Chapter 12
Towards an International Regime of Regulating Electronic Communications

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Abstract This chapter compares the regulatory framework of telecommunications at the EU and the international level. It claims that the comparative superiority of the EU framework rests on technological cognisance and strong consideration of social needs. The chapter begins with a brief characterisation of the EU legal and regulatory framework for electronic communications. Against this background and in relation to it, the chapter provides an overview of the existing international legal and regulatory arrangements. In order to demonstrate the differences and similarities of the regimes more clearly, their correspondence to technological developments and on specifics of regulation of electronic communications as a public service is examined. The concluding section summarises the findings and discusses the lessons learnt from the EU experience and the EU's role in shaping an international regime for electronic communications.

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12.1 Introduction

The notion of electronic communications is quite a recent phenomenon, known only to a handful of legal orders. Among transnational regimes, so far only the European Union's (EU) legislation contains a precise notion of what electronic communications networks and services are. There, an electronic communications network refers to a transmission system which permits the conveyance of signals by wire, radio, optical or other electromagnetic means (Article 2(a) Framework Directive[1]). The generic definition is intended to cover all kinds of networks capable of and used for carriage of electromagnetic signals: satellite networks, circuit-switched and packet-switched fixed telecommunications networks, Internet, mobile terrestrial networks, electricity cable systems, networks for radio and television broadcasting and cable television networks.

An electronic communications service is a service which consists wholly or mainly in the conveyance of signals on electronic communications networks (Article 2(c) Framework Directive). This definition allows transport services, which transmit an electromagnetic signal, to be distinguished from content-related services, which provide or exercise editorial control over the transmitted information. It further delimits them from information society services (Recital 10 Framework Directive in conjunction with Article 1 Directive 98/34/EC[2]), which cover a wide range of online activities from e-commerce to professional services to online entertainment.[3]

The above concepts have developed only recently: throughout the 20th century electronic communications was synonymous with computer (or data) communications. When, due to technological advances, digitalisation of audio and video

[1]Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for EC networks and services, amended by Regulation (EC) No 717/2007 of the European Parliament and of the Council of 27 June 2007 on roaming on public mobile telephone networks within the Community, OJ 2002 L 108.

[2]Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services, OJ 1998 L 204/37.

[3]See Recital 18 Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market, OJ 2000 L 178/1. This latter distinction is, however, not entirely clear due to deficiencies of the definition of information society services, which leaves open the question of whether at least some of them are simultaneously EC services. Also noted by Kariyawasam 2007, pp. 90–91.

analogue signals became possible, both telecommunications and broadcasting went (completely or partially) digital. Digitalisation has brought about a slow demise of dedicated communications networks which were built in order to optimally fulfil the specific requirements of particular kinds of analogue signals. Digital signal has the same binary form regardless of what it is carrying—audio, video, image or data—and can be sent over any network. The wider implications of this technological development have become known as convergence and are being felt far beyond communication technologies: on top of the amalgamation of broadcasting, IT and telecommunications, boundaries between relevant industries and markets are also blurring. It is only logical, therefore, that the EU has come to amend its legal framework in order to account for these changes in the communication environment (Recital 5 Framework Directive).

Thus, when talking about an international regime for electronic communications, one seems to adopt an EU perspective because such a notion does not exist at the international level yet. Yet, the adopted perspective is regime-specific only at first glance: electronic communications emerges due to technological convergence and the EU is simply one of the first regimes to recognise that and to reflect it in the legislation. Thus, it can be argued that the EU perspective is to a certain extent a technological and, therefore, universal one.

An examination of the international regime through the prism of electronic communications shall allow a better comparison between the EU and international levels and it shall shed more light on the deficits and fragmentation of international regulation. Ultimately, an analysis of the rules covering individual elements of electronic communications networks and services is aimed at uncovering comparative advantages of the EU experience and at a discussion of their transferability to the international level.

This chapter argues that the comparative superiority of the EU framework rests on two objective qualities that are conditioned by specifics of the sector: technological cognisance and strong consideration of social needs. Technological cognisance, understood as consideration of technological reality and technological possibilities in the regulation, is an indispensable feature of regulation of a famously technology-intensive sector. Consideration of social needs in electronic communications regulation reflects the enormous (and growing) importance of the EC sector for all aspects of our life and shall prevent technological determinism. Technology is shaped by society and legislation and regulation are the designer tools that project social expectations about the role of the respective technologies.

This chapter leaves assessment of the respective rules as an economic regulation largely untouched, firstly, in order not to go beyond the limited scope of the contribution and, secondly, because a comprehensive comparison between the international and EU levels in this regard is very complicated due to the very different nature and objectives of the regimes.

The discussion will consist of the following aspects. Section 12.2 intends a brief but, as much as possible, comprehensive characterisation of the EU legal and regulatory framework for electronic communications. Against this background and in relation to it, Sect. 12.3 provides an overview of the existing international legal

and regulatory arrangements. In order to demonstrate the differences and similarities of the regimes more clearly, both Sections examine their correspondence to technological developments and on specifics of regulation of electronic communications as a public service. The concluding Sect. 12.4 summarises the findings and discusses the lessons learnt from the EU experience and the EU's role in shaping an international regime for electronic communications.

12.2 EU Regulatory Framework as a Prototype of International Regime for Electronic Communications

12.2.1 Technological Cognisance of the EU Regulatory Framework

Having embraced technological convergence, the EU legal framework has largely abandoned the sectoral approach to regulation of communications and adopted a functional one instead. The sectoral approach, dominant in the 20th century, treated communications networks—broadcasting, telecommunications and IT—and communications services differently depending on over what network they were transported. By contrast, a functional approach reaches deeper, taking into account what the network or service is used for. Thus, it regards all the networks used for transmission of electromagnetic signals as a single infrastructure and all the services consisting wholly or mainly of conveyance of electromagnetic signals over those networks as transport services. Accordingly, a holistic regulation of these types of activity is adopted.

The most important expression of the functional approach—and one of the major regulatory novelties of the EU framework—is the idea of technological neutrality of regulation. It means that regulations shall not artificially promote certain technological choices above the others or discriminate in favour of use of a particular kind of technology (Recital 18 Framework Directive, Recital 25 Universal Service Directive[4]). Essentially, all electronic communications networks and services shall be treated the same disregarding the underlying transmission technology.

The departure from the sectoral approach has resulted in a tentative, most likely unintentional adoption of the so-called layered regulatory model.[5] Regulatory frameworks relevant for information and communications sectors are structured

[4]Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services, OJ 2002 L 108/51.

[5]Mindel and Sicker 2006, pp. 136–148; Frieden 2003, p. 248.

not vertically, along the lines of the industries of telecommunications, broadcasting and IT, but horizontally according to the layers, originally known from IP network architecture. In the EU level regulation, an explicit dividing line runs between the content layer, comprising the conveyed information, and the conduit/carrier layer, used for transporting the information. Some scholars, however, advocate a more subtle distinction with content, applications, transport and access layers being the bare necessity for regulatory purposes.[6]

The layered model combined with a functional approach allows for a more effective and precise regulation of market entry and market conditions[7]—central aspects of the sector-specific *ex ante* regulation that was introduced in the EU in order to ensure a transition from national telecommunications monopolies to the competitive internal market. The liberalised market for electronic communications already mainly relies on regulation through general competition law. However, occasional *ex ante* interventions are justified, for example, to create a level playing field for network operators and service providers and to promote effective competition in a technologically neutral manner and, eventually, at the infrastructural level.

While general competition law, naturally, covers all the market behaviour of providers of electronic communications networks and/or services, the mentioned sector-specific *ex ante* regulation addresses only the most critical issues. An in-depth study of the EU's sector-specific regulatory framework would go far beyond the scope of this contribution and, in fact, has been done elsewhere.[8] Therefore, this chapter confines itself to indicating some of the issues most relevant from the perspective of this contribution.

Internal market and effective competition mean equal conditions of competition for and in the market, not only for domestic and foreign providers but also—from the perspective of technological convergence—for legacy telecommunications providers and alternative providers, including operators of other networks originally used for different purposes and subject to different regulation. Regulation has to account for technologically and economically reasonable separation between networks, services and content, and address the specific problems of each subject-matter. For electronic communications networks operation and services provision, the convergence-related aspects are access to essential facilities and coordination of the performance of different networks—or, in other words, interconnection[9] and interoperability.[10] Because technological convergence drives the development in the direction of new generation networks (NGN)—an overarching network

[6]For a brief, but quite comprehensive overview of various layered models see Kariyawasam 2012, pp. 225–231.

[7]ACMA—Australian Communications and Media Authority, Converged legislative frameworks—International approaches. Occasional paper. http://www.acma.gov.au/~/media/Regulatory%20Frameworks/pdf/converged_legislative_frameworks_paper%20pdf. p. 2. Accessed 28 February 2014.

[8]To name just a few major studies, Nihoul and Rodford 2004; Koenig et al. 2009.

[9]See, for instance, K. Werbach, Only Connect. http://ssrn.com/abstract=964991. 20 February 2007. Accessed 28 February 2014.

[10]See Gasser and Palfrey 2007.

environment consisting of heterogeneous parts, the ability to interconnect and interoperability are central for the functioning of the diverse parts of NGN. Services carried, devices attached and applications used need to interoperate to cope with the infrastructure variety. Regulation that considers these aspects is not only technology-responsive, but also technology-fostering.

Measures of the Access Directive[11] cover a great many issues for a satisfactory provision of interconnection and interoperability. They address the possible technical barriers (technical specifications, network characteristics), economic complexities (accounting information, prices) and legal hurdles of public and private law nature (terms and conditions for use and supply, conditions limiting access to and/or use of services and applications). Measures directed at unbundling the local loop[12] require that physical access to it shall be granted at any feasible network point, even if facility sharing is necessary, and in a non-discriminatory technologically neutral manner. Restrictions, necessary to protect network integrity, shall also be technologically neutral and based on objective criteria defined in advance.

Harmonised numbering rules, especially promotion of the European Telephone Numbering Space, uniform policy on European access codes, emergency and social services, may facilitate convergence on the market. However, limited numbering portability, namely excluding porting of numbers between fixed and mobile networks, and the existence of geographic numbers somewhat hamper convergence from the user perspective.[13]

Indispensable for the provision of interconnection and for ensuring interoperability is the existence of common standards—or at least a common frame of reference. The Framework Directive (Article 17) prescribes the Commission to draw up and publish a list of non-compulsory standards and/or technical specifications and, where necessary, to request that standards be drawn up by the European standards organisations. Where interoperability has not been granted due to inadequate implementation of standards, the Commission may make certain standards compulsory (Article 17 paras 3–4 Framework Directive). A special case of standardisation is quality of service, regulated only tentatively in Article 22 Universal Service Directive[14] that intends to harmonise requirements with quality of electronic com-

[11]Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, EC networks and associated facilities, OJ 2002 L 108/7.

[12]Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop, OJ 2000 L 36/4; Commission Recommendation 2000/417/EC of 25 May 2000 on unbundled access to the local loop: enabling the competitive provision of a full range of EC services including broadband multimedia and high-speed Internet, OJ 2000 L 156/44.

[13]For the relevant rules and restrictions, see Article 30 in conjunction with Annex I Part C of the Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to EC networks and services, OJ 2002 L 108/51.

[14]Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to EC networks and services, OJ 2002 L 108/51.

munications services, provided on a universal service basis within the EU internal market, as regards, for example, non-network and network performance.

The harmonious and comprehensive approach and regulatory system at the EU level crumbles slightly when an external dimension is considered in addition to the above described internal one. In its free trade agreements (FTAs), the EU has to seek a compromise between the innovative concepts and approach of its internal framework, demands of its counterparts and requirements of international trade law. A comprehensive analysis of the EU's FTAs will go beyond the scope of this contribution, therefore only several typical examples of deviation from the EU's domestic practices shall be named.

Most notable is the absence of the notion of electronic communications in the FTAs. Instead, the terms "telecommunications services" and "telecommunications networks" are used,[15] following the custom of international trade agreements (discussed further in Sect. 12.3). The content of this term slightly differs from FTA to FTA. While its definition is a broad one (Article 109(a) EU-Chile Agreement, Article 94 para 1(a) EU-CARIFORUM Agreement, Article 7.27 para 2(a) EU-Korea Agreement), the content is defined rather restrictively and includes either only basic telecommunications services in the sense of the GATS's "Services Sectoral classification list" (EU-Korea Agreement) or basic and some value-added telecommunications services (EU-Chile Agreement, EU-CARIFORUM Agreement). The approach is restrictive and technologically non-neutral, as will be explained further in Sect. 12.3 of this contribution, and it contradicts the EU's efforts at the international level, aimed at promotion of a functional approach and a greater alignment of the international framework with its internal framework through a reform of services classification in the telecommunications sector.[16]

Naturally, this has further implications for other relevant provisions of FTAs, which in general lag behind the technological developments in the sector. By contrast to the EU's internal framework, FTAs' rules can be said to follow the lines dividing the ICT sector according to technologies of signal transmission to a greater extent. One of the indicators for this is a rather detailed regulation of issues of interconnection between telecommunications networks, essential for international provision of telecommunications services (although in some FTAs it

[15]See, for instance, Section 3 of Agreement establishing an association between the European Community and its Member States, of the one part, and the Republic of Chile, of the other part, OJ 2002 L 352/3 (hereinafter—EU-Chile Agreement); Section 4 of Economic Partnership Agreement between the CARIFORUM States, of the one part, and the European Community and its Member States, of the other part, OJ 2008 L 289/I/3 (hereinafter—EU-CARIFORUM Agreement); Chapter Seven Section E Sub-Section D of Free Trade Agreement between the European Union and its Member States, of the one part, and the Republic of Korea, of the other part, OJ 2011 L 127/6 (hereinafter—EU-Korea Agreement).

[16]See WTO Council for Trade in Services Special Session Committee on Specific Commitments, Communication from the European Communities, Classification in the Telecom Sector under the WTO-GATS Framework, TN/S/W/27, S/CSC/W/44, 10 February 2005.

is limited only to major suppliers (EU-Chile Agreement) or to suppliers of public telecommunications networks and services (EU-Korea Agreement), but lack of provisions guaranteeing interoperability between various types of networks.

12.2.2 Consideration of Social Needs in the EU Regulatory Framework

Technological sensitivity of regulation seems to be a sensible approach for both the economy and society as it does not promote unrealistic expectations and does not pose impossible requirements, and it can be more effective in terms of advancement of societal goals.

Speaking of social regulation of electronic services provision, one has to point out the great variety of social concerns addressed at the EU level. Security of usage of electronic communications networks and services is addressed by a great number of legislative measures. For instance, security of provision of connection and services is partially ensured by the Universal Service Directive, but also by several measures adopted within police and justice cooperation in criminal matters.[17] Data protection and privacy in the electronic communications sector are covered by harmonised rules, currently under reform.[18] Consumer rights issues regarding electronic communications are dealt with in the Universal Service Directive, while consumer protection regarding e-commerce is regulated by the e-Commerce Directive. Use of electronic communications for security purposes has its regulatory content in the Data Retention Directive[19] and in provisions on emergency services in the Universal Service Directive.

Implications of technological convergence for information pluralism—another social interest—are covered by two EU directives focusing on audiovisual

[17]For example, Council Framework Decision 2005/222/JHA of 24 February 2005 on attacks against information systems, OJ 2005 L 69/67.

[18]Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the EC sector, OJ 2002 L 201/37. Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ 1995 L 281/31 will be soon superseded by a General Data Protection Regulation, see European Commission, Proposal for a Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation), COM(2012) 11 final, 25 January 2012.

[19]Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available EC services or of public communications networks and amending Directive 2002/58/EC, OJ 2006 L 105/54.

services.[20] At the same time, regulatory activities in the field of electronic communications shall account for the links between the carrier and content levels in order to guarantee media pluralism and cultural diversity (Recital 5 Framework Directive).

The immense significance of access to information and the role of communication of any kind (political, economic, cultural, personal) in the emerging "digital age" substantiates the primary societal interest in having quality network access everywhere and at affordable cost. Over this access one should be able to use electronic communications services necessary to fulfil individual communication needs. The EU Universal Service Directive, drafted in a technologically neutral manner, ensures that in case of a market failure to provide an established minimum of electronic communications services of a particular quality and at an affordable price, a special mechanism of designation of a universal service provider, which can use any technology to accomplish its mission, can be employed.[21]

Regulation of universal service provision at the EU level is a substantive one; both the concept and the instrument of its realisation are drafted in great detail resulting in full harmonisation of most of its aspects. The Universal Service Directive determines an EU-wide minimum set of services to be available on the universal service basis (Articles 4–7 USD); it specifies their quality (Article 11 USD) and provides for guarantees for price and affordability (Articles 3 and 9 USD). It further establishes the primacy of the market as a means of universal service provision and regulates the conditions and form of state intervention in this context (Recitals 3–5 and Article 1 para 1 and Article 3 USD). For this purpose, in place of the former national tools of *Daseinsvorsorge* and *service public* it introduces a universal service instrument, which takes the form of universal service obligations imposed on designated providers, selected in a special procedure (Article 8 USD). The Universal Service Directive also foresees that a non-market provision of universal service may require special financing arrangements: according to Articles 12–13 USD where universal service obligation results in an unfair financial burden for a designated provider, the excessive cost can be compensated either through a special fund or by cost sharing with other electronic communications providers.

Implementation falls on Member States (Article 3 para 1 USD) who have relatively little discretion in selection of the means to secure the EU-defined goals: they are to establish an affordable price in the light of the national conditions

[20]Council Directive 89/552/EEC of 3 October 1989 on the coordination of certain provisions laid down by Law, Regulation or Administrative Action in Member States concerning the pursuit of television broadcasting activities, OJ 1989 L 298/23; Directive 2010/13/EU of the European Parliament and of the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive), OJ 2010 L 095/1. For critical assessment of both documents from the convergence perspective see Geach 2008.

[21]For shortcomings in terms of technological neutrality of universal service regulation see, for example, Bohlin and Teppayayon 2009, p. 283.

(Article 9 para 2 USD); they can determine the number of designated universal service providers and the procedure of their designation (Article 8 USD) and choose one of the methods of financing suggested by the Universal Service Directive (Article 13 para 1 USD).

Questions of social regulation relevant for bilateral trade in telecommunications services are addressed in a strikingly different way in the EU's FTAs. The EU-Chile and EU-Korea Agreements contain a provision on universal service declaring a sovereign right of each Party to define the kind of universal service obligations for itself and requiring guarantees for non-discrimination and competitive neutrality for their administration to be set (Article 115 and Article 7.34 respectively). By comparison, Article 94 para 1(f) and Article 100 EU-CARIFORUM Agreement sound like a summary of the Universal Service Directive and contain all the main elements of the EU's universal service concept: a particular set of services, a specified quality, an affordable price, possibility of designation of an operator to fulfil universal service obligation.[22] These rules constitute a more sensible limitation on the legislative sovereignty of the Parties, but bind all of them to the benchmark set by the EU. To this end, one can speak of export of the EU universal service model and regulation.[23] Arguably, such export is made possible by the relatively less developed telecommunications law and policy of the CARIFORUM states and their weaker negotiation position, on the one hand, as well as by their aim to establish a CARICOM Single Market and Economy[24] and therefore their inclination to adopt the European experience, on the other hand.

12.2.3 European Framework for Electronic Communications—A Holistic Regime?

At the EU level there is a unique case of a holistic regulation of electronic communications networks and services for the internal market. The extensive framework seems to cover most of the issues significant for market provision of the subject matter, yet it goes much further than simple economic regulation considering most seriously such factors as technological development and social interests. Remarkably, the EU framework is mainly aimed at creation of an internal market in electronic communications (the EU does not have other competences in regulation of electronic communications), yet it seems to respond well to wider societal concerns and contains rules of social regulation, most prominently universal service, for the whole internal market. The level of detail and the depth of

[22]For a more detailed examination see Krajewski 2011, pp. 231–252.

[23]Krajewski 2011, p. 247, comes to the same conclusion.

[24]Revised Treaty of Chaguaramas Establishing the Caribbean Community Including the CARICOM Single Market and Economy Community of 2001. http://www.caricom.org/jsp/community/revised_treaty-text.pdf. Accessed 28 February 2014.

responsiveness of the EU regulation, which are almost national-law-like, can be taken as a benchmark of what is possible at a transnational level (as well as evidence of a high degree of integration).

However, externally the EU bears away from its internal approach, at times considerably. Only the EU-CARIFORUM Agreement stands out as an example of the transfer of the internal model to external rules. In agreements with other more technologically savvy and economically and politically weighty counterparts the EU follows the approach developed in the GATS.

12.3 Overview of International Rules for Electronic Communications

12.3.1 An Incomplete "Who Is Who" of International Regulations on Electronic Communications

At the global level, several organisations possess competences in regulating different aspects of electronic communications. Arguably, the most comprehensive mandate belongs to the oldest international organisation—the International Telecommunications Union (ITU). Its overall objective can be summarised as the "establishment and maintenance of international telecommunications on a general basis".[25] In detail its objectives are listed in Article 1 ITU Constitution[26] and include maintaining and extending international cooperation, promoting and offering technical assistance to developing countries, promoting the development of technical facilities and their efficient operation, extending the benefits of new technologies, promoting the use of telecommunications for peaceful relations, and harmonising the actions of ITU members to achieve these and other objectives.

The ITU is an intergovernmental organisation with the Plenipotentiary Conference of the State Members being its supreme organ that determines general policies and decides on other important questions of the ITU's existence and functioning (Articles 8–9 ITU Constitution). The Council, elected by the Plenipotentiary Conferences from the State Members, carries out every-day administrative functions (Article 10 ITU Constitution) and other international conferences adopt decisions on specific questions. However, the main substantive work is done in the Sectors, which are organised thematically as the Radiocommunication Sector (ITU-R), the Telecommunication Standardisation Sector (ITU-T) and the newest one, created as a result of the institutional reform in the 1990s, the Telecommunication Development Sector (ITU-D) (Articles 12–24 ITU Constitution).

[25]Lyall 2011, p. 131.

[26]Constitution and Convention of the International Telecommunication Union: Final Acts of the Additional Plenipotentiary Conference, Geneva, 22 December 1992, Geneva: ITU, 2011. http://www.itu.int/pub/S-CONF-PLEN-2011/en. Accessed 28 February 2014.

Being an international organisation, the ITU can set legally binding rules only in the forms accepted by international public law.[27] According to Article 4.1 ITU Constitution, only the Constitution itself, the ITU Convention and the administrative regulations bind the Member States in their own operations. A vast majority of the documents produced by the Sectors are substantive recommendations which have a non-binding character. However, they are generally observed by the States, other types of Members[28] and non-state actors due to requirements regarding international provision of telecommunications and restrictions of the laws of physics[29] and can be therefore described as "authoritative law".[30]

The transmission of information over the "network of networks" uses telecommunications channels and therefore should be subject to the ITU regulation.[31] However, due to the history of Internet development, central questions of Internet regulation, namely routing protocols, administration of top-level domains and allocation of Internet numbering resources, have happened to slip the ITU's reach. The functions which have been named are carried out by the Internet Corporation for Assigned Names and Numbers (ICANN) which is a unique global governance body: it is a non-profit private law entity, incorporated in California, which performs its tasks under a contract with the US government.[32] The ITU only participates as an observer in the Governmental Advisory Committee (GAC) and has not managed so far to get a foot in the door of the regulation of vital Internet infrastructure issues due to strong opposition from the United States and bitter disappointment on the part of developing countries.[33] Nevertheless, the ITU and the ICANN have been cooperating on some issues as there are a number of fields of

[27]On the ITU law-making from the public international law perspective see an insightful analysis by Hinricher 2004.

[28]The ITU has categories of Sector and Associate membership for non-state actors, such as network operators, equipment manufacturers, service providers, NGOs, academia and other. Their rights are limited in comparison to State Members, most notably in respect of voting at Plenipotentiary Conferences. At the same time, they are numerous (currently over 700) and exercise a serious influence on the agenda of the ITU and on the content of the documents adopted by the Sectors. See alternative approval procedure for standards in Recommendation ITU-T A.8 (10/2008) "Alternative approval process for new and revised ITU-T Recommendations" and MacLean 2007, p. 34.

[29]Lyall 2011, p. 164.

[30]D. Westphal, International Telecommunication Union (ITU). Max Planck Encyclopedia of Public International Law. http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e514?rskey=1mYV3z&result=3&prd=EPIL, para 24. Accessed 28 February 2014.

[31]Lyall 2011, pp. 188–189.

[32]See http://www.icann.org/en/about/welcome.

[33]For a detailed account of the battle over the domain governance see Mueller 2002; Kleinwächter 2009; S. Simpson, The Evolution of International Policy Agendas in the Regulation of Electronic Communications: the Internet and Telecommunications. http://usir.salford.ac.uk/18397/3/IPSAECPR%252817.1.11%2529.pdf. 2011. Accessed 28 February 2014.

common interest for the two organisations,[34] and the ITU continues to work on many Internet-related issues, like cybersecurity, combatting spam and the digital divide. Although the decisions, adopted by the ICANN, are not legally binding, they are "more widely and more strictly accepted and respected than binding decisions of most international organisations", according to some observers,[35] due to the obvious reason that they are indispensable for the operation of the Internet.[36]

In the mid-1990s the regulatory centre of telecommunications shifted to the newly established World Trade Organisation (WTO) that played a prominent role in the liberalisation of trade in services and promotion of foreign direct investment. With the adoption of the General Agreement on Trade in Services (GATS), trade aspects of various communications services fell under the scope of this international organisation's competence.

According to Article I GATS, no services sector, traded in one of the four modes, is apriori excluded from the general obligations of most favoured nation treatment (MFN) and transparency (Articles II and III GATS respectively). Thus, the GATS covers telecommunications services, computer and data processing services, and audiovisual services (broadcasting and information services)—all listed in the "Services Sectoral classification list" (W/120).[37] Besides, according to the Annex on Telecommunications, services suppliers, depending on their activity on public telecommunications networks, and services shall have access to them under non-discriminatory conditions (Article 1 Annex). Just like MFN and transparency, the Annex on Telecommunications represents a horizontal obligation and applies to all GATS signatories.

Besides general obligations, GATS Members may enter into specific commitments only regarding particular services, outlined in detail in schedules of commitments. Specific commitments include market access (Article XVI GATS), national treatment (Article XVII GATS) and additional commitments (Article XVIII GATS), the latter—only for basic telecommunications—contained in the Reference Paper on regulatory principles.

Thus, the WTO legal framework for electronic communications consists of mainly liberalising rules with a few regulatory provisions, that cover only few electronic communications services and were adopted to account for various domestic concerns in order to promote free international trade. Regulation of telecommunications services provision is, however, of great importance in this context because the network character of the industry in question requires coordination and cooperation in order to provide for interconnection and interoperability

[34]See H. Zhao, ITU-T and ICANN reform. http://www.itu.int/ITU-T/tsb-director/itut-icann/ICANN%20Reform.pdf. 17 April 2002. Accessed 28 February 2014; L-R. Chetty, A new season of cooperation between ICANN and ITU. http://itu4u.wordpress.com/2012/12/05/a-new-season-of-cooperation-between-icann-and-itu/. 5 December 2012. Accessed 28 February 2014.

[35]Hartwig 2010, p. 576.

[36]Wessel 2011, p. 85.

[37]WTO, Services Sectoral classification list, Note by the Secretariat, MTN.GNS/W/120, 10 July 1991.

between separately developed national systems. Thus, activities of the ICANN, the ITU and other standardisation organisations are taken into consideration by the GATS (Article XXVI GATS, para 6 Annex on Telecommunications).

12.3.2 International Rules and the Pace of Technological Change in Electronic Communications

General observations on the technological up-to-dateness of regulation at the international level are difficult due to the specifics of each international organisation in question. As a reminder, electronic communications networks encompass all types of networks capable of and used for transmission of electromagnetic signals, namely broadcasting, telecommunications and data networks, wired and wireless. Such a notion is absent at the international level, which obscures the regulatory landscape. The ITU deals with telecommunications in the broadest sense, covering all communications networks and services that involve transmission of an electromagnetic signal. Their definition is strikingly similar to 'electronic communications' in the EU legal framework: Telecommunications are any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems (Article 2.1 International Telecommunication Regulations[38]). Hence, the ITU definition distinguishes transport level from the content and is comparable with the EU's notion of electronic communications.

The terminology used by the other organisations complicates the matter. As indicated above, the ICANN focuses solely on communications over IP networks, which also fall under the definition of the ITU's subject-matter. Under the GATS, due to the positive list approach to scheduling, different types of communications services are treated differently: all of them are subject to most favoured nation and transparency principles, but all other commitments differ considerably across sectors and countries and, actually, only the limited category of basic telecommunications services is regulated relatively comprehensively.[39] Thus, while the ITU and the ICANN keep pace with technological development,[40] the GATS is lagging seriously behind both due to the use of the outdated classification list W/120[41] and the distinction between basic and value-added services, not justifiable from

[38]International Telecommunication Regulations: Final Acts of the World Conference on International Telecommunications, Dubai 2012.

[39]Difference in treatment of communications service is concisely, but accurately outlined by Luff 2012, pp. 81–84.

[40]This statement needs to be somewhat qualified in relation to the ITU: one of the central issues of telecommunications services provision—tariff and accounting principles—seems to be quite outdated and cries for reform. Yet, due to political reasons, this step has been taken only half-heartedly. See, for example, Cowhey 2004, pp. 34–50; Guermazi 2004, pp. 83–129.

[41]Zhao 2003/2004, pp. 8–9; Weber and Burri 2012.

technological and regulatory points of view.[42] Principally, the GATS continues to follow the sectoral approach that was dominant at the time of the GATS's conception and is therefore not technologically neutral.[43]

Putting aside this serious shortcoming, the content of the international rules of all organisations, similarly to the EU rules, focuses on interconnection and interoperability. Another significant issue in international cooperation refers to common efficient use of scarce resources, such as numbering, radio frequencies and geostationary orbit slots. The reasons for these priorities are, however, different from the motives of the European legislators. Due to the historically conditioned differences in national communications networks, equipment and standards,[44] common arrangements on interconnection and interoperability are absolutely indispensable for a cross-border provision of communications services. The necessity of orchestrating the allocation of scarce resources is based mainly on the conflicting claims and interests of nation states rather than the creation of a level playing field for different technologies.

To this end, the regulations of the three organisations can be said to complement each other. Thus, for interconnection and interoperability, the GATS sets up a regulatory framework of a principled nature, however, only for telecommunications. Broadcasting and IT services, among which are both content and transport services, are subject mainly to horizontal obligations of most favoured nation treatment and transparency. The GATS reaches beyond the purely technical framework for the operation of the telecommunications industry and addresses the economic and legal factors, hinting at a particular form of provision, namely through the market. The GATS Annex on Telecommunications prescribes provision of access to public telecommunications transport networks and services for all—also broadcasting, information and data—services providers, using them, on reasonable and non-discriminatory terms and conditions. The GATS Reference Paper on regulatory principles applies to basic telecommunications and lays out conditions for effective competition in provision of such services internationally: public availability of licensing criteria in order to enter the market (Section 4 PR), guarantee of interconnection under non-discriminatory, transparent and reasonable conditions (Section 2 RP), and access to essential facilities and commercially relevant information necessary to provide services (Section 1 RP). The ITU and ICANN rules and standards complete the regulatory framework with detailed provisions necessary for operation in the communications industry within their mandates. The ITU addresses transmission issues concerning all kinds of communications, while the ICANN deals with IP networks. Standards and recommendations adopted cover a wide range of transmission related issues from procedures and practices to compatibility between equipment to operating protocols for all kinds of networks to security of networks.

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[42]For example, Bronckers and Larouche 2008, p. 325; Burkart 2007.

[43]Luff 2012, pp. 84–85.

[44]Tegge 1994, pp. 28–30, 37–38.

The interplay of the WTO, the ITU and ICANN rules in the similar format as indicated above continues in the field of scarce resources, especially frequencies, numbering and rights of way (Section 6 RP). The GATS Reference Paper on regulatory principles—in relation to basic telecommunications—requires their allocation in an objective, timely, transparent and non-discriminatory manner. Technically minded, the ITU administers international numbering resources for different types of communications, while the ICANN deals with Internet numbering resources. Furthermore, due to specifics of the mandate, the use of the radio frequency spectrum both for terrestrial and space communications and the use of the geostationary satellite orbit are managed by the ITU. For this, the ITU administers the Master International Frequency Register, undertakes studies into the technical issues and resolves disputes. In the ITU's activity technical and physical laws play the central role: economic factors may be taken into account only when comparing technical or operational alternatives.[45]

All in all, jointly the ITU, the GATS and the ICANN cover major issues from the perspective of technological developments in electronic communications. Interconnection, interoperability and joint management of scarce resources are as necessary for the international provision of communications as they are indispensable for the convergence of communications technologies. At least the general principles of the GATS—objectivity, transparency, non-discrimination—will remain relevant for the environment where providers using different communications technologies compete against each other, as the EU's experience shows.

Unfortunately, technical, financial and procedural aspects reach only as far as the competences of the organisation adopting the rules allow. Technological aptness of the regulation is to this end relative and limited, which may potentially deter technological development and the spread of its benefits across the globe. Besides, the use of divergent services classifications and definitions causes overlaps and legal uncertainty for providers. This may have adverse implications for international trade and competition as well as the development of (new) markets and communication products.

12.3.3 Elements of Social Regulation at the International Level

Social problématique of electronic communications networks and services provision is to some extent addressed by the intergovernmental organisations the ITU and the WTO, while, by contrast, social concerns are largely neglected by the ICANN.[46] The ICANN does not "promote the global public interest", but instead

[45]Lyall 2011, p. 160.

[46]See the comparative legitimacy study by Take 2012, esp. at pp. 14–15.

concerns only the "operational stability" of the IP communications networks and the means for achievement of this goal are limited and relate to particular issues of operability (safety, interconnectivity).[47]

The coverage by the ITU, especially regarding the public service nature of telecommunications services, is most extensive. The ITU's International Telecommunication Regulations[48] contain some provisions of socio-political nature, related to the concept of universal service. Accordingly, the signatory State Members have to ensure a sufficient supply of international telecommunications facilities and services to meet the demand. Besides, they are to improve their availability to the public. By national laws and to the greatest extent practicable, Member States shall endeavour to ensure satisfactory quality of service of at least a form of telecommunication service which is reasonably accessible to the public. Within its standardisation activities, the ITU-T has extensively addressed questions of the quality of service regarding both different kinds of communications services and networks.[49]

Related to universal service, the problem of digital divide has been one of the primary focuses of the ITU's attention for decades. The ITU is to promote the extension of the benefits of the new information and communication technologies to all the world's inhabitants and it is to do so by fostering and offering technical assistance to developing countries, mobilising human capital, material and financial resources. The special ITU-D Sector attends to these tasks diligently.

Other socially important aspects of communications—personal data protection, privacy protection, consumer rights—are being studied by special groups of the ITU,[50] but no regulatory measures of any kind have been produced so far. Emergency use of electronic communications is dealt with by both the Radiocommunication and Standardisation Sectors.

Despite the ITU's active efforts in the field mentioned, their results are quite modest. It can be argued that one of the main reasons for this is that social policy is a sensitive matter for State Members and heavy-duty legal instruments are not usually used to address them at the international level directly. Another important factor is the fact that cooperation on socially important matters is not essential for cross-border communication or, rather, is necessary only to a certain, quite limited extent. Each nation state takes care of the social needs of its citizens according to

[47]See para 3 of Articles of incorporation of Internet Corporation for Assigned Names and Numbers.

[48]See Articles 3–4 International Telecommunication Regulations: Final Acts of the World Conference on International Telecommunications, Dubai 2012.

[49]See http://www.itu.int/en/ITU-T/studygroups/2013-2016/12/Pages/default.aspx. Accessed 28 February 2014.

[50]See, for instance ITU, Privacy in cloud computing. ITU-T Technology Watch Report. http://www.itu.int/dms_pub/itu-t/oth/23/01/T23010000160001PDFE.pdf. March 2012. Accessed 28 February 2014; ITU, Regulation and consumer protection in a converged environment. http://www.itu.int/en/ITU-D/Regulatory-Market/Documents/Regulation%20and%20consumer%20protection.pdf. March 2013. Accessed 28 February 2014.

the political and legal requirements of the day and economic possibilities. At the international level, the efforts often aim at securing the national provision and not interfering with more important common international interests.

A vivid example of the latter logic is the requirements for domestic provision of universal service in basic telecommunications by the Member States in the GATS. Due to its potential to obstruct an effective liberalisation of trade in telecommunications services[51] (but also in other services), this was a pivotal issue which is explicitly dealt with in Section 3 of the GATS Reference Paper on regulatory principles. The right of each Member to define a national universal service is recognised; the sole limitation is the scope of commitments and application of the Reference Paper, which applies only to basic telecommunications services. What can, however, create trade barriers is not so much universal service scope, but the mode of its realisation. Therefore, the principles for the design of domestic regulation of universal service provision have a procedural character. They require the respective universal service obligations to be administered in a transparent, non-discriminatory and competitively neutral manner and to be no more burdensome than necessary for the kind of universal service the Members wish to maintain.

Digital divide is not directly a trade issue and is therefore not addressed by the GATS. The GATS Annex on Telecommunications only contains a developing countries clause (Sections 5(g) and 6).

All in all, socially important issues related to electronic communications are insufficiently addressed at the international level. As regards the range of socially-relevant topics picked out, researched and/or brought to global attention, the ITU definitely stands out. But the ITU lacks teeth, and its modest efforts are overshadowed by the trade-enhancing rules of the GATS.[52] Among the reasons for this state of affairs is the lack of strong competences in this field, as indicated above, conditioned by the lack of interest and feeling of common concern. Partially overlapping competences and absence of a consistent approach to electronic communications among the three organisations exacerbate the situation not only due to an inadequate level of services liberalisation, but also because of inconsistent social regulation.

12.3.4 Fragmented Regulation at the International Level?

A "one-shop" regulation of the kind found at the EU level does not exist at the international level. Instead, several international organisations are responsible for different aspects of electronic communications. This situation is conditioned by the history of communications technologies. Different communications technologies

[51]Batura 2011, p. 270.

[52]See *Mexico—Measures Affecting Telecommunications Services*, Report of the Panel, WT/DS204/R; Batura 2011, p. 271.

developed at different times and separately from each other, focusing on transmission of particular content and services. In addition to this, there is the strong governmental interest in communications that resulted in the technical and economic specifics of communications networks deployment and maintenance, and in different equipment and standards developed according to local requirements, meaning communication could not freely flow across national borders.[53] The fragmented character of international cooperation as well as the body of correspondent international law reflects the needs to address issues of common concern (e.g. emergency communications), issues essential for the effective functioning of cross-border communications (e.g. standardisation and interconnection at national borders) and issues necessary to secure communications within national borders (e.g. avoidance of harmful interference of wireless communications). With the growing importance of international trade in services, cooperation on economic aspects of communications is added to this list.

At first glance, international regulation looks heterogeneous and fragmentary: at least three international organisations have their say in the regulation of electronic communications with none of them clearly having the upper hand. Even though at the moment it looks as though the GATS is becoming the most influential,[54] this does not turn the WTO into the defining regulatory hub. The overall confusion is enhanced by overlaps in competences, differences in regulatory approaches (functional versus sectoral), a varying level of binding force and a different degree of clarity of the provisions. In this situation, in the absence of a clear hierarchy of norms or other conflict law rules, potential conflicts are to be solved through less satisfactory "consideration rules" and cooperation mechanisms between the organisations mentioned above (cooperation agreements, observer statuses, common working groups).

Yet, impressively, the remit of issues covered at the international level is on a par with the coverage by the EU framework, so that fragmentation in this regard is less noticeable. Technologically important questions and social needs recur at both levels and in all organisations which can be explained first and foremost by the network character of the industry (economics and externalities are the same) and global nature of technological advance (also conditioned by the network character of the industry). The central social aspects and implications of electronic communications—especially the necessity of universal service provision and challenges of digital divide—are taken into consideration to a degree. Regrettably, the arrangements on socially important issues lose out by comparison to the regulation of other issues: the approaches of the ITU, the WTO and the ICANN range from complete neglect (ICANN) to an inferiority of social issues in relation to trade issues (WTO) to special high-level attention, yet without serious means of influence (ITU).

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[53] Tegge 1994, p. 30.

[54] *Mexico—Measures Affecting Telecommunications Services*, Report of the Panel, WT/DS204/R, paras 7.168–7.184.

12.4 Towards an International Regime for Electronic Communications

Considering the above conclusions about the international regime of regulating electronic communications and keeping in mind the achievements at the EU level, one cannot but wonder what direction the international-level regulation may take and, of course, what developments are desirable.

The EU framework as a prototype demonstrates what regulation is possible beyond a nation state. Yet the EU experience is likely to remain mainly just that. Due to the specifics of the EU legal order and very particular objectives of European integration, the EU experience can only be transferred to the international level in few instances (at least at the moment). The most plausible candidates for this are the general regulatory approach (functional instead of sectoral), the regulatory principle of technological neutrality and possibly even the notion of electronic communications or at least a revision of the notion of telecommunications. Especially in the field of telecommunications, the WTO/GATS framework was greatly inspired by the respective EU regulatory framework. Besides, the EU remains one of the biggest markets in the respective field and boasts a modern innovative regulation for it. Yet, most importantly, with the adoption of the functional regulatory approach, the principle of technological neutrality and a new notion for communications, the EU has kept pace with technological and market developments. These changes are objective and universal and cannot be reversed or ignored at the international level much longer. It seems that a proper, coordinated regulatory reaction to them is just a matter of time, especially considering the fact that the ICANN is basically a product of technological developments and the ITU is taking tentative, largely non-binding steps in the same direction.[55] The EU is working on transferring its experience to the GATS framework: its negotiations proposal for the telecommunications sector reflects the internal approach and, where possible, it exports its regulatory model through FTAs.

Can dynamism and depth of regulation, similar to the EU regime, be expected at the international level? The first answer to come to mind is negative: due to the great number of actors involved and the diversity of their agendas, decision-making in even the most narrowly specialised organisations takes years and contains only the most general aspects. However, even a quick glance at work and developments in the ITU and the ICANN prove this answer wrong. Both organisations—to a different extent—make use of new forms of governance and

[55]Such simple, yet fundamental changes at the international level are necessary and overdue which is also understood by some actors of the international community. See, for example, WTO Council for Trade in Services, Telecommunication Services, Background Note by the Secretariat, S/C/W/299, 10 June 2009; WTO Council for Trade in Services Special Session, Communication from Australia, Negotiating Proposal for Telecommunications Services, S/CSS/W/17, 5 December 2000; WTO Council for Trade in Services Special Session, Communication from Switzerland, GATS 2000: Telecommunications, S/CSS/W/72, 4 May 2001.

decision-making[56] which results in relatively prompt adoption of comprehensive detailed normative documents mainly in the form of standards. The specifics of the sector—its network and its large technological component—require intense expert knowledge and more detailed regulation internationally than some other services sectors.

As regards social concerns, a proper detailed, legally binding regulation at the international level is, however, less likely in the near future. As mentioned above, none of the venues has the necessary competences and/or teeth to exercise them. The states are not necessarily willing to radically reform this situation: to take just one example, the interest in bridging the digital divide and providing everyone with a proper electronic communications set-up is shared by the international community only superficially. The actual understanding of the problem and the proposed solutions vary greatly between countries. Besides, first and foremost, countries attend to their own domestic digital divide before turning to search for effective solutions for the international one.

The situation at the international level seems to suggest possibilities of institutional clashes and turf wars[57] due to the proliferation of international organisations with competences on the subject matter which does not disintegrate, but—on the contrary—emerges as one entity as a result of the amalgamation of different subjects. This will further fragment electronic communications regulation. Against this background, is an EU-style venue for general regulation of electronic communications possible at the international level?

At the moment, it seems as though all three organisations are precluded from assuming this role due to the constraints of their competences: specialisation and focus on very particular objectives means that each organisation covers only some aspects of electronic communications. Competition law that could catch some of the issues through *ex post* intervention does not exist at the international level: the GATS framework contains only a few competitive safeguards in order to ensure an effective opening-up of the previously monopolistic national markets.[58] However, the organisation coming closest to a general regulator—the ITU—may have potential. Its own history shows that bringing together separate but related regulatory bodies under one roof and under one general framework is reasonable and beneficial: The modern ITU is a result of the fusion of the International Telegraph Union and the International Radio Union in 1932, which until then mainly functioned completely independently of one another.[59]

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[56]On this subject for the ICANN see Mueller 2010; for the ITU see Noll 2001; MacLean 2003; S. Simpson, The Evolution of International Policy Agendas in the Regulation of Electronic Communications: the Internet and Telecommunications. http://usir.salford.ac.uk/18397/3/IPSAECPR%252817.1.11%2529.pdf. 2011. Accessed 28 February 2014.

[57]The ongoing battle over Internet regulation between the ITU and ICANN mentioned previously (see n 33) and an earlier battle over telecommunications regulation between the WTO and ITU, see Frühbrodt 2002; Tegge 1994.

[58]See especially Preamble and Section 1 GATS Reference Paper on regulatory principles.

[59]Lyall 2011, pp. 17–73.

Yet the probability and desirability of a holistic regulation by one organisation—for the time being—are questionable. Although it makes sense in terms of bringing all the relevant issues to one forum and efficiency savings due to the absence of need for coordination, such a solution may strain its decision-making capacity, as the stalled WTO Doha Round negotiations demonstrate. Multiple specialised forums allow for small successes and partial advances, which may develop spill-over effects and be transferred to other forums due to shared membership.

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