Revolution in Africa</td>
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<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
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<td>APEC</td>
<td>Asia-Pacific Economic Cooperation</td>
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<tr>
<td>API</td>
<td>application programming interface</td>
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<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<tr>
<td>ATM</td>
<td>asynchronous transfer mode</td>
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<td>B2B</td>
<td>business-to-business</td>
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<tr>
<td>B2C</td>
<td>business-to-consumer</td>
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<tr>
<td>BERC</td>
<td>Body of European Regulators for Electronic Communications</td>
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<tr>
<td>BOP</td>
<td>balance of payments</td>
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<tr>
<td>BSAC</td>
<td>British Screen Advisory Council</td>
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<tr>
<td>BTA</td>
<td>Basic Agreement on Telecommunications</td>
</tr>
<tr>
<td>CAFTA-DR</td>
<td>Dominican Republic–Central America Free Trade Agreement</td>
</tr>
<tr>
<td>ccTLD</td>
<td>country-code top-level domain</td>
</tr>
<tr>
<td>CEPT</td>
<td>European Conference of Postal and Telecommunications Administrations</td>
</tr>
<tr>
<td>CERN</td>
<td>Conseil Européen pour la Recherche Nucléaire; European Organization for Nuclear Research</td>
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<tr>
<td>CPC</td>
<td>UN Central Product Classification</td>
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<tr>
<td>CTS</td>
<td>Council for Trade in Services</td>
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<td>DDA</td>
<td>Doha Development Agenda</td>
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<tr>
<td>DMCA</td>
<td>Digital Millennium Copyright Act</td>
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<td>DoJ</td>
<td>U.S. Department of Justice</td>
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<tr>
<td>DPI</td>
<td>deep packet inspection</td>
</tr>
<tr>
<td>DRM</td>
<td>digital rights management</td>
</tr>
<tr>
<td>DSL</td>
<td>digital subscriber line</td>
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</tbody>
</table>
**LIST OF ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTH</td>
<td>direct-to-home (satellite services)</td>
</tr>
<tr>
<td>EAC</td>
<td>East African Community</td>
</tr>
<tr>
<td>ECJ</td>
<td>The Court of Justice of the European Union</td>
</tr>
<tr>
<td>ECN</td>
<td>Electronic Communications Network</td>
</tr>
<tr>
<td>ECOSOC</td>
<td>UN Economic and Social Council</td>
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<tr>
<td>ECS</td>
<td>Electronic Communications Service</td>
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<tr>
<td>EDI</td>
<td>electronic data interchange</td>
</tr>
<tr>
<td>EFF</td>
<td>Electronic Frontier Foundation</td>
</tr>
<tr>
<td>EFTA</td>
<td>European Free Trade Association</td>
</tr>
<tr>
<td>EIFL</td>
<td>Electronic Information for Libraries</td>
</tr>
<tr>
<td>ETO</td>
<td>Electronic Trade Opportunities</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>EUCD</td>
<td>European Union Copyright Directive</td>
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<tr>
<td>FCC</td>
<td>Federal Communications Commission</td>
</tr>
<tr>
<td>FDI</td>
<td>foreign direct investment</td>
</tr>
<tr>
<td>FLOSS</td>
<td>free/libre open source software</td>
</tr>
<tr>
<td>FPDs</td>
<td>flat panel display devices</td>
</tr>
<tr>
<td>FOCAC</td>
<td>Forum Africa–China Cooperation</td>
</tr>
<tr>
<td>FTA</td>
<td>free trade agreement</td>
</tr>
<tr>
<td>FTC</td>
<td>Federal Trade Commission</td>
</tr>
<tr>
<td>FTTH</td>
<td>fibre to the home</td>
</tr>
<tr>
<td>FTTK</td>
<td>fibre to the kerb</td>
</tr>
<tr>
<td>GATS</td>
<td>General Agreement on Trade in Services</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>HFC</td>
<td>hybrid fibre-coaxial</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>human immunodeficiency virus/acquired immunodeficiency syndrome</td>
</tr>
<tr>
<td>HLEG</td>
<td>High Level Expert Group</td>
</tr>
<tr>
<td>HS</td>
<td>Harmonized Commodity Description and Coding System</td>
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<tr>
<td>HTTP</td>
<td>hypertext transfer protocol</td>
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<tr>
<td>IaaS</td>
<td>(cloud) infrastructure as a service</td>
</tr>
<tr>
<td>ICANN</td>
<td>Internet Corporation for Assigned Names and Numbers</td>
</tr>
<tr>
<td>ICC</td>
<td>International Chamber of Commerce</td>
</tr>
<tr>
<td>ICT</td>
<td>information and communication technology</td>
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<tr>
<td>ICT4D</td>
<td>information and communication technologies for development</td>
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<tr>
<td>IEC</td>
<td>International Electrotechnical Commission</td>
</tr>
<tr>
<td>IEL</td>
<td>international economic law</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>IFLA</td>
<td>International Federation of Libraries and Archives</td>
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<tr>
<td>IFRS</td>
<td>International Financial Reporting Standards</td>
</tr>
<tr>
<td>IGOs</td>
<td>inter-governmental organisations</td>
</tr>
</tbody>
</table>
LIST OF ABBREVIATIONS

IIPA  International Intellectual Property Alliance
ILM  International Legal Materials
IMF  International Monetary Fund
IoT  Internet of Things
IP  intellectual property
IPRs  intellectual property rights
IPTV  Internet protocol television
ISDN  Integrated Services Digital Network
ISO  International Organization for Standardization
ISP  Internet service provider
IT  information technology
ITA  Information Technology Agreement
ITC  International Trade Centre
ITU  International Telecommunication Union
IXPs  Internet exchange points
LDC  least-developed country
LECS  local exchange carriers
LLU  local loop unbundling
MFMs  multifunctional digital machines
MFN  most favoured nation
MVNO  mobile virtual network operator
NAFTA  North American Free Trade Agreement
NCA  national competition authority
NGN  next-generation network
NPRM  notice of proposed rulemaking
NRA  national regulatory authority
NT  national treatment
NWICO  New World Information and Communication Order
OECD  Organisation for Economic Co-operation and Development
OSAA  Office of the Special Advisor for Africa
P2P  peer-to-peer (networking)
PaaS  (cloud) platform as a service
PLMN  public land mobile network
PSTN  public switched telephone network
PTA  preferential trade agreement
QoS  quality of service
RFID  radio frequency identification
RMI  rights management information
SaaS  software as a service
SEC  U.S. Securities and Exchange Commission
SMEs  small and medium-sized enterprises
SMP  significant market power
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LIST OF ABBREVIATIONS

STBCs set-top boxes which have a communication function
TBT WTO Agreement on Technical Barriers to Trade
TCP/IP transmission control protocol/Internet protocol
TFEU Treaty on the Functioning of the European Union
TPMs technological protection measures
TRIPS WTO Agreement on Trade-Related Aspects of Intellectual Property Rights
TRTA trade-related technical assistance
UDRP Uniform Domain Name Dispute Resolution Policy
UN United Nations
UNCID Uniform Rules of Conduct for Interchange of Trade Data by Teletransmission
UNCITRAL United Nations Commission on International Trade Law
UNCOPUOS United Nations Committee on the Peaceful Uses of Outer Space
UNCTAD United Nations Conference on Trade and Development
UNTS United Nations Treaty Series
UPU Universal Postal Union
USTR United States Trade Representative
VCLT Vienna Convention on the Law of Treaties
VoIP voice over Internet protocol
VPNs virtual private networks
VSAT very small aperture terminal
WCT WIPO Copyright Treaty
WIPO World Intellectual Property Organization
WPPT WIPO Performances and Phonograms Treaty
WSIS World Summit on the Information Society
WTO World Trade Organization
WTPF World Trade Point Federation