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DEFINING REGULATORY OBJECTIVES FOR CONTEMPORARY ELECTRONIC COMMUNICATIONS: BETWEEN A ROCK AND A HARD PLACE

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DEFINING REGULATORY OBJECTIVES FOR CONTEMPORARY ELECTRONIC COMMUNICATIONS: BETWEEN A ROCK AND A HARD PLACE

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Goal evaluation is an essential element of the process of designing regulatory frameworks. Lawyers and legal scholars do however tend to ignore it. The present article stresses the importance of pinpointing the precise regulatory objectives in the fluid environment of electronic communications, since, due to their technological and economic development, they have become the vital basis for communication and distribution of information in modern societies. The article attempts an analysis of the underlying regulatory objectives in contemporary communications and seeks to put together the complex puzzle of economic and societal issues.

The common mantra in telecommunications[1] regulatory fora (be it national, regional or international) now goes along the lines of "deregulation – good; regulation – bad" and competition is said to be the ultimate answer to basically every question. Such a generalised dictum is in itself suspicious and even more so, when it refers to a sector such as telecommunications, which has a history of particularly heavy regulation and has been the very epitome of State intervention.

In the contemporary environment of vibrant communications, subscribing to a purely "black-or-white" approach may be, to put it mildly, unsafe. Before answering the question of the appropriate regulatory model for communications, it is essential to figure out what goals are to be pursued in order to consider what kind of measures could bring about their attainment. In the words of Robert Bork, "[o]nly when the issue of goals has been settled is it possible to frame a coherent body of substantive rules".[2]

Arguably, a brief look into the telecommunications-specific laws would suffice to identify the goals. Article 8 of the Framework Directive[3] of the current European Community (EC)

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[1] The terms "telecommunications", "electronic communications" and "communications" will be used interchangeably throughout this paper. "Electronic communications" is the term coined by the 2002 EC framework for electronic communications. The scope of electronic communications (also known in EC jargon as "e-communications") is, strictly speaking, more extensive than that of "telecommunications", since it covers all electronic communications services and/or networks, which are concerned with the conveyance of signals by wire, radio, optical or other electromagnetic means (*i.e.* fixed, wireless, cable television, satellite networks), including the transmission and broadcasting of radio and television programmes. See Commission Directive 2002/77/EC of 16 September 2002 on competition in the markets for electronic communications networks and services, OJ L 249/21, 17 September 2002, at Recital 7. All web addresses within the text as last visited on 1 November 2007.

[2] Robert H. Bork, The Antitrust Paradox: A Policy at War with Itself, New York: The Free Press, 1993 (first published New York: Basic Books, 1978), at 50.

[3] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ L 108/33, 24 April 2002 (hereinafter the Framework Directive). For the 2007 proposal, see European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and services, and 2002/20/EC on the authorisation of electronic communications networks and services, COM(2007) 697 final, 13 November 2007.

communications regime supports such an opinion and defines as policy objectives to be pursued by the national regulatory agencies, three major goals: (i) promotion of competition; (ii) contribution to the development of the internal market; and (iii) promotion of the interests of the citizens of the European Union (EU), including consumer protection and the provision of universal service. Such an example however is not readily available in every regulatory space and more importantly, may not necessarily identify *all* the goals, the *ultimate* or the *right* ones.

That is why the analysis of the present article, although based upon the EC experience, will not be constrained by it. It goes beyond the goals of EC communications regulation and seeks to explore which goals are of general relevance in the communications sector. Therewith, we shall also distinguish between the objectives pursued by the *policy* and the objectives that are assigned to the *regulatory agencies* in charge of implementing that policy, as reflected in the legal framework within which they function.[4] In this examination of the essential policy objectives pertinent to electronic communications, our methodological approach will be a mixed one – it will be founded on the EC legal bases and past experience, as well as on academic research and normative recommendations in the broader context of good governance.[5]

I. INTRODUCTION

As mentioned above, historically, the telecommunications sector has been particularly heavily regulated. While part of the rationale for the burdensome regulation was the natural monopoly characteristics of the industry, another (important) part was the different perception of the industry's role. Indeed, telecommunications have always been considered a "business affected with a public interest",[6] although the precise definition of the public interest has changed over time and even more impressively so, the measures for the achievement of the public interest goals. At the outset of their development, telecommunications were simply important for point-to-point communication within strictly national limits, and later, on a transnational level as well. In that context, governments regulated them as *public services* and took account of spectrum scarcity, national security and defence. Public authorities were given control of the national networks and the services provided through them. The entities responsible for telecommunications were organised as monopolies whose activities were exempt from the

[4] Such a distinction is necessary since the objectives embodied in the legal regime may differ from the ultimate policy objectives. The first reason for this divergence is the constraints under which the institutions operate. The mandate of the regulatory agency is limited and clearly defined so that the agency can properly fulfil it. If broad discretion in implementation could be easily abused, for instance, it may be desirable to formulate the institution's tasks in terms of simplified rules. This might in practice lead to a loss of precision in implementation with respect to the ultimate objective, but could be far less damaging than leaving implementation of general objectives open to capture by particular interest groups or by the implementing agency itself. The second reason for divergence involves strategic interactions that may occur between the institution in charge and other agents concerned with the policy. The theory of delegation provides the important insight that a particular objective may be best achieved indirectly, by delegating responsibility for achieving it to an agent with a different objective. Finally, since a concrete legal regime corresponds to a certain period of application, the goals formulated in that regime might be focused on certain transitory problems that are peripheral to the ultimate policy objectives. See Damien Neven, "Working Paper on Competition Policy Objectives" in Claus Dieter Ehlermann & Laraine L. Laudati (eds.), European Competition Law Annual 1997: Objectives of Competition Policy, Oxford/Portland, Oregon: Hart, 1998, at 111-112.

[5] See *e.g.* European Commission, European Governance: White Paper, COM(2001) 428 final, 25 July 2001.

[6] William H. Melody, "Policy Objectives and Models of Regulation" in William. H. Melody (ed.), Telecom Reform: Principles, Policies and Regulatory Practices, Lyngby: Technical University of Denmark, 1997, 11- 24, at 12.

general rules of competition and subject to specific regulation. The objective of the regulation during this period, although not necessarily explicitly defined, was the provision of telecommunications services at affordable prices to the public and access to all citizens across the national territory to basic telecom services, which meant in essence, "a telephone in every home".[7]

The telecommunications sector no longer fits the straitjacket of public service. Plain voice telephony service has been replaced with the idea of the *Information Society*[8] and the objectives of communications regulation have been adjusted accordingly. In the dynamic new world of electronic communications, the identification of the regulatory objectives is critically important and at the same time, increasingly difficult. Despite the possibility of finding ourselves between a rock and a hard place, we shall attempt to pinpoint some of the most relevant goals in the communications regulatory space.

Since electronic communications is a sector that touches upon, and indeed influences, multiple facets of economic and social reality, the goals to be pursued are equally varied. One could differentiate between *economic* and *societal* goals, although as we shall see below, these overlap in many respects. For the sake of clarity, this article will discuss the economic (Part One) and the societal objectives (Part Two) as distinct categories. Innovation and universal service will be examined as concrete models illustrating the complexity of the issues behind an economic and a societal goal of communications regulation.

II. ECONOMIC OBJECTIVES

A. Consumer Welfare

When one talks now about the economic objectives of regulation, as conventional wisdom has it, one is talking about *competition* (hence the above-mentioned mantra). The roots of the concept of competition can be traced back to the beginning of economic science: Adam Smith, the father of the "invisible hand" theory of welfare, viewed competition as the force driving economies to the best outcomes that are feasible.[9] Although the underlying economic theories of antitrust have changed over the years,[10] a competitive market driven by entrepreneurship is still

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[7] Colin R. Blackman, "Universal Service: Obligation or Opportunity?" (1995) Telecommunications Policy, 19:3, 171-176, at 171.

[8] On the concept of Information Society, see *infra* Section 2.3.

[9] Adam Smith, An Enquiry into the Nature and Causes of the Wealth of Nations, New York: Modern Library, 1937 (first published 1776). Available at http://www.gutenberg.org/etext/3300. The most well-known and cited passage therein is: "He [specifically each individual] generally, indeed neither intends to promote the public interest, not knows how much he is promoting it…[He] intends only his own gain, and he is in this, as in many other cases, led by an *invisible hand* to promote an end which was no part of his intention". As cited by Patrick Van Cayseele & Roger Van den Bergh, "Antitrust Law" in Boudewijn Bouckaert & Gerrit De Geest (eds.), Encyclopaedia of Law and Economics, Cheltenham: Edward Elgar, 2000, 467-497, at 469 (emphasis added).

[10] For an overview of the different schools of economic thought from the Harvard through the Chicago School to the game-theory models, see Patrick Van Cayseele & Roger Van den Bergh, *id.* With a more specific regard to EC competition law, see Jonathan Faull & Ali Nikpay, The EC Law of Competition, Oxford: Oxford University Press, 1999, at 3-60; Mel Kenny, The Transformation of Public and Private EC Competition Law, Berne: Staempfli, 2002, at 114-134; Doris Hildebrand, "The European School of EC Competition Law" (2002) World Competition, 25:1, 3-23. On the debate on the objectives of EC competition law, see Claus Dieter Ehlermann & Laraine L. Laudati (eds.), European Competition Law Annual 1997: Objectives of Competition Policy, Oxford/Portland, Oregon: Hart, 1998, especially at 1-133.

believed to make the most efficient use of resources and to be the best allocator of wealth among society's members.[11]

But competition is not an end in itself. It is the means for achieving the ultimate goal of economic policy, including the one applicable to communications, which is, according to modern economic theory, *consumer welfare*.[12] The consumer welfare approach sees competition as ensuring allocative, productive and dynamic efficiency in the economy. These three interdependent categories imply respectively that: (i) under the circumstances of allocative efficiency – firms employ resources and productive energies to produce goods and services that provide maximum benefit to society; (ii) under the circumstances of productive efficiency – firms have the appropriate incentives to produce services at the lowest cost and production activities are distributed between firms so that industry-wide costs are minimised; and finally, (iii) under dynamic efficiency – firms have the appropriate incentives to invest, innovate, improve the range and quality of services, increase productivity and lower costs over time. Collectively, these *generic benefits of competition* provide maximisation of wealth at the lowest possible cost to society, the consumer[13] being the ultimate beneficiary of the competitive market forces.

The goal of regulation in the above context is to ensure that these efficiencies are present. In Western economies and, increasingly in all world economies, this is coordinated to a significant extent by the market mechanisms.[14] In fact, according to theoretical models, it can be demonstrated that, under certain circumstances, the allocation of resources by means of market

[11] "…[O]n the whole, markets deliver better outcomes than state planning; and central to the idea of a market is the process of competition". See Richard Whish, Competition Law, 5th ed., London: Butterworths LexisNexis, 2003, at 2. For examples on the beneficial role of competition, see Stephen Davies, Heather Coles, Matthew Olczak, Christopher Pike & Christopher Wilson, The Benefits from Competition: Some Illustrative UK Cases, DTI Economics Paper No 9, July 2004. For the benefits of deregulation in telecommunications, see J. Gregory Sidak & Daniel F. Spulber, "Deregulation and Managed Competition in Network Industries" (1998) Yale Journal on Regulation, 15:1, 117-147, at 120 *et seq*.

[12] The surplus of a given consumer is taken to be the difference between the consumer's valuation of the good at issue (willingness to pay) and the price that he/she effectively has to pay for it. Consumer welfare (or consumer surplus) is then the combined surpluses of all consumers. The surplus of an individual producer, on the other hand, is the profit he/she makes by selling the good in question. Producer welfare (or surplus) is the sum of all profits made by producers in the industry. Economic welfare is a measure that aggregates both consumer welfare and producer welfare. In practice, it is sometimes difficult to see whether competition authorities favour, as an objective, consumer or total economic welfare. In the EC jurisdiction, as well as in the US, antitrust authorities and the courts seem to favour consumer welfare as the standard. See Massimo Motta, Competition Policy: Theory and Practice, Cambridge: Cambridge University Press, 2004, at 18-22. On consumer welfare in US antitrust decisions, see Jerry A. Hausman & J. Gregory Sidak, "A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks" (1999) The Yale Law Journal, 109, 417-505, at 452 *et seq*.; Lawrence J. Spiwak, "Antitrust, the 'Public Interest' and Competition Policy: The Search for Meaningful Definition in a Sea of Analytical Rhetoric" (1997) Antitrust Report, 2-23.

[13] That is in a situation that we construe economic welfare as consumer welfare. However, even when we take it as a total surplus (*id.*), that is the sum of consumer and producer welfare, the consumers could be identified as the ultimate beneficiaries, since in most cases, producers are in effect consumers themselves.

[14] The XXIX Report on Competition Policy states in that regard: "The first objective of competition policy is the maintenance of competitive markets. Competition policy serves as an instrument to encourage industrial efficiency, the optimal allocation of resources, technical progress and the flexibility to adjust to a changing environment". See European Commission, XXIX Report on Competition Policy, Brussels, 2000, at 6. See also Guidelines on vertical restraints, OJ C 291/1, 13 October 2000, [2001] 2 CMLR 1074, at para. 7.

mechanisms is optimal.[15] Such conditions however seldom exist in reality and there is a demand for instruments for promoting efficiency and improving allocation. The public interest theory of regulation holds that government regulation can be the appropriate tool for overcoming the disadvantages of the market mechanism in situations such as imperfect competition, unstable market equilibrium, unbalanced market operation or undesirable market results.[16] Although this theory has been criticised because it takes for granted the effectiveness of the applied government regulatory tools and ignores phenomena, such as imperfect information and partiality of policy makers,[17] it remains true that some kind of regulation is needed where *market failures* occur.

The telecommunications industry is a vivid example of the changed views on economic regulation. The sector used to be heavily regulated precisely because it was believed that it constituted a natural monopoly, *i.e.* a case of imperfect competition, where due to the inherent high sunk costs, network effects, economies of scale and scope, it was more efficient (or so it seemed) to have only one operator on the market.[18] The enforced telecommunications regulation was meant to "correct" the undesirable effects and promote efficient allocation by certain restrictions on the market and on the organisation entitled with monopoly functions. This monopolistic view of telecommunications is no longer supported[19] and now it is the market itself that is responsible for bringing about the generic benefits of competition, as clearly exemplified by the current EC regulatory approach to electronic communications.[20]

B. Other Economic Objectives

While consumer welfare and the corresponding efficiencies are the core objective of economic regulation, it is often the case that economic policy is instrumentalised for the achievement of *other* objectives.[21] In the EC context, for instance, the European Court of Justice (ECJ) stated in its seminal *Metro* judgment that, "the requirements for the maintenance of workable competition may be reconciled with the safeguarding of '*objectives of different nature*'

[15] Kenneth J. Arrow, "The Potential and Limits of the Market in Resource Allocation" in George R. Feiwel (ed.), Issues in Contemporary Microeconomics and Welfare, London: Macmillan, 1985, 107-124, as referred to by Johan den Hertog, "General Theories of Regulation" in Boudewijn Bouckaert & Gerrit De Geest, *supra* note 9, 223-270, at 225.

[16] For representatives of the public interest theory, see *e.g.* Kenneth J. Arrow, "The Organization of Economic Activity: Issues Pertinent to the Choice of Market *versus* Nonmarket Allocation" in Robert H. Haveman & Julius Margolis (eds.), Public Expenditure and Policy Analysis, Chicago: Rand MacNally, 1970, 67-81; Martin Shubik, "On Different Methods for Allocating Resources" (1970) Kyklos, 13, 332-338.

[17] For an overview of the shortcomings of the public interest theory, see *e.g.* Johan den Hertog, *supra* note 15, at 231-235.

[18] On natural monopoly theory and regulation, see *e.g.* William Sharkey, The Theory of Natural Monopoly, Cambridge: Cambridge University Press, 1982; Richard A. Posner, Natural Monopoly and its Regulation, Washington, DC: Cato Institute, 1999; Ben W. F. Depoorter, "Regulation of Natural Monopoly" in Boudewijn Bouckaert & Gerrit De Geest, *supra* note 9, 498-532; Rick Geddes, "Public Utilities", *id.* 1162-1205; Massimo Motta, *supra* note 12, at 39-89.

[19] For an overview of the different theories challenging natural monopoly regulation, see Rick Geddes, *id.* at 1165 *et seq*. For the institutional economics rationale, see Jean-Michel Glachant, "Why Regulate Deregulated Network Industries?" (2002) Journal of Network Industries, 3, 297-311.

[20] The potential of competition has been empirically proven by the development of the telecommunications sector since it was opened to competition. The European Commission reports on the state of the telecommunications markets provide an excellent account of this. For the current state of affairs, see European Commission, European electronic communications regulation and markets 2005, COM(2006) 68 final, 20 February 2006.

[21] See *e.g.* Massimo Motta, *supra* note 12, at 23.

and that to this end certain restrictions on competition are permissible, provided that they are essential to the attainment of those objectives and that they do not result in elimination of competition for a substantial part of the Common Market".[22] Taking into account the macro-dimension of the European project, these "objectives of different nature" are related above all to the promotion of market integration,[23] "involv[ing] the elimination of all obstacles to intra community trade in order to merge the national markets into a single market bringing about conditions as close as possible to those of a genuine internal market".[24]

The internal market is a Community-specific goal that distinguishes EC law from its US (or other national[25]) counterparts, where such an objective is absent. In the EC frame, when "[f]aced with a conflict between the narrow interests of a particular firm and the broader problem of integrating the market, the tendency [of the European institutions] will be to subordinate the former to the latter".[26] Although the realisation of the internal market (as a matter of regional integration) has its solid justification in economic theory,[27] the pursuit of other economic goals is questioned and criticised, in particular as far as application of antitrust is concerned.[28] It should however be noted that the underlying market integration rationale, which dominated EC competition law at the outset of its development,[29] has been increasingly eroded with the actual achievement of the single market. The generic benefits of competition, *i.e.* the purely economic rationale of competition for achieving efficiency, have gradually come to the fore. This "*economic turn*"[30] is to be seen together with a "*public turn*" towards formulation and pursuit of a multitude of policy objectives other than market integration.[31]

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[22] Case 26/76 *Metro SB – Grossmärkte GmbH & Co KG v. Commission (Metro I)* [1977] ECR 1875, [1978] 2 CMLR 1, at para. 1905 (emphasis added).

[23] Although it should be noted that, as the case law of the European Courts and the practice of the EC institutions have shown, the "objectives of different nature" in the sense of the *Metro* judgment, may also involve policy considerations other than market integration, such as the promotion of small and medium enterprises or diversity of market players. On these "other" goals, see *e.g.* Richard Whish, *supra* note 11, at 17-20; Massimo Motta, *supra* note 12, at 15-17, 26-30.

[24] Case 15/81 *Gaston Schul Douane-Expediteur BV v. Inspecteur der Invoerrechten en Accijnzen* [1982] ECR 1409, at paras. 1431-1432. See also Articles 2 and 3 EC, as well as Titles I, II and VI.

[25] It should however be noted that some federal states, such as, for instance, Switzerland, do have regulations ensuring the creation and maintenance of a single market. See Bundesgesetz über den Binnenmarkt of 6 October 1995, SR 943.02, BBl 1995 IV 548.

[26] Richard Whish, *supra* note 11, at 21.

[27] For a comprehensive analysis, see Richard E. Baldwin & Charles Wyplozs, The Economics of European Integration, New York: McGraw-Hill, 2003. See also Paolo Cecchini (Rapporteur-General), The Cost of Non-Europe, Report prepared for the European Commission, Brussels, 29 March 1988.

[28] From the perspective of US antitrust, the EC competition law is often criticised for not being efficiency-based and for pursuing non-economic goals. See *e.g.* Roger Van den Bergh, "Modern Industrial Organisation *versus* Old-Fashioned European Competition Law" (1996) European Competition Law Review, 17, 75-87. See also Lawrence J. Spiwak, *supra* note 12; Robert H. Bork, *supra* note 2.

[29] Seminal cases on the broad interpretation of the internal market goal are Joined Cases 56 and 58/64 *Consten and Grundig v. Commission* [1966] ECR 299, [1966] CMLR 418 and Case 14/68 *Walt Wilhelm v. Bundeskartellamt* [1969] ECR 1, [1969] CMLR 100.

[30] On the economic turn of EC competition law, see Mel Kenny, *supra* note 10, at 101-218. For arguments for an enhanced economic methodology in the application of Article 82 EC, see Economic Advisory Group for Competition Policy (EAGCP), "An Economic Approach to Article 82", *EAGCP Report for DG COMP*, July 2005.

[31] See *e.g. infra* Section 2.1 on universal service. A similar "public turn" observation has been made by Herbert Burkert in the context of EC telecommunications policy. See Herbert Burkert, "The Post-Deregulatory Landscape in International Telecommunications Law: A Unique European Union Approach" (2002) Brooklyn Journal of International Law, XXVII:3, 739-816.

C. Innovation As A Distinct Objective

In the context of the electronic communications industry and in accounting for its unique dynamism, it is perhaps worth placing additional stress on *innovation*[32] as a key objective among the economic goals of communications regulation. While innovation is undoubtedly important for the development of any sector of the economy,[33] it is particularly critical for electronic communications, which are driven by and highly dependent on innovative advances.[34] We suggest that in the communications environment, innovation has become an objective in itself and not necessarily, as a constituent element of other policy goals.[35] Taking a closer look at innovation will serve as a model to illustrate the complexity of issues behind any one of the economic goals of communications regulation and the subordinate regulatory decisions that need to be made in the specific environment of electronic communications.

Innovation is associated with one of the generic benefits of competition, namely the achievement of dynamic efficiency, under which firms have the appropriate incentives to improve the range and quality of their products and services, and to invest and innovate. It could further be linked to the general goal of governments of achieving sustainability.[36] If compared to the other static types of efficiency, dynamic efficiency could, in the long term, lead to the greatest improvement in social welfare.[37]

Unfortunately, unlike other economic parameters (*e.g.* output or productivity), innovation is notoriously difficult to measure.[38] The economic theory itself expresses contradictory views on the relation between *competition* and *innovation*, ranging from the Schumpeterian hypotheses,[39]

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[32] The Oxford Advanced Learner's Dictionary (6th ed., Oxford: Oxford University Press, 2000) defines innovation as: (i) the introduction of new things, ideas or ways of doing something; (ii) a new idea, way of doing something, etc. A more politically loaded definition given by the organisation London Innovation reads: "Innovation is the successful exploitation of new ideas and is a vital ingredient for competitiveness, productivity and social gain within businesses and organisations". See http://www.london-innovation.org.uk. In the present paper, innovation will be understood as having its broadest meaning of research and development, invention and creation of new technologies, products and services (endogenous innovation), as well as the *adoption* of these by the relevant markets (exogenous innovation). On the roots of innovation, see Eric von Hippel, The Sources of Innovation, Oxford: Oxford University Press, 1988.

[33] Paul Romer, "Endogenous Technological Growth" (1990) The Journal of Political Economy, 98:5, S71-S102.

[34] For evidence, see Knut Blind *et al.*, "New Products and Services: Analysis of Regulations Shaping New Markets", Fraunhofer Institute Systems and Innovation Research Study funded by the European Commission, Karlsruhe, February 2004, at 76. See also Marc Bourreau & Pinar Doğan, "Regulation and Innovation in the Telecommunications Industry" (2001) Telecommunications Policy, 25, 167-184, at 169.

[35] Article 8(2)(c) of the Framework Directive, for instance, has included the "promotion of innovation" as an explicit policy objective for the national communications agencies. See also the multiple initiatives of the EC in the field of promotion of innovation and R&D at http://ec.europa.eu/enterprise/innovation/index_en.htm.

[36] See *e.g.* Robert N. Stavins, Alexander Wagner & Gernot Wagner, "Interpreting Sustainability in Economic Terms: Dynamic Efficiency Plus Intergenerational Equity", Regulatory Policy Program Working Paper RPP-2002-02, Cambridge, MA: John F. Kennedy School of Government, Harvard University, May 2002.

[37] Marc Bourreau & Pinar Doğan, *supra* note 34, at 167-168. On the importance of dynamic efficiency, see also Thomas Kiessling & Yves Blondeel, "The Impact of Regulation on Facility-Based Competition in Telecommunications: A Comparative Analysis of Recent Developments in North America and the European Union", 1999, available at http://www.tik.ee.ethz.ch/~m3i/related-work/cm/Cost-Regulation-in-TelecomsKiess_Mar99.pdf, at 4, referring also to Joseph A. Schumpeter, Capitalism, Socialism and Democracy, 2nd ed., New York: Harper, 1950, at 140.

[38] See Patrick Van Cayseele & Roger Van den Bergh, *supra* note 9, at 471.

[39] Joseph A. Schumpeter, *supra* note 37.

which stress the positive effects of market concentration and firm size on innovation[40] to the suggestion of X-inefficiency of monopolies and cartels leading to their "laziness" and "organisational slack".[41] Empirical research has proven none of these extremes true. Rather it "tends to suggest that neither monopolists nor fierce competitors have a superior track record in this respect, but it would seem clear that the assertion that *only* monopolists can innovate is incorrect".[42]

The relation between *regulation* and *innovation* has an equally shaky foundation.[43] In general, regulation could affect the innovation of market players either through price regulations that would alter the industry profits and consequently, the stimulus to innovate, or through entry regulation that would influence innovation decisions regarding new entry.[44] In the electronic communications sector, however, some exogenous and (above all) endogenous factors could make the conventional conclusions questionable.

First and foremost, telecommunications bear the historical burden of monopoly. This means that in many markets, even now, after liberalisation, the incumbents are in a dominant or near-dominant position and have, among other benefits, the "first-mover" advantage.[45] They could exploit this to enable them to invade new markets or "colonise" neighbouring ones with their own technology and/or standard. Due to the network effects[46] inherent to the industry, it might

[40] An example in point is the Bell Laboratories founded by the US monopolist AT&T in 1925, which had developed some groundbreaking technologies, such as *inter alia* the transistor, the laser, the cellular telephone technology, communications satellites and the Unix operating system. On Bell Labs, see *e.g.* S. Millman (ed.), A History of Science and Engineering in the Bell System: Communication Sciences (1925-1980), Murray Hill, NL: Bell Laboratories, 1984; Narain Gehani, Bell Labs: Life in the Crown Jewel, Summit, NJ: Silicon Press, 2003. See also http://www.bell-labs.com.

[41] Harvey Leibenstein, "Allocative Efficiency *vs.* 'X-Efficiency'" (1966) American Economic Review, 56, 392-415 and "'X-Inefficiency' Xists – Reply to an Xorcist" (1978) American Economic Review, 68, 203-211. For more on the relation between competition and innovation, see Patrick Van Cayseele, "Market Structure and Innovation: A Survey of the Last Twenty Years" (1998) De Economist, 146, 391-417. See also Frederic M. Scherer, Innovation and Growth: Schumpeterian Perspectives, Cambridge, MA: MIT Press, 1984; Frederic M. Scherer & David Ross, Industrial Market Structure and Economic Performance, 3rd ed., Boston, MA: Houghton Mifflin, 1990.

[42] Richard Whish, *supra* note 11, at 4 (emphasis added), referring also to Frederic M. Scherer & David Ross, *id.* at Chapter 17. On the uncertainty of the relation between the firm's size and innovation, see also Massimo Motta, *supra* note 12, at 22 and 56 *et seq*.

[43] Although it is clear that regulation does influence innovation, its impact is difficult to assess and could be controversial. See *e.g.* Knut Blind *et al.*, *supra* note 34, at 1 and 7 *et seq*. For a comparison of different types of regulation and their impact on innovation, see *id.* Table 2.4.2, at 16.

[44] Marc Bourreau & Pinar Doğan, *supra* note 34, at 168.

[45] A pertinent example is the recently planned attempt of the Microsoft Corporation, which has a near-monopoly position in operating systems, to invade voice communications with a new software package called *Office Communicator*. See John Markoff, "New Microsoft Products to Take Ground from Phones", The New York Times, 9 March 2005.

[46] On network economics, see Stanley J. Liebowitz & Stephen E. Margolis, "Network Externality: An Uncommon Tragedy" (1994) Journal of Economic Perspectives, 8:2, 1-26; Stanley J. Liebowitz & Stephen E. Margolis, "Are Network Externalities a New Source of Market Failure?" (1995) Research in Law and Economics, 17, 1-22; William H. Page & John E. Lopatka, "Network Externalities" in Boudewijn Bouckaert & Gerrit De Geest, *supra* note 9, 952-980; Michael L. Katz & Carl Shapiro, "Systems Competition and Network Effects" (1994) Journal of Economic Perspectives, 8, 93-115; Carl Shapiro & Hal R. Varian, Information Rules, Boston, MA: Harvard Business School Press, 1999; Nicholas Economides, "The Economics of Networks" (1996) International Journal of Industrial Organization, 16:4, 673-699; Mark A. Lemley & David McGowan, "Legal Implications of Network Economic Effects" (1998) California Law Review, 86, 79 *et seq*.; Heli Koski & Tobias Kretschmer, "Survey on Competing in Network Industries: Firm Strategies, Market Outcomes, and Policy Implications" (2004) Journal of Industry, Competition and Trade (Bank Papers), 5-31.

be hard for other firms to overcome this substantial advantage of incumbents, *even* if they possess a technology of higher quality.[47]

When considering the presence of network externalities in electronic communications in the present context of innovation, one also has to consider the *scope* of the network at issue. In network markets, the size of the network is of primary significance both for market players and for consumers in the process of making strategic decisions and choices. Networks become more valuable, the larger they are. Once they gain a certain critical mass, the owner of the network has the power to determine conditions and/or standards and because of the positive network effects, could grow even bigger, and consequently gain yet more power.[48] In the extreme, the winner takes all.[49]

It is characteristic of network environments that the size of the network does not necessarily depend only on the quality and price of the services or products offered, which would normally convince consumers to make a certain choice, but also on the *expectations* about the size of the network. The larger the network, the more attractive it is and the more people are willing to join in. In the words of Shapiro and Varian, "[t]he beautiful if frightening implication [is that] success and failure are driven as much by consumer expectations and luck as by the underlying value of the product. A nudge in the right direction, at the right time, can make all the difference".[50]

This rather unstable and erratic network environment has serious consequences for innovation. Under such circumstances, the demand *for* and the adoption *of* new technologies, which is an essential part of the innovation process,[51] could be pre-determined by the lock-in effects[52] of existing large networks (the most notorious example of this is the Windows operating system[53]). People would adopt a technology that others have already adopted or are expected to do so. Thus, a path dependence of adoption[54] emerges, which is difficult to overcome, even in a situation, where a hypothetically superior technology is available.

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[47] See Paul A. David, "Clio and the Economics of QWERTY" (1985) American Economic Review, 75:2, 332-337; Peter S. Menell, "Intellectual Property: General Theories" in Boudewijn Bouckaert & Gerrit De Geest, *supra* note 9, 129-188, at 136.

[48] Shapiro and Varian note in that regard that in network industries, "[t]he key challenge is to obtain critical mass – after that, the going gets easier". See Carl Shapiro & Hal R. Varian, *id.* at 14. See also Case IV/M.1069, *WorldCom/MCI*, OJ L 116/1, 4 May 1999, especially at para. 126, where the Commission stated that, "[b]ecause of the specific features of network competition and the existence of network externalities which make it valuable for customers to have access to the largest network, MCI WorldCom's position can hardly be challenged once it has obtained a dominant position. The more its network grows, the less need it has to interconnect with competitors and the more they have to interconnect with the merged entity. Furthermore, the larger its network becomes, the greater is its ability to control a significant element of the costs of any new entrant…".

[49] Carl Shapiro & Hal R. Varian, *id.* at 177.

[50] Carl Shapiro & Hal R. Varian, *id.* at 181. See also Massimo Motta, *supra* note 12, at 82-85.

[51] See *supra* note 32. See also Marc Bourreau & Pinar Doğan, *supra* note 34, at 168.

[52] Victor Stango defines a "lock-in" as "a situation in which economic agents' equilibrium decisions regarding standards adoption yield lower social welfare than an alternative". See Victor Stango, "The Economics of Standards Wars" (2004) Review of Network Economics, 1:1, 1-19, at 4. See also Carl Shapiro & Hal R. Varian, *supra* note 46, at 103-171; Hal R. Varian, "Economics of Information Technology", *Raffaele Mattioli Lectures*, 2003, available at http://www.Sims.berkeley.edu/~hal/Papers/mattioli/mattioli.pdf, at 20 *et seq*.

[53] See Commission Decision of 24 March 2004 relating to a proceeding under Article 82 of the EC Treaty, Case COMP/C-3/37.792 *Microsoft*, C(2004) 900 final, confirmed in all essential points by the Court of First Instance in Case T-201/04 *Microsoft v. Commission of the European Communities*, judgment of 17 September 2007 (nyr).

[54] Victor Stango, *supra* note 52, at 5. The development of demand for and adoption of new technologies could also be influenced by big customers, notably, the government or the military. See *e.g.* John W. Berresford, "How

Another complication of networks and the development of the network markets is that the "winner-takes-all" scenario is logically related to a "loser-gets-nothing" situation.[55] This means that the bigger the network, the stronger the firm, and thus the poorer the chances for the survival of other smaller networks or firms.[56] This vicious cycle, from the viewpoint of the losers (and conversely, a virtuous one from the viewpoint of the winner),[57] influences the stimuli for innovation and predetermines the adoption of a new technology, service or product. Thus, firms, other than the dominant network owner, face extraordinary hurdles to surmount in network markets, which could seriously diminish their innovation potential. Firms could arguably improve their chances of survival, if their technologies are *compatible* with those of the larger network. This brings us to another issue of paramount importance in network industries in relation to innovation, that of standardisation and interoperability (or compatibility).[58] In fact, it has been proven that the trend towards standardisation[59] increases naturally[60] in the environment of networks.

1. Standards

Standards[61] are generally perceived as socially beneficial.[62] If applied to network markets, they allow, most notably, for the creation of networks of networks and make interconnections within them smooth. By enhancing interoperability, standards generate greater value for users by

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Government Can Bring New Communications to All Americans: Six Lessons of History", Program on Information Resources Policy, Harvard University, October 2004, available at http://www.pirp.harvard.edu, at 2.

[55] See Carl Shapiro & Hal R. Varian, *supra* note 46, at 188.

[56] There are numerous examples in this regard. The most quoted ones are certainly the QWERTY keyboard (against the possibly better Dvorak version) and the VHS system (against Sony's, possibly better, BETA version). A more recent example is the victory of Windows Internet Explorer over Netscape. On the browsers war, see Carl Shapiro & Hal R. Varian, *id.* at 289-295.

[57] Carl Shapiro & Hal R. Varian, *id.* at 176.

[58] On interoperability, see Case COMP/C-3/37.792 *Microsoft*, *supra* note 53, at paras. 30 *et seq*.

[59] On standardisation in the information economy, see generally Carl Shapiro & Hal R. Varian, *supra* note 46, at 173-296. For more in-depth analyses, see Stanley Besen & Joseph Farrell, "Choosing How to Compete: Strategies and Tactics in Standardization" (1994) Journal of Economic Perspectives, 117-131; Heli Koski & Tobias Kretschmer, "Survey on Competing in Network Industries: Firm Strategies, Market Outcomes, and Policy Implications" (2004) Journal of Industry, Competition and Trade (Bank Papers), 5-31, at 14 *et seq*.; Victor Stango, *supra* note 52; Knut Blind *et al.*, *supra* note 34; Knut Blind, The Economics of Standards: Theory, Evidence, Policy, Cheltenham: Edward Elgar, 2004; Joseph Farrell & Paul Klemperer, "Coordination and Lock-In: Competition with Switching Costs and Networks Effects" in Richard Schmalensee & Robert D. Willig (eds.), Handbook of Industrial Organisation, 3, Amsterdam: North-Holland (forthcoming 2008), draft available at http://paulklemperer.org.

[60] Victor Stango, *id.* at 3. The International Telecommunication Union (ITU) being the oldest international organisation (created in 1865 under the name International Telegraph Union) is an indirect proof of the necessity for standardisation in telecommunications.

[61] In the literature on standardisation, there are different categorisations of standards (see *e.g.* Knut Blind *et al.*, *supra* note 34, at 185 *et seq*.). In the context of network industries and innovation, we focus on *compatibility* and *interface standards*, as opposed to standards in relation to safety, quality or information, since the compatibility standards could have their most serious impact on networks. On standards as type of regulation, see Anthony I. Ogus, Regulation: Legal Form and Economic Theory, Oxford: Clarendon, 1994, at 150 *et seq*. On EC standards, see Andreas Neumann, "The European Regulatory Framework for Standardisation in the Telecommunications Sector" in Christian Koenig, Andreas Bartosch & Jens-Daniel Braun (eds.), EC Competition and Telecommunications Law, The Hague/London/Boston: Kluwer Law International, 2002, 617-690, at 617-622.

[62] See Carl Shapiro & Hal R. Varian, *supra* note 46, at 228 *et seq*. See also Knut Blind *et al.*, *supra* note 34, at xi and 184 *et seq.*; Andreas Neumann, *supra* note 61, at 622 *et seq*.

making the network larger.[63] Furthermore, standards could substantially reduce uncertainty for the consumers, as well for the other market players. Consumers' lock-in could be decreased and "the locus of competition [shifts] from an early battle for dominance to a later battle for market share. Instead of competing *for* the market, companies compete *within* the market, using the common standards".[64] Ultimately, "[a] perfectly compatible system of networks prevents static welfare losses which might otherwise arise due to lessened competition and dynamic welfare losses which stem from reduced innovative incentives".[65]

Standardisation as a process could be either market or regulation-driven. Under market conditions, there are generally a number of different strategies that firms[66] undertake in order to negotiate a standard or win a "standards war".[67] These involve *inter alia* important decisions on whether firms follow a revolutionary or an evolutionary technological path, whether they open their standard or maintain control of the technologies, whether they are diplomatic or aggressive, seek an alliance, settle for a truce or fight to the death.[68] Every one of these decisions could more or less dramatically change the market environment. What is of specific importance in our discussion of innovation and regulation is that these "standards wars" might *not* bring about the optimal result in terms of consumer welfare. Due to the specifics of networks, the market might settle for a standard that is not necessarily the "best" possible.[69]

In such situations, where the market chooses an inefficient standard, or is "locked-in" to an old standard, even in the face of a new, superior one,[70] there is a clear need for government intervention in order to promote standardisation or the migration to a new standard.[71] On the other hand, it should be noted that setting a standard or assisting the process of achieving one through regulatory intervention could equally lead to situations where a "wrong" standard[72] is

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[63] See European Commission, Communication on the role of European standardisation in the framework of European policies and legislation, COM(2004) 674 final, 18 October 2004, at 5 *et seq*.

[64] Carl Shapiro & Hal R. Varian, *supra* note 46, at 231 (emphasis in the original). See also Carl Shapiro, "Competition Policy and Innovation", *OECD Science, Technology and Industry Working Paper* DSTI/DOC(2002)11, Paris, 2002, at 25 *et seq*.

[65] Marc Bourreau & Pinar Doğan, *supra* note 34, at 173.

[66] Shapiro and Varian identify seven key assets of market players in network markets important in winning a standards war. These are: (i) control over an installed base of users; (ii) intellectual property rights; (iii) ability to innovate; (iv) first-mover advantages; (v) manufacturing abilities; (vi) strength in complements; and (vii) brand name and reputation. See Carl Shapiro & Hal R. Varian, *supra* note 46, at 270 *et seq.*

[67] Hal R. Varian, *supra* note 52, at 35 *et seq*. For examples of current standards wars, albeit not in telecommunications, see Claude Settele, "Der Krieg der Formate" (The War of the Formats), *NZZ Folio*, February 2005, 28 *et seq*. (especially with regard to digital versatile disc [DVD] formats) and John Palfrey, "Holding Out for an Interoperable DRM Standard" in Christoph Beat Graber, Carlo Govoni, Michael Girsberger & Mira Nenova (eds.), Digital Rights Management: The End of Collecting Societies?, Berne, Staempfli, 2005, 1-26 (especially with regard to digital rights management). For examples of standards wars of the recent past, see Knut Blind *et al.*, *supra* note 34, at 186-199.

[68] See Carl Shapiro & Hal R. Varian, *supra* note 46, at 227-296.

[69] See *supra* note 56. See also Paul A. David, *supra* note 47; Stanley J. Liebowitz & Stephen E. Margolis, "Network Externality: An Uncommon Tragedy" (1994) Journal of Economic Perspectives, 8:2, 1-26, at Section V.

[70] See Andreas Neumann, *supra* note 61, at 623-624.

[71] "[I]t is important to note that regulating interoperability is essential for maintaining effective competition whenever there exists market power or a tendency for market dominance. For the markets in which there are no distortions due to market dominance or interface control, it might not be necessary to impose interoperability. Moreover, such control in these markets might have some important drawbacks in terms of innovation, as the operator who wishes to keep exclusive provision of its innovative services might be under an incentive to develop innovative and differentiated services". See Marc Bourreau & Pinar Doğan, *supra* note 34, at 174.

[72] See *e.g.* Paul A. David, *supra* note 47, at 336.

chosen, or the natural market developments are seriously distorted.[73] The dangers of hard lobbying and regulatory capture are also real and present. In the context of electronic communications characterised by extreme dynamism and lack of predictability, making technologically biased choices could be particularly harmful to innovation incentives.[74]

2. Intellectual Property Rights: Some Brief Remarks

In talking about innovation and standardisation, we cannot ignore the issue of intellectual property rights (IPRs), although we shall confine our account to a few brief comments in the present context.[75] This is due to the particular scope of this article and, by no means, to any lack of significance of IPRs to the Information Society.[76]

On the contrary, IPRs[77] do play a fundamental role with regard to innovation and creativity.[78] They are meant to be the tool for their protection and promotion, while simultaneously balancing other generally recognised interests. "The protection of intellectual property should allow the inventor or creator to derive a legitimate profit from his/her invention

[73] Massimo Motta, *supra* note 12, at 484.

[74] Technological neutrality is one of the underlying principles of the 2002 EC e-communications package. See Recital 18 and Article 8(1) of the Framework Directive.

[75] Besides the complex relations between innovation, standardisation and IPRs, there are a number of other problematic issues related to intellectual property in new technological environments. See *e.g.* with regard to digital rights management and collective rights' administration, Christoph Beat Graber, Carlo Govoni, Michael Girsberger & Mira Nenova, *supra* note 67. With regard to competition and IPRs, see Jonathan Faull & Ali Nikpay, *supra* note 10, at 575-633; Steven D. Anderman, EC Competition Law and Intellectual Property Rights, Oxford: Oxford University Press, 2001.

[76] See Carl Shapiro, "Cross Licences, Patent Pools, and Standard-Setting" in Adam Jaffe, Joshua Lerner & Scott Stern (eds.), Innovation Policy and the Economy, Vol. 2, Cambridge, MA: MIT Press, 2001; Paul A. David, "Economic Forces in the Coevolution of Information Technology and Intellectual Property Institutions", Technical Report, Stanford University, 2002; Mark R. Patterson, "Innovations, Industry Standards, and Intellectual Property" (2002) Berkeley Technology Law Journal, 17; Mark A. Lemley, "Intellectual Property Rights and Standard-Setting Organizations" (2002) California Law Review, 90, 889 *et seq.*; Joseph Farrell & Carl Shapiro, "Intellectual Property, Competition and Information Technology", UC Berkeley Competition Policy Center Working Paper No CPC 04-05, March 2004; Alan Cunningham, "Telecommunications, Intellectual Property, and Standards" in Ian Walden & John Angel (eds.), Telecommunications Law and Regulation, 2nd ed., Oxford: Oxford University Press, 2005, 341-375.

[77] The general category of IPRs is understood to include the rights granted to creators and inventors to control the use made of their products. They are traditionally divided into two main branches: (i) copyright and related (or neighbouring) rights for literary and artistic works and (ii) industrial property, which encompasses trademarks, patents, industrial designs, geographical indications and layout designs of integrated circuits. For the EC regulation in the field, see Directive 2004/48/EC on the enforcement of intellectual property rights, OJ L 195/16, 2 June 2004; Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society, OJ L 167/10, 22 June 2001; Directive 96/9/EC on the legal protection of databases, OJ L 77/20, 27 March 1996; Directive 93/98/EEC harmonising the term of protection of copyright and certain related rights, OJ L 290/9, 24 November 1993 and Directive 91/250/EEC on the legal protection of computer programs, OJ L 122/42, 17 May 1991. For the IPR-related treaties at the international level, see the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the treaties within the framework of the World Intellectual Property Organization (WIPO): the Berne Convention for the Protection of Literary and Artistic Works; the Paris Convention for the Protection of Industrial Property; the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations; the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty.

[78] The US Constitution providing explicitly for copyrights and patents has put this rather poetically: Article I §8 states that, "Congress shall have Power […] To Promote the Progress of Science and useful Arts, by securing for Limited Times to Authors and Inventors, the exclusive Right to their Writings and Discoveries".

or creation. It should also allow the widest possible dissemination of works, ideas and new knowhow. At the same time, it should not hamper freedom of expression, the free movement of information, or the protection of personal data, including on the Internet".[79]

In the field of communications, where, as already stressed, the role of innovation is critical, the use of IPRs is intensified. The technological developments of the last couple of decades have "multiplied and diversified the vectors for creation, production and exploitation".[80] Digitisation and the proliferation of networks, in particular the Internet, have allowed for an unprecedented wave of innovation, which has led to calls for the protection of the newly created works. The liberalisation of communications markets, which has occurred worldwide over recent decades, has led to a multitude of market players and vigorous competition, which have completely changed the communications industries' landscape. These technological and market developments have serious implications, *inter alia*, for standardisation. "Now that telecommunication firms are competing nationally and internationally, IP rights are an important aspect of their arsenal, and as such now come to impinge on the standard setting process".[81]

Although both IPRs and standards are largely beneficial and have been created to serve the public interest, one should acknowledge that they pursue inherently different objectives and may thus collide. Standards, as discussed above, are by definition, *common*, widely recognised and used. IPRs, on the other hand, are *exclusionary*. Indeed, they could be construed as "mini-monopolies",[82] allowing the owner of the "monopoly" control (albeit limited)[83] over the intellectual property object. This divergence should be kept in mind when we consider the "standards wars" and the "standards negotiations", discussed in the preceding Section, and their substantial impact on innovation. The presence of IPRs adds another level of complexity to these processes and allows for strategic games and configurations: "The fact that someone has exclusive rights of use concerning that essential technology allows for the potential restriction of the standardization process, or the corruption of it, undermining its role for the purpose of private pecuniary gain".[84] One should also acknowledge that the use of IPRs as strategic weapons in electronic communications is additionally aggravated by the fact that there are huge amounts of capital at stake.[85]

To conclude this brief discussion of IPRs in the context of innovation as an objective of communications regulation, one can propose that there is a potential *trade-off* between the benefits of standardisation and the protection of intellectual property in a dynamic network environment. The regulators will clearly have to take these complex relationships into account. Answers to the "discussion of whether the existing intellectual property regime functions as intended – to stimulate innovation and thus promote long-run competition – or whether the system is out of balance, granting excessive intellectual property rights, and could be improved so as to avoid retarding innovation and/or harming consumers"[86] will have to be sought. In the

[79] Directive 2004/48/EC, *supra* note 77, at Recital 2. See also Peter S. Menell, *supra* note 47, at 129 *et seq*.

[80] Directive 2001/29/EC, *supra* note 77, at Recital 5.

[81] Alan Cunningham, *supra* note 76, at 352 (abbreviation in the original).

[82] Joseph Farrell & Carl Shapiro, *supra* note 76, at 6.

[83] The control is limited to a certain period see *e.g.* with regard to copyright Council Directive 93/98/EEC, *supra* note 77). It is further limited in scope by certain exceptions, *e.g.* private use (see Directive 2001/29/EC, *supra* note 77, especially Article 5).

[84] Alan Cunningham, *supra* note 76, at 353.

[85] For examples of the use of IPRs as strategic weapons, see Joseph Farrell & Carl Shapiro, *supra* note 37; Alan Cunningham, *supra* note 76, at 358 *et seq*.

[86] Joseph Farrell & Carl Shapiro, *id.* at 5.

network environment of electronic communications, the threshold for intellectual property protection might need to be higher than in traditional markets in order to foster the adoption of standardised interfaces and the realisation of network externalities.[87] On the other hand, intellectual property protection may be required in network markets in order to provide adequate rewards for firms pursuing research and development of better standards, rather than settling for the current ones.[88]

3. Facility-based Or Service-based Competition?

Another choice that has to be made in the framework of electronic communications of significance for defining the path of innovation, is between innovation for new *services* and innovation for new (alternative) *infrastructure*.[89] From a regulatory perspective, especially in the context of liberalisation, it was particularly important to determine which of these alternatives (services or infrastructure) would receive a regulatory impetus and which would be pursued as the ultimate goal.[90]

Facility-based competition or competition between networks[91] involves the building of alternative infrastructure or duplication of the infrastructure of the existing operator. This type of competition is perceived as contributing to long-term efficiency and spurring investment and innovation.[92] Consumers are not bound by the local network owned by a single operator, but have a choice not only of *services* but also of *network* provision. "The benefits from flexibility and innovation obtainable under this state of affairs exceed by far those achievable under facility-sharing settlements".[93] These benefits[94] are, however, only one side of the coin: building

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[87] Peter S. Menell, *supra* note 47, at 142, referring to Peter S. Menell, "Tailoring Legal Protection for Computer Software" (1987) Stanford Law Review, 39, 1329-1372.

[88] *Id.*

[89] The dilemma between facility-based and service-based competition is a complex one. For a comprehensive examination of the pertinent issues, see Thomas Kiessling & Yves Blondeel, *supra* note 37; Jean-Jacques Laffont & Jean Tirole, Competition in Telecommunications: Munich Lectures in Economics, Cambridge, MA: MIT Press, 2000, at 207-215; Thomas M. Jorde, J. Gregory Sidak & David J. Treece, "Innovation, Investment, and Unbundling" (2000) Yale Journal on Regulation, 17:1, 1-37; Mats A. Bergman, "Competition in Services or Infrastructure-based Competition?" in Swedish Post and Telecom Agency, An Anthology of the Foundations for Competition and Development in Electronic Communications Markets, Stockholm: PTS, 2004, 6-55; Marc Bourreau & Pinar Doğan, "Service-based *vs.* Facility-based Competition in Local Access Networks" (2004) Information Economics and Policy, 16:2, 287-306; Marc Bourreau & Pinar Doğan, "Unbundling the Local Loop" (2005) European Economic Review, 49:1, 173-199; Paul de Bijl & Martin Petz, Regulation and Entry into Telecommunications Markets, Cambridge: Cambridge University Press 2005, especially at 87 *et seq.*

[90] See *e.g.* European Commission, Green Paper on the development of the common market for telecommunications services and equipment: Towards a dynamic European economy, COM(1987) 290 final, 30 June 1987.

[91] Kiessling and Blondeel make an additional differentiation between inter-modal and intra-modal facility competition. The former refers to competition between different transmission media (*e.g.* copper and fibre), while the latter describes competition between facility-based operators using the same transmission medium. See Thomas Kiessling & Yves Blondeel, *supra* note 37, at 4.

[92] Marc Bourreau & Pinar Doğan, *supra* note 34, at 178. On the implications of innovation policy for the third-generation Internet, see further François Bar, Stephen Cohen, Peter Cowhey, Brad DeLong, Michael Kleeman & John Zysman, "Access and Innovation Policy for the Third-Generation Internet" (2000) Telecommunications Policy, 4, 489-518.

[93] Marc Bourreau & Pinar Doğan, *id.* at 178. The Commission has confirmed this position in a recent Communication, stating that, "[i]n the mid to long-term [facility-based competition] is the best way to low prices and increased choice of services. It also stimulates innovation and creates resilience in communications

new networks is an extremely costly and sometimes a risky undertaking. Firms face enormous sunk costs and have to confront (in most cases) the competition of the incumbent, who already has an installed base. Furthermore, building new facilities may be construed as a "wasteful duplication"[95] of infrastructure.

Service-based competition, on the other hand, takes place, as the name indicates, only with regard to the services or service-packages, offered over the already existing networks. In order to provide these, operators need to have *access*[96] to the network of the incumbent. In essence, the new market players buy and resell incumbents' services, trying to make profits by offering discounts on the incumbent's retail tariffs and to attract customers by superior efficiency in marketing or billing.[97] The entrants are, however, not free to launch *new* services, unless in collaboration with the incumbent, since the incumbent controls the network.

A prominent example of policing service-based competition is the opening of the local loop. The "local loop", also known as the "last mile", signifies the connection, the last wires laid between the customer and local area exchange of the operator's network.[98] These local networks constitute bottlenecks in themselves and are particularly uneconomical to duplicate.[99] If firms were to build an alternative access network, this would require large traffic volumes to make up for the investment costs, which in residential networks might be non-existent.[100] On the other

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infrastructure as a whole". See European Commission, Electronic communications: The road to the knowledge economy, COM(2003) 65 final, 11 February 2003, at 4.

[94] For an account of the benefits associated with facility-based competition, see Thomas Kiessling & Yves Blondeel, *supra* note 37, at 4 *et seq*. For an example from Switzerland, see Neue Zürcher Zeitung, "Aufbau bei Cablecom, Abbau bei Swisscom", 17/18 September 2005.

[95] Mats A. Bergman, *supra* note 89.

[96] The current EC Access Directive defines access as "the making available of facilities and/or services, to another undertaking, under defined conditions, on either an exclusive or non-exclusive basis, for the purpose of providing electronic communications services. It covers inter alia: access to network elements and associated facilities, which may involve the connection of equipment, by fixed or non-fixed means (in particular this includes access to the local loop and to facilities and services necessary to provide services over the local loop), access to physical infrastructure including buildings, ducts and masts; access to relevant software systems including operational support systems, access to number translation or systems offering equivalent functionality, access to fixed and mobile networks, in particular for roaming, access to conditional access systems for digital television services; access to virtual network services". See Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, OJ L 108/7, 24 April 2002 (hereinafter the Access Directive), at Article 2(a). See also Rohan Kariyawasam, "Interconnection, Access and Peering: Law and Precedent" in Ian Walden & John Angel (eds.), Telecommunications Law, London: Blackstone, 2001, 136-223; Paul Nihoul & Peter Rodford, EU Electronic Communications Law, Oxford: Oxford University Press, 2004, at paras. 3.01 *et seq*.

[97] Kostis Christodoulou & Kiriakos Vlahos, "Implications of Regulation for Entry and Investment in the Local Loop" (2001) Telecommunications Policy, 25, 743-757, at 745.

[98] "Local loop means the physical circuit connecting the network termination point at the subscriber's premises to the main distribution frame or equivalent facility in the fixed public telephone network". See Article 2(c) of the Access Directive. See also Recital 3 and Article 2(c) of Regulation 2887/2000/EC of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop, OJ L 336/4, 30 December 2000.

[99] The Regulation on unbundling the local loop points out in this regard that, "[i]t would not be economically viable for new entrants to duplicate the incumbent's metallic local access infrastructure in its entirety within a reasonable time. Alternative infrastructures such as cable television, satellite, wireless local loops do not generally offer the same functionality or ubiquity for the time being, though situations in Member States may differ". *Id.* at Recital 6. See also European Commission, Unbundled access to the local loop: Enabling the competitive provision of a full range of electronic communications services, including broadband multimedia and high-speed Internet, OJ C 272/55, 23 September 2000.

[100] Paul Nihoul & Peter Rodford, *supra* note 96, at para. 1.134.

hand, these last metres of wire are crucial for reaching the end-consumers of *any* communications services.

During the process of opening telecommunications markets, it was acknowledged that to promote competition in these local markets, an additional regulatory intervention was needed. Access to such networks was policed through the exercise of "unbundling". This is a regulatory approach that, in the EC context, means providing mandatory access to the metallic local loops of notified operators designated as having significant market power in the fixed public telephone network supply market.[101] As such, unbundling facilitates entry into the market as firms may join without having to incur the high sunk and fixed costs of providing their own networks. This increases the number of market players and the choice of services, allowing operators to build customer base and brand recognition.[102] Under benevolent supply conditions, the actors are then stimulated to invest in alternative network structures in the long term and move up the "investment ladder".[103] However, it should be noted that by making entry too "easy", unbundling might also undermine some incentives for building alternative networks.[104] Furthermore, the climbing of the "investment ladder" is not in itself an exercise, which should be taken for granted – stepping on to the ladder does not mean that one will automatically reach its top.[105]

In terms of innovation, unbundling as a service-based promoter is beneficial and stimulating for new entrants in the short and mid-term, although its actual application in terms of pricing and timing is controversial.[106] With regard to long-term competition, however, the incentives for

[101] See Regulation 2887/2000/EC, *supra* note 98. For an excellent overview of the problems related to the unbundling the local loop, see OECD Working Party on Telecommunications and Information Services Policies, "Developments in Local Loop Unbundling", DSTI/ICCP/TISP(2002)5/final, 10 September 2003. See also Jerry A. Hausman & J. Gregory Sidak, "A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks" (1999) The Yale Law Journal, 109, 417-505; Chris Doyle, "Local Loop Unbundling and Regulatory Risk" (2000) Journal of Network Industries, 1, 33-54; Juan Delgado, Jérôme Fehrenbach & Robert Klotz, "The Price of Access: Unbundling the Local Loop in the EU" in Pierre A. Buigues & Patrick Rey (eds.), The Economics of Antitrust and Regulation in Telecommunications, Cheltenham: Edward Elgar, 2004, 169-182; Paul W.J. de Bijl & Martin Peitz, "Local Loop Unbundling in Europe: Experience, Prospects and Policy Challenges" (2005) Tilburg Law and Economics Center (TILEC) Discussion Paper, DP 2005-008.

[102] Thomas Kiessling & Yves Blondeel, *supra* note 37, at 8, referring also to T. Randolph Beard, David L. Kaserman & John W. Mayo, "The Role of Resale Entry in Promoting Local Exchange Competition" (1998) Telecommunications Policy, 22:4/5, at 316-318. For an economic analysis, see Robert W. Crandall, Allan T. Ingraham & Hal J. Singer, "Do Unbundling Policies Discourage Competitive Local Exchange Carriers' Facilities-Based Investment" (2004) Topics in Economic Analysis and Policy, 14:14, Article 14.

[103] The Tenth Communications Report registers precisely such a development from services to facility-based competition. The Report formulates the "investment ladder" as "a situation where a new entrant/alternative operator benefits initially from access products at different levels of the value chain in order to build customer base, and then progressively rolls out its own infrastructure towards the customer". See European Commission, European electronic communications regulation and markets 2004, COM(2004) 759 final, 2 December 2004, Vol. I, at 46, footnote 22.

[104] Marc Bourreau & Pinar Doğan, *supra* note 34, at 178. See also Thomas Kiessling & Yves Blondeel, *supra* note 37, at 10 *et seq*.

[105] For a critical view of the investment ladder developments, see Alison Oldale & Atilano Jorge Padilla, "From State Monopoly to the 'Investment Ladder': Competition Policy and the NRF" in Mats A. Bergman & Arvid Nilsson (eds.), The Pros and Cons of Antitrust in Deregulated Markets, Stockholm: Swedish Competition Authority, 2004, at 51-77. See also Günter Knieps, "Europäischer Regulierungseifer in der Telekommunikation", Neue Zürcher Zeitung, 16 February 2006.

[106] See Chris Doyle, "Local Loop Unbundling and Regulatory Risk" (2000) Journal of Network Industries, 1, 33-54, especially at 48 *et seq*.; Kostis Christodoulou & Kiriakos Vlahos, *supra* note 97, at 745 *et seq.*; Jean-Jacques Laffont & Jean Tirole, *supra* note 89, at 207-215; Juan Delgado, Jérôme Fehrenbach & Robert Klotz, *supra* note 101.

innovation may well be diminished.[107] The incentives for the incumbent will be determined by the pre- and post-entry regulation.[108] Furthermore, it should be acknowledged that, "to the extent that service-based and facility-based entry are perceived as substitute strategies by the entrants, regulatory policies that are aimed at each one of them may exhibit conflicts".[109]

D. Interim Conclusion on the Economic Goals

In drawing a conclusion on the economic goals of communications regulation at this preliminary level of the discussion, one could propose that the intermediate objective of economic regulation is the creation of "…conditions for competition to exist and policing it to continue to exist".[110] The latter leads to the achievement of the ultimate goal, which is consumer welfare and maximisation of wealth at the lowest possible cost for society.

In the environment of electronic communications with pronounced network effects, to achieve welfare (particularly in the long term) also means that the regulatory tools would have the capability to address the *dynamic* aspects of competition, ***i.e.*** innovation. In the words of Bourreau and Doğan, "[t]o the extent that technological changes alter the organization of the industry, speed of innovation – particularly in new markets – should be reflected in any regulatory intervention. If regulatory authorities cannot respond fast enough to follow the rapid change of the market, many regulatory measures then become either inefficient or obsolete".[111]

As the examination of some issues relevant to innovation showed, innumerable factors come into play in the pursuit of this dynamic aspect of competition. The relationship between these factors is however equivocal and offers no clear answers as to what is right or wrong, although a tendency towards a facility-based approach is discernible. It is furthermore of primary importance to acknowledge that these economic objectives do not exist in isolation, but rather exist simultaneously in the system of electronic communications. Due to the network externalities and other specificities of the communications environment, any regulatory decision taken would have repercussions in various directions and these need to be interpreted with caution.

Following this line of reasoning, one could propose that the real goal of regulation is to achieve a *balance* within the system. This will involve, among others, choices between static and dynamic efficiencies, strict economic and internal market rationales, market-driven and regulation-supervised (or assisted) standardisation, intellectual property protection and openness, infrastructure-based and service-based competition. The delicate balancing act between these options, and not only the movements of the "invisible hand",[112] will then ultimately bring the welfare aspired to.

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[107] When "…the incumbent sets too low a rental price for its loops; […] the entrant adopts the new technology too late from a social welfare perspective. The distortion may appear not only on the timing of technology adoption but also on the type (quality) of the new technology to be adopted". See Marc Bourreau & Pinar Doğan (2005), *supra* note 89, at 173. See also Marc Bourreau & Pinar Doğan (2004), *id.* at 288 *et seq*.

[108] Marc Bourreau & Pinar Doğan, *supra* note 34, at 182.

[109] Marc Bourreau & Pinar Doğan (2004), *supra* note 89, at 287.

[110] Tony Prosser, Law and the Regulators, Oxford: Clarendon, 1997, at 5.

[111] Marc Bourreau & Pinar Doğan, *supra* note 34, at 169.

[112] Referring again to Adam Smith, *supra* note 9.

III. SOCIETAL OBJECTIVES

The distinction between economic and social objectives is in many respects only nominal since the economy is an inseparable part of the overall structure of society. It thus has a direct influence on all other societal systems. Following this line of reasoning, the economic objectives outlined in the first part of the article, have a clear social dimension because they seek an increase in welfare through allocative, productive and dynamic efficiency, deterring undesirable distribution of wealth and opportunity, and since the ultimate beneficiaries of the market outcomes are the members of society.[113]

Yet, there are goals beyond those that may or may not be met without additional regulatory intervention. These wider policy goals are aimed more directly at serving the *public interest* and may be economic in nature (such as the equitable distribution of resources) or less tangible (relating to education, culture, pluralism and democracy) and stemming from the fundamental rights as safeguarded in all constitutional models. For the purpose of this article, such goals will be referred to as *societal*.[114] Meeting them may involve, most notably, a departure from optimal economic outcomes and ancillary regulatory intervention, implying certain network regulatory costs. It should, however, be stressed that the accomplishment of the economic goals is often an essential prerequisite for the pursuit of those beyond.

Without any claims of being exhaustive, the following sections attempt to delineate a few of the societal objectives that are of primary significance in electronic communications and that should be taken into account when designing a model of regulation. In contrast to the previous Sections on the economic goals of regulation, which are generally valid for the majority of the sectors of the economy (or at least for those that are network-bound), the next sections on the societal goals will be *sector-specific* and focus exclusively on the communications environment. This change of approach is needed since the communications sector, "unlike car industry or wheat markets",[115] has an additional special role within society as a platform of communication and distribution of information.

A. Universal Service

When talking about societal goals, the first one that comes to mind in the specific context of telecommunications is *universal service*. We shall briefly look into the institution of universal service as an interesting example revealing the dynamics of the goals pursued and the politics behind their formulation.[116]

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[113] Although US antitrust is typically used as an example of pursuing pure economic efficiency, the US Supreme Court stated in *Spectrum Sports v. McQuillan* that, "[t]he purpose of the [Sherman] Act is not to protect businesses from the working of the market; it is to protect the public from the failure of the market. The law directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself. It does so not out of solicitude for private concerns but out of concern for the *public interest*". See *Spectrum Sports v. McQuillan*, 506 US 447 (1993), at 458 (citations omitted; emphasis added).

[114] "Of or relating to the structure, organization, or functioning of society", as defined by the American Heritage Dictionary, 4th ed., Boston, MA: Houghton Mifflin, 2000.

[115] A contrast used by Mark Naftel & Lawrence J. Spiwak, The Telecoms Trade War: The United States, the European Union and the World Trade Organization, Oxford/Portland, Oregon: Hart, 2000, at 2.

[116] For a detailed analysis of universal service in the European context and a comprehensive comparison between the old and the new regimes, see Paul Nihoul & Peter Rodford, *supra* note 96, at paras. 5.01-5.350. On the economic rationales behind universal service, see Jean-Jacques Laffont & Jean Tirole, *supra* note 89, at 217-264.

1. The Roots of Universal Service Policies

The concept and practice of universal service have their roots in certain "notorious" developments in the US at the dawn of the 20th century.[117] As the legend goes, it was Theodore Vail, the then Chairman of the American Telephone and Telegraph Company (AT&T), who convinced the government that a regulated monopoly with a universal service obligation was a better model to adopt than a system of traffic interexchange among competing networks.[118] Theodore Vail called for the creation of a single, common, uniform, nationwide, telecommunications network whose services would ultimately be available to *all* users at *all* locations.[119] The subsequent adoption of the Willis-Graham Act in 1921 marked the end of the competitive era in US telecom markets and by exempting telephone companies from the Sherman Act, opened the way to monopoly, which was supposed to cater for universal service provision. The 1934 Communications Act affirmed the subsidised universal penetration model. Although it made no explicit reference to universal service, it charged the Federal Communications Commission (FCC) with the task of giving all US citizens a national and global telecommunications service, provided by AT&T at an affordable price.[120]

In the EC, as a supranational entity, the conceptualisation of universal service and the need to formulate a comprehensive policy in that respect came understandably much later than in the US, with the liberalisation endeavours in the telecom sector. Until then, in the existing landscape of strictly national monopolies, there was no necessity for such a policy at the European level. Universal service obligations (USOs) *did* exist but they were considered a national matter of the Member States. The pre-liberalisation Post, Telegraph and Telephone (PTT) monopoly model had as one of its core objectives, and indeed as its justification, the provision of universal service as part of the public service.[121] It was widely assumed at the time that state ownership was sufficient to secure PTT action in the public interest. "[T]he state was seen as a 'stopgap' for tasks that the private sector could not provide"[122] and the PTTs were viewed accordingly "as

[117] A particularly good reference on the development of the US telephone system and universal service is Milton L. Mueller, Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephone System, Cambridge, MA: MIT Press, 1997. See also Milton L. Mueller, "Universal Service in Telephone History: A Reconstruction" (1993) Telecommunications Policy, 17:5, 352-369.

[118] These networks were locally developed by some 6 000 independents across the US after the expiry of AT&T's phone patents. The local networks varied in standards and quality and were (willingly or not) usually incompatible with one another.

[119] The campaign launched by Theodore Vail was under the slogan "One Policy, One System, Universal Service". The original document is available at http://www.att.com/history/milestone_1908.html.

[120] "For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges…". See Communications Act of 1934, Section 1, 47 USC. 151, amended version available at http://www.fcc.gov/Reports/1934new.pdf.

[121] Public service is a term usually used to mean services provided by a government to its citizens, either directly (through the public sector) or by financing private provision of services. The term is widely associated with the common consensus that certain services should be available to all, regardless of income. On public service, see Antonio Bavasso, Communications in EU Antitrust Law, The Hague/London/Boston: Kluwer Law International, 2003, at 354 *et seq.*; Tony Prosser, The Limits of Competition Law: Markets and Public Services, Oxford: Oxford University Press, 2005, at 96-173.

[122] Johannes M. Bauer, "Universal Service in the European Union" (1999) Government Information Quarterly, 16:4, 329-343, at 332.

instruments of government policy contributing to macroeconomic and microeconomic policy goals, including the provision of universal service".[123]

In reality, most PTTs never came remotely close to providing *universal* service in the sense of access to the public telephone network to all at all locations. The levels of economic efficiency of the PTTs and their responsiveness to customer needs were poor, and in almost all respects, the "idealistic theory of public service failed dramatically in practice".[124] Similarly, even in the US, although the AT&T, provided through cross-subsidisation between long-distance and local call traffic, local telephony below cost, it did not achieve universal geographical roll-out of its services. In fact, it took until the 1960s for appropriate levels of penetration to be reached due mostly to a reduction in connection costs faced by service providers and a vigorous market demand.[125]

2. Universal Service in a Post-Liberalisation Era

As mentioned earlier, the EC did not have a clear-cut universal service policy since the provision of the so-called public services was deemed a national matter until the beginning of the opening of telecommunications to competition. With the formulation of *European* telecommunications policy, however, which commenced symbolically with the Green Paper on the Development of the Common Market for Telecommunications Services and Equipment[126] in 1987, the idea of providing certain "basic services" was taken into consideration.[127] Within the Open Network Provision (ONP) model, which provided for asymmetrical sectoral rules that assisted the liberalisation of EC telecommunications,[128] universal service was for the first time regulated at the Community level. It was founded on three major principles, namely:

1) *Continuity*, *i.e.* a specified quality must be offered all the time,
2) *Equality*, *i.e.* access must be offered independently of location, and
3) *Affordability*, *i.e.* a certain price level for basic services, affordable for all, must be assured.

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[123] *Id.*

[124] William H. Melody, *supra* note 6, at 14.

[125] See Paschal Preston & Roderick Flynn, "Rethinking Universal Service: Citizenship, Consumption Norms and the Telephone" (2000) The Information Society, 16, 91-98, at 92-93, as referred to by Seamus Simpson, "Universal Service Issues in Converging Communications Environments: The Case of the UK" (2004) Telecommunications Policy, 28, 233-248, at 235. See also Nicholas Garnham, "Universal Service" in William. H. Melody (ed.), Telecom Reform: Principles, Policies and Regulatory Practices, Lyngby: Technical University of Denmark, 1997, 199-204, at 200.

[126] European Commission, Green Paper on the development of the common market for telecommunications services and equipment, *supra* note 90.

[127] *Id.* at 42. The document did not mention universal service as such but discussed the possibility of maintaining exclusive or special rights with respect to the provider of a limited number of basic services. It built on previous discussions: see European Commission, Communication on the consultation on the review of the situation in the telecommunications services sector, COM(1993) 159 final, 26 April 1993; European Commission, Developing universal service for telecommunications in a competitive environment, COM(1993) 543, 15 November 1993.

[128] On the ONP framework, see Pierre Larouche, Competition Law and Regulation in European Telecommunications, Oxford/Portland, Oregon: Hart, 2000, at 25-32.

Following these principles, Directive 97/33/EC[129] and Directive 98/10/EC,[130] identified "universal service" as "a defined minimum set of services of specified quality which is available to all users independent of their geographical location and, in the light of specific national conditions, at an affordable price".[131] This "minimum set of services" included at that time: (i) access to the fixed public telephone network at a fixed location; (ii) access to fixed public telephone services enabling users to make and receive national and international calls, supporting speech, facsimile and/or data communications; (iii) directory services; (iv) public pay phones; and (v) certain measures for disabled users and users with special social needs.[132]

The 2002 EC universal service regime[133] includes in the USOs: (i) access location to the public telephone network; (ii) access to publicly available telephone services at a fixed location enabling end-users to make and receive local, national and international telephone calls, facsimile and data communications; (iii) directory services; (iv) public pay telephones; and (v) certain specific measures for disabled users, those with low income or special social needs.

If one compares the above two definitions, it is striking how little has changed.[134] The parameters of the USOs are practically the same and a legitimate question that arises, is: what has changed since the liberalisation? Has the introduction of competition changed anything?

We argue that, although seemingly little has been altered, a few key "ingredients" of the overall universal service policy certainly have: firstly, it appears that there is a *new* case *for* universal service. While, during the liberalisation period, some of the rationales for universal service provision were incited by the politics of transformation, rather than based on purely economic and social grounds (or to put it radically, in the words of Nicholas Garnham, the idea of universal access was "mobilised as an attempted defence of the telephone monopoly"[135]), in a post-liberalisation environment characterised by technological dynamism and a wide variety of services, the idea of *access* takes on new dimensions. The existing network effects, the possible

[129] Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of the Open Network Provision (ONP), OJ L 199/32, 26 July 1997 (hereinafter Directive 97/33/EC).

[130] Directive 98/10/EC of the European Parliament and of the Council of 26 February 1998 on the application of open network provision (ONP) to voice telephony and on universal service for telecommunications in a competitive environment, OJ L 101/24, 1 April 1998 (hereinafter Directive 98/10/EC). Both Directive 97/33/EC and Directive 98/10/EC were based to a large extent on the concepts laid down by the Commission Directive 96/19/EC on full competition (OJ L 74/13, 22 March 1996), which amended and added Article 4(c) to Commission Directive 90/388 on competition in the markets for telecommunications services, OJ L 192/10, 24 July 1990.

[131] Article 2(1)(g) of Directive 97/33/EC and 2(2)(f) of Directive 98/10/EC.

[132] Articles 5-8 of Directive 98/10/EC. See also Annex I of Directive 97/33/EC.

[133] 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 L 108/51, 24 April 2002 (hereinafter the Universal Service Directive). See in particular Articles 4-9.

[134] If one carefully compares the two definitions, the only difference is the deletion of "fixed" under point (i). There were no changes in practical terms either. See European Policy Committee, Annual Report on Structural Reforms 2002, ECFIN/EPC/117/02-EN, Brussels, 5 March 2002, at 17.

[135] Nicholas Garnham, *supra* note 125, at 200. See also Thomas Hart, "A Dynamic Universal Service for a Heterogeneous European Union" (1998) Telecommunications Policy, 22:10, 839-852, at 840; Jean-Jacques Laffont & Jean Tirole, *supra* note 89, at 218. The "universal service" argumentation is still used as a defence for State control in some countries even after the liberalisation of communications markets. The developments in Switzerland at the end of 2005 are a good illustration in this context. See *e.g.* Christian Levrat, "Der Bund ist der richtige Swisscom-Aktionär", Neue Zürcher Zeitung, 2 December 2005 and Botschaft zur Bundesbeteiligung am Unternehmen Swisscom AG vom 5. April 2006, BBl 2006 3763 (Message of the Federal Council on the Federal Participation in the Swisscom Corporation), at 3770.

use of communications services as a substitute for other services (*e.g.* transport) and the increasing value placed on communications in the Information Society – as providing access to other goods and services, including public ones – are some of the reasons for making a new case for universal service.[136]

Secondly, in the new context of competitive communications, there are new tools for the provision of USOs. There is, above all, an emphasis on the role of the market in the achievement of the defined USOs. This priority role of the market takes different dimensions. In the EC context, for instance, Member States are obliged to "…determine the most efficient and appropriate approach for ensuring the implementation of universal service, whilst respecting the principles of objectivity, transparency, non-discrimination and proportionality"[137] and to seek a minimisation of market distortions.[138] As a consequence of the above, no market player is *a priori* excluded from designation for provision of USOs[139] and all undertakings present on the communications markets are eligible under an efficient, objective, transparent and non-discriminatory designation mechanism.[140] Furthermore, appointed operators must not necessarily be nationals of the Member State and undertakings from other geographical markets (*e.g.* US or Swiss companies) or other sectors (*e.g.* from the electricity industry[141]) could enter the designation procedures.

A third element added to the post-liberalisation universal regime that is linked to the above, but may be also considered separately, is its built-in flexibility. For instance, EC Member States may now designate more than one undertaking, or designate different undertakings or sets of undertakings to provide different elements of the universal service and/or to cover different parts of the national territory.[142] This fragmentation of the mandate allows for competition between undertakings in the provision of universal service and greater efficiency. In view of the inherent dynamism of communications, the flexibility of the new regime is further ensured by the periodic review of the scope of USOs.[143] The review is to be undertaken "in the light of social, economic and technological developments, taking into account, *inter alia*, mobility and data rates in the light of the prevailing technologies used by the majority of subscribers".[144] The review process could thus, taking account of new developments in society, in terms of the need

[136] See Nicholas Garnham, *id.* at 201.

[137] Article 3(2) of the Universal Service Directive.

[138] *Id.* and Article 6 of Consolidated Competition Directive (*supra* note 1).

[139] Contrary to the previous regime. See Article 4(c)(1) of Commission Directive 90/388 on competition in the markets for telecommunications services, OJ L 192/10, 24 July 1990, introduced by the amendment by Commission Directive 96/19/EC on full competition (*supra* note 130). See also Article 5(1) of Directive 97/33/EC and European Commission, Statement to the Minutes of the 1910th Meeting of the Council (Telecommunications) on 27 March 1996 on who contributes to universal service, attached to Communication on the Assessment Criteria for National Schemes for the Costing and Financing of Universal Service in Telecommunications and Guidelines for the Member States on Operation and Such Schemes, COM(1996) 608 final, 27 November 1996, at Annex C.

[140] Article 8(2) of the Universal Service Directive.

[141] See European Commission, "High-speed Internet Access *via* the Electricity Grid: Commission Seeks to Create New Market Opportunities", IP/05/403, Brussels, 8 April 2005. See also Draft Commission Recommendation of 6 April 2005 on broadband electronic communications through powerlines, C(2005) 1031, 6 April 2005.

[142] Article 8(1) of the Universal Service Directive.

[143] See Article 15(1) of the Universal Service Directive.

[144] Article 15(2) of the Universal Service Directive. See also Annex V thereof.

for and spread of technologies, and the new developments in technology, adjust the parameters of universal service at the EC level.[145]

3. Interim Conclusion on Universal Service

The insertion of the services, outlined in the above Section, as part of the current USOs is warranted by the importance of communication, inclusion and cohesion in a contemporary society. In that sense, the provision of communications services is "extended not just to the limit of economic efficiency, but to the limit of social need",[146] even if satisfying the latter deviates from the strict economic *raison d'être*. As stated by the First EC Communication on Services of General Interest, "[t]he real challenge is to ensure a smooth interplay between, on the one hand, the requirements of the single market and free competition in terms of free movement, economic performance and dynamism and, on the other, the general interest objectives".[147] In facing this challenge, the new universal service regime departs from the broad concept of public service (as something essentially provided by the State[148]) and moves towards a flexible USOs system where the market delivers most of the benefits with some additional regulatory corrections made.[149]

One should not however equate the universal service regimes (previous, current or future) to the *societal goals* behind USOs.[150] "It is important to understand […] history and how, different stages of development of telecommunications networks, universal service will have different meaning and emphases".[151] Upon closer examination of these different stages,[152] one could see

[145] In accordance with its obligation under Article 15 of the Universal Service Directive and in the framework of the 2007 regulatory reform of the electronic communications package, the Commission put forward a proposal for new Universal Service Directive. While the scope of USO remains basically unchanged, the proposed amendments encompass: improving the transparency for end-users; facilitating use of and access to e-communications for disabled users; strengthened provisions on number portability; improving obligations related to emergency services; and ensuring basic connectivity and quality of service. See European Commission, On the review of the scope of universal service and European Commission, Report regarding the outcome of the Review of the scope of universal service in accordance with Article 15(2) of Directive 2002/22/EC, COM(2006) 163 final, 7 April 2006 and European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on consumer protection cooperation, COM(2007) 698 final, 13 November 2007. See also European Commission, On the review of the EU regulatory framework for electronic communications and services, COM(2006) 334 final, 28 June 2006 and European Commission, Report on the outcome of the Review of the EU regulatory framework for electronic communications networks and services in accordance with Directive 2002/21/EC and Summary of the 2007 Reform Proposals, COM(2007) 696 final, 13 November 2007.

[146] William H. Melody, *supra* note 6, at 13.

[147] European Commission, Services of general interest in Europe, OJ C 281/3, 26 September 1996, at para. 19.

[148] See *supra* note 121.

[149] "The public service mission has not changed but it is not the undertakings with special or exclusive rights who are responsible for its execution. It is rather the market now who is to deliver most of the benefits with certain additional regulatory corrections made". See Paul Nihoul & Peter Rodford, *supra* note 96, at para. 5.05. For a comparison between public service and universal service, see *id.* at paras. 5.318-5.324.

[150] See *e.g.* Milton L. Mueller, "Universal Service Policies as Wealth Distribution" (1999) Government Information Quarterly, 16:4, 353-358 and Nicholas Garnham, *supra* note 125, 199-204.

[151] Colin R. Blackman, "Universal Service: Obligation or Opportunity?" (1995) Telecommunications Policy, 19:3, 171-176, at 172.

[152] Claire Milne, "Stages of Universal Service Policy" (1998) Telecommunications Policy, 22:9, 775-780, at 776.

that, although the meaning of universal service and how it is pursued vary widely, there is "an underlying unity of aim".[153] *Equity*, *continuity* and *affordability* as values innate to citizenship[154] remain as its intact objectives (albeit pursued with different stress and intensity).

Thus, one could conclude that universal service is a *tool* for the achievement of other societal goals. It is also a dynamic concept, "[b]y its nature […] prone to evolution",[155] and could accommodate, depending on the political environment, different concrete objectives.[156] Although until now, universal service has coincided in practice with plain old telephone service (POTS), we should think of it instead as an "empty" concept based on the principles of continuity, equity and affordability that may be filled in the future with additional content.[157] Following this line of reasoning, universal service could then be stretched to include broadband or other Internet applications (especially in view of the enhanced Information Society policies) or assigned entirely different task(s) related to *access to information* rather than simply dealing with conventional *access to networks*.[158] USOs could further be seen as a driver of innovation,[159] taking into consideration the aforementioned importance of innovation in itself and the specificities of communications as a network industry.[160] As such, universal service could "stimulate the creation of a broad-based society of lay users for advanced ICT [Information and Communication Technologies], whose participation in successful interaction with suppliers is key to the breadth of the ICT innovation process […] increas[ing] the total range and number of information technology innovations and at the same decreas[ing] the proportion of 'unsatisfactory innovations'".[161]

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[153] Claire Milne, *id.* at 777. Claire Milne identifies the following common elements: (i) universal service is desired for social or political reasons and includes a notion of "equity"; (ii) achievement of universal service is apparently not commercially viable; (iii) it is recognised that definitions will change as society and technology change; (iv) definitions cover what are seen as "basic telecoms services" *i.e.* well established, relatively cheap, and very important to ordinary people; (v) adequate quality of service is defined or understood; (vi) service must be affordable by those for whom it is designed.

[154] Paul Nihoul & Peter Rodford, *supra* note 96, at para. 5.319. See also Giuliano Amato, "Citizenship and Public Services: Some General Reflections" in Mark Freedland & Silvana Sciarra (eds.), Public Services and Citizenship in European Law, Oxford: Oxford University Press, 1998, 145 *et seq*.

[155] Paul Nihoul & Peter Rodford, *id.* at para. 5.78.

[156] For a critique of the possibility for pursuit of other political objectives, see *e.g.* Milton L. Mueller, *supra* note 150; Nicholas Garnham, *supra* note 125, 199-204.

[157] See *e.g.* The Economist, "Hearing Voices", 28 October 2004.

[158] Robin Mansell remarks in that regard: "There is a shift away from policy discussions about the access to networks towards debates about the availability and affordability of information applications. A distinction between "basic" access to networks at reasonable prices and "basic" access to information is needed. The issue is whether network operators and service suppliers who control the gateways for accessing customers should be permitted to screen out certain kinds of information that may be regarded by public policy as essential to the conduct of business and everyday life. Decisions are needed on whether provisions need to be made to ensure access to certain kinds of public information (*e.g.* health, education, transport, government information) and whether the governments of member states or the European Union should underwrite the costs of ensuring that this information is accessible". See Robin Mansell, "Designing Networks to Capture Customers: Policy and Regulation Issues for the New Telecom Environment" in William. H. Melody (ed.), Telecom Reform: Principles, Policies and Regulatory Practices, Lyngby: Technical University of Denmark, 1997, 77-90, at 85-86.

[159] François Bar & Annemarie Munk Riis, "From Welfare to Innovation: Toward a New Rationale for Universal Service", Conference Paper presented at the 26th Telecommunications Policy Research Conference, Alexandria, VA, 3-5 October 1998.

[160] See *supra* Section 1.3.

[161] François Bar & Annemarie Munk Riis, *supra* note 159, at 17.

B. Consumer protection

Consumer protection is another societal objective that one could clearly identify, both as a general concept valid for all economic sectors and as having a communications-specific meaning. Consumer protection is in fact a notion that covers a wide variety of policies ranging from very precise and exhaustive rules (*e.g.* contract conditions, labelling requirements, etc.) to more general ones (*e.g.* universal service policy). If we construe consumer protection in its broadest sense, all of the objectives outlined in the preceding Sections, namely competition in its static and dynamic aspects, universal service and all the policy choices made for their achievement – regarding liberalisation, innovation, standardisation or definition of USOs – should lead to protection of the consumers. Indeed consumers are intended to be the ultimate beneficiaries, both individually and collectively, as members of the *socium*.

As mentioned above, the achievement of the economic goals is often an essential basis for the pursuit of "other" goals. This, however, does not imply a primacy of the economic goals over the societal (non-economic) ones. The latter must be guaranteed in parallel, constantly and without compromise. The roots of the principle of consumer protection may be traced back to the constitutional human rights, in the sense of the right to the integrity of the person,[162] the right to liberty and security,[163] the right to property,[164] right to protection of personal data,[165] and to non-discrimination,[166] among others.[167]

Transparency, objectivity, proportionality and non-discrimination are additional general principles that permeate legal regimes and are equally valid for the regulatory framework for electronic communications, both for the service providers and the regulating agencies.[168] Timeliness and impartiality are further norms for the actions of the regulatory authorities.[169] So

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[162] European Convention on Human Rights, Charter of Fundamental Rights of the European Union, OJ C 364/1, 18 December 2000, at Article 3.

[163] *Id.* at Article 6.

[164] *Id.* at Article 17.

[165] *Id.* at Article 8.

[166] *Id.* at Article 21. The above rights have their counterparts in the European Convention for Human Rights (Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms, Rome, 4 November 1950, as amended by Protocol No 11, ETS No 155) and build upon the Universal Declaration of Human Rights (GA Resolution 217 A (iii), UN Doc. A/810, 10 December 1948), the International Covenant on Civil and Political Rights (GA Resolution 2200 A (xxi), UN Doc. A/6316, 1966), entered into force 23 March 1976 and the International Covenant on Economic, Social and Cultural Rights (GA Resolution 2200 A (xi), UN Doc. A/6316, 1966, entered into force 3 January 1976).

[167] The 2002 Data Protection Directive, for instance, states its aim explicitly as "to respect the fundamental rights and observes the principles recognised in particular by the Charter of fundamental rights of the European Union. In particular, this Directive seeks to ensure full respect for the rights set out in Articles 7 and 8 of that Charter". See 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 electronic communications sector, OJ L 201/37, 31 July 2002 (hereinafter Directive on Privacy and Electronic Communications), at Recital 2. For the 2007 review of the Directive, see European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on consumer protection cooperation, COM(2007) 698 final, 13 November 2007.

[168] See *e.g.* Recital 19, 20, 22, Articles 3 and 9(1) of the Framework Directive, Recitals 30, 31, Articles 14, 21 of the Universal Service Directive.

[169] Article 3(3) of the Framework Directive *e.g.* prescribes an obligation for the Member States to "ensure that national regulatory authorities exercise their powers impartially and transparently".

are their competence[170] and independence.[171] Securing these essential principles of both commercial behaviour and good governance, as distinct rules and in their totality, ultimately guarantees the safeguarding of consumers' interests.

The EU Charter of Fundamental Rights[172] contains a special provision addressing consumers' interests, which obliges the Union to ensure "a high level of consumer protection".[173] Article 153 of the EC Treaty is a concrete expression of this obligation[174] that gives a legal basis for the adoption of a comprehensive Community-wide consumer protection regime.[175]

While it is clear that consumer protection has been recognised as a goal of regulation and is taken into consideration when designing, interpreting and applying the law, we argue that in the specific environment of electronic communications, the objective of protecting the consumer takes equally specific dimensions and calls for specific tools to address them. The examples below convey this idiosyncrasy and the complexity of the task of guaranteeing consumers protection in electronic communications.

Firstly, it should be recalled that the Framework Directive of the 2002 EC regime for electronic communications identifies, pursuant to Article 8, consumer protection as one of the major policy objectives[176] to be pursued by the NRAs, and thus in the implementation of the entire regime.[177] Reflecting our thoughts on the human rights basis of consumer protection, Article 8(4) of the Framework Directive construes it broadly and speaks of promoting "the interests of the *citizens* of the European Union" rather than merely those of the 'consumers', as defined in Article 2 of the Directive.[178]

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[170] Article 3(1) of the Framework Directive.

[171] Article 3(2) of the Framework Directive.

[172] See *supra* note 162. The Charter is incorporated into the future Treaty establishing a Constitution for Europe (provisional consolidated version), OJ C 310/1, 16 December 2004.

[173] Article 38 of the Charter reads: "Union policies shall ensure a high level of consumer protection".

[174] Article 153 EC states notably at para. 1 that, "[i]n order to promote the interests of consumers and to ensure a high level of consumer protection, the Community shall contribute to protecting the health, safety and economic interests of consumers, as well as to promoting their right to information, education and to organise themselves in order to safeguard their interests". Para. 2 states further that consumer protection requirements must be taken into account in defining and implementing other Community policies and activities.

[175] See Article 153(3) EC. See also all secondary legislation acts in force on consumer protection at http://eur-lex.europa.eu/en/repert/1520.htm.

[176] The other two being the promotion of competition and the development of the internal market. See Article 8(2) and (3) of the Framework Directive.

[177] Pursuant to Article 8(4) of the Framework Directive, the NRAs are to take all reasonable measures to promote the interests of the citizens by: (i) ensuring access to universal service; (ii) a high level of protection for consumers in their dealings with suppliers, in particular by ensuring the availability of simple and inexpensive dispute resolution procedures; (iii) a high level of protection of personal data and privacy; (iv) promoting the provision of clear information, in particular requiring transparency of tariffs and conditions, (v) addressing the needs of specific social groups, in particular disabled users; and (vi) ensuring that the integrity and security of public communications networks are maintained. The specific instruments that guarantee the achievement of these objectives are the Universal Service Directive and the Directive on Privacy and Electronic Communications, although all Specific Directives contain provisions on and considerations of consumer protection. See *e.g.* Recital 5, Articles 1 and 13 of the Access Directive, as well as Recital 7 and Article 11 of the Authorisation Directive.

[178] The Framework Directive defines a consumer, for the purposes of the EC electronic communications regime, as "any natural person who uses or requests a publicly available electronic communications service for purposes which are outside his or her trade, business or profession". "User", on the other hand, is defined as "a legal entity or natural person using or requesting a publicly available electronic communications service". See Article 2(1), letters (h) and (i) of the Framework Directive.

Secondly, we should acknowledge one distinctive characteristic of consumer protection in e-communications that could be of primary importance when designing the concrete safeguard instruments. Namely, that it is a dynamic concept – both because of the transformed market environment of electronic communications resulting from the liberalisation of the sector and because of the rapidly changing technologies intrinsic to the "new" electronic communications.

With regard to the former point, as discussed above, the liberalisation of telecommunications also entailed their transformation from public services to normal commercial activities. Prior to this transformation, telecommunications services were provided by the public operators, which were organised as administrations and were often State-owned. Since the liberalisation, however, the relations between the provider and the consumers are no longer of an "administrative" nature (*i.e.* between the State and the citizens) but rather based on common commercial terms, *i.e.* upon contractual relationships.[179] This development, which tolerates greater commercial freedom, also calls for a higher level of protection and mechanisms put in place to ensure this.[180] Furthermore, liberalisation allowed new players to enter markets, which accordingly gave consumers the opportunity to choose between operators, service packages and/or networks. This freedom of choice was created and is largely guaranteed by the competitive processes in the markets.[181] In communications, however, due to some technical predeterminations, this freedom might be harmed and needs to be secured through additional regulation. Number portability and carrier selection and pre-selection rules[182] could be seen as expressions of this need.[183]

The plurality of market players has a definite positive effect on consumer choice both in terms of more, better and innovative services and in terms of lower prices.[184] It could however also have negative repercussions that would require additional intervention in order to protect consumers. A pertinent example is the *quality* of the services offered. In that regard, under the

[179] See Paul Nihoul & Peter Rodford, *supra* note 96, at paras. 7.04 *et seq*.

[180] See Article 20 and 34(1) of the Universal Service Directive. In addition, the requirements of existing Community consumer protection legislation relating to contracts, in particular Council Directive 93/13/EEC of 5 April 1993 on unfair terms in consumer contracts (OJ L 95/29, 21 April 1993) and Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the protection of consumers in respect of distance contracts (OJ L 144/19, 4 June 1997) apply to consumer transactions relating to electronic networks and services.

[181] See Recital 26 of the Universal Service Directive.

[182] The number of portability provisions ensure that all subscribers of publicly available telephone services, including mobile ones, can retain their numbers on request (not only for the sake of convenience but also because numbers could be of significant economic or social value), independently of the undertaking providing the service (Article 30 of the Universal Service Directive). Carrier selection and pre-selection rules, on the other hand, enable access through the network of the incumbent to other (than the incumbent) operators for the provision of connection to and use of the public telephone network at a fixed location. This access could be granted on a call-by-call basis by dialling a certain code or by means of pre-selection, *i.e.* with a facility that overrides the pre-selected choice on a call-by-call basis (Article 19(1) of the Universal Service Directive).

[183] It should be pointed out that although both number portability and carrier selection and carrier pre-selection are viewed here as expressions of consumer protection, they have different legal nature. Pursuant to the Universal Service Directive, number portability is seen as an aspect of end-user rights, while carrier selection and pre-selection are forms of *ex ante* obligation that might be imposed on an undertaking with significant market power.

[184] The Tenth Communications Report notes: "The pattern of increasing consumer benefits, in terms of lower prices, greater choice and more innovative services, that has been evident since e-communications markets were first liberalised, is continuing as a result of the more competitive environment and the flexibility provided by the new regulatory framework. This year [2004] has seen increased choice through the entry of new operators into the market and more options for broadband. As competitive pressure intensifies, prices have fallen in some segments". See *supra* note 103, at Summary, at 8 (footnotes omitted). This development has been confirmed by the Eleventh Communications Report, *supra* note 20, at 14.

new post-liberalisation conditions, there may be an increased need for transparency and "access to comprehensive, comparable and user-friendly information".[185]

Another possibly harmful consequence of the multiplicity of market players, which stems from the network nature of electronic communications, is the occurrence of negative network effects. Because of their very structure, if one node of the network breaks down or is congested, the negative effects spread across the whole system causing it to fail. This calls for measures to ensure the integrity of the network.[186] The security of networks is clearly also of significance as regards the data being carried over them.[187]

The second dimension of the dynamic concept of consumer protection in electronic communications environments relates to the rapid technological advances in the communications sector itself. Sophisticated digital networks, the possibility of instant data transfer, the access of more and more people to these networks and their accordingly increased use for business and communication create a new reality and call for suitably up-to-date modes of protection.[188] Delicate issues related to privacy, such as location data[189] and the confidentiality of information,[190] have to be properly dealt with in an environment that is increasingly unpredictable and by its very nature is constantly evolving.[191]

Assuring an appropriate level of consumer protection could feed back positively into the development of new technologies, particularly since the adoption of new technologies is dependent on consumers' expectations and characterised by network effects. Furthermore, on a more general level, "[t]he establishment of consumer confidence and trust are a prerequisite for

[185] The Universal Service Directive prescribes a procedure, whereby undertakings are to publish "comparable, adequate and up-to-date information for end-users on the quality of their services", Article 22(1)). Pursuant to Article 22(2), NRAs may additionally specify "the quality of service parameters to be measured, and the content, form and manner of information to be published, in order to ensure that end-users have access to comprehensive, comparable and user-friendly information". See also Annex III of the Universal Service Directive and Article 4 of the Privacy and Electronic Communications Directive. Generally, on quality of service, see Paul Nihoul & Peter Rodford, *supra* note 96, at para. 7.11.

[186] Article 23 of the Universal Service Directive. See also European Commission, On the review of the EU regulatory framework for electronic communications and services, *supra* note 145, at 28-30.

[187] "Security of networks and communications is a major area of concern for the development of the digital economy. Networks and information systems are now supporting services and carrying data of great value which can be vital to other critical infrastructures. Increased protection of the networks and information systems is therefore necessary against various types of attacks on their availability, authencity, integrity and confidentiality". See European Commission, Electronic communications: The road to the knowledge economy, COM(2003) 65 final, 11 February 2003, at 13.

[188] Recital 6 of the Directive on Privacy and Electronic Communications, for instance, notes: "The Internet is overturning traditional market structures by providing a common, global infrastructure for the delivery of a wide range of electronic communications services. Publicly available electronic communications services over the Internet open new possibilities for users but also new risks for their personal data and privacy". See also Council Resolution of 19 January 1999 on the consumer dimension of the Information Society, OJ C 23/1, 28 January 1999.

[189] See Recital 35, Articles 6 and 9 of the Directive on Privacy and Electronic Communications.

[190] Article 5 of Directive on Privacy and Electronic Communications.

[191] See *e.g.* Decision 854/2005/EC of the European Parliament and of the Council of 11 May 2005 establishing a multiannual Community Programme on promoting safer use of the Internet and new online technologies, OJ L 149/1, 11 June 2005.

consumer acceptance of, and participation in, the information society".[192] The latter may be particularly important for developing and fostering the new type of participatory culture.[193]

To summarise the above paragraphs, one could submit that consumer protection in the environment of electronic communications is particularly demanding. Although, in principle, the market will cater for the interests of the consumers delivering the generic benefits of competition, a high degree of protection will necessitate decisions that run counter to the market forces, to safeguard consumers. In order to meet the objective of consumer protection properly, the regulatory instruments should form a multi-level, coordinated and flexible system that will be capable of addressing communications-specific situations and can adjust swiftly to new circumstances. The technological and market evolution of communications and their intensified inclusion in the modern personal and social lives may further warrant the formulation of new consumer protection sub-objectives in order to effectively safeguard the public interest.

C. On a Higher Level

Talking about communications and the goals of communications regulation, we should distance ourselves from the concrete parameters of the regulatory regime(s) and their increasing technical complexity in order to see the development of electronic communications from a broader perspective. Below, we attempt to outline some of the "higher" objectives that should be considered in electronic communications, in particular in view of the phenomena of digitisation, convergence and globalisation. One could equally interpret them as an elaboration of consumer protection in a "higher", human rights context. In this Section, communications are considered not only as "transmission systems",[194] but above all, in their special role as channels carrying and disseminating information and content.

As we already mentioned, the telecommunications sector has changed. The evolution of e-communications and "the continuing development of new technologies for the transmission and storage of information [have led] to organisational, commercial, technical and legal innovations that are having a profound impact on society in general".[195] We should also note that, "[a]s the use of [information and communication technology] grows, so does its impact on society".[196] Thus, both the quantitative and the qualitative ICT-based ramifications for society are clearly immense.

If we look at the *Information Society* as a general societal phenomenon, it would be rather superficial (and largely untrue) to relate its creation and development solely to the advances in information and communication technologies.[197] We should also take into account the wider social, political and cultural processes that have led (and continue to lead) to the networked, knowledge-based environment that we are now living in.

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[192] Council Resolution on the consumer dimension of the Information Society, *supra* note 188, at Recital 5.

[193] See *e.g.* Urs Gasser & Silke Ernst, "From Shakespeare to DJ Danger Mouse: A Quick Look at Copyright and User Creativity in the Digital Age", Berkman Center for Internet and Society Research Publication No 2006-05, June 2006.

[194] Article 2(a) of the Framework Directive.

[195] Council Resolution on the consumer dimension of the Information Society, *supra* note 188, at Recital 1.

[196] European Commission, i2010 – A European Information Society for growth and employment, COM(2005) 229 final, 1 June 2005, at 9.

[197] "The Information Technology Revolution DID NOT create the network society. But without technology, the Network Society would not exist". See Manuel Castells, "An Introduction to the Information Age" in Frank Webster (ed.), The Information Society Reader, London: Routledge, 2004, 138-149, at 139 (upper case in the original).

It is now beyond the hype to speak of the Information Society[198] and most people take its existence and their involvement in it for granted. Despite this, there is no single and universally accepted theory of the Information Society.

It is beyond the scope of the present work to engage in examination of all theories on the Information Society[199] and/or to attempt to consolidate them. We should nonetheless clarify that the term we intend to use here relates to the notion of Information Society in its sociological connotation and not in its sense of a political programme. The political meaning is often dominant in the media and could be misleading. Although it does reflect some of the characteristics of Information Society as a social phenomenon, it is different in nature and linked primarily to the instrumentalisation of ICTs. Such types of project are prominent in the European regulatory space[200] but not exclusively European.[201] In fact, one of the reasons for the launching of the EU Information Society agenda was the fear of lagging behind in the utilisation of ICT, in particular in comparison to the US.[202] On the global level, a vivid example of the

[198] The concept of "Information Society" allegedly came into being some forty years ago: The economist Fritz Machlup, while examining the US patent system postulated the existence of a "knowledge economy" and stressed the role of information. See Fritz Machlup, The Production and Distribution of Knowledge in the United States, Princeton, NJ: Princeton University Press, 1962.

[199] See Daniel Bell, The Coming of Post-Industrial Society: A Venture in Social Forecasting, New York: Basic Books, 1999 (first published 1973); Manuel Castells, The Information Age: Economy, Society and Culture, Vol. 1: The Rise of the Network Society and Vol. 2: The Power of Identity, 2nd ed., Oxford: Blackwell, 2000. For a critique, see Nicholas Garnham, Information Society Theory as Ideology: A Critique (2001) Studies in Communications Sciences, 1, 129-166. For an overview of the different theories, see Frank Webster, Theories of Information Society, London: Routledge, 1995 and Frank Webster (ed.), The Information Society Reader, London: Routledge, 2004. See also Alistair S. Duff, Information Society Studies, London: Routledge, 2001; Christopher May, The Information Society: A Sceptical View, Cambridge: Polity, 2002.

[200] The EU Information Society project can be traced back to the 1992 internal market programme and in particular, its R&D dimension. The policy document that gave real outlines and political impetus was the seminal Bangemann Report of 1994, "Europe and the Global Society" (EUR-OP 1994). It acknowledged that, "[t]hroughout the world, information and communication technologies are generating a new industrial evolution already as significant and far-reaching as those in the past. It is a revolution based on information, itself the expression of human knowledge. This revolution adds huge new capacities to human intelligence and constitutes a resource which changes the way we work together and the way we live together". The European Council of 23 and 24 March 2000 in Lisbon launched what has become known as the Lisbon strategy. It set a new strategic goal for the EU over the next decade: to become the most competitive and dynamic knowledge-based economy in the world. In the pursuit of the Lisbon goal and recognising the crucial role of ICTs, a specific initiative – eEurope: Information Society for All – was launched. Its underlying objective is to utilise the power of ICTs and integrate them into every facet of the society. Following the eEurope 2002 and eEurope 2005, the current i2010 strategy strives for: (i) the completion of a Single European Information Space, which promotes an open and competitive internal market for information society and media; (ii) strengthening innovation and investment in ICT research; and (iii) achieving an inclusive European Information Society that promotes growth and jobs in a manner that is consistent with sustainable development and prioritises better public services and quality of life. See European Commission, i2010 – A European information society for growth and employment, *supra* note 196.

[201] See *e.g.* Manuel Castells, The Information Age: Economy, Society and Culture, Vol. 1: The Rise of the Network Society, *supra* note 199, at 394-395. It was as early as 1971 when the Japanese government formulated as a national target the realisation of the Information Society. See Japanese Computer Usage Development Institute, The Plan for an Information Society: National Goal Towards the Year 2000, Tokyo, 1971, as referred to in Alistair S. Duff, "The Past, Present and Future of Information Policy: Towards a Normative Theory of Information Society" (2004) Information, Communication and Society, 7:1, 69-87. See also Knud Erik Skouby, "Information Societies: Toward a More Useful Concept" in Robin Mansell, Rohan Samarajva & Amy Mahan (eds.), Networking Knowledge for Information Society: Institutions and Intervention, Delft: DUP Science 2002, 174-178.

[202] In 1993 under the Clinton administration, Vice-President Al Gore launched the National Information Infrastructure (NII) Program with the purpose of creating "a seamless web of communications networks, computers,

instrumentalisation of communications for the achievement of other goals is the World Summit on the Information Society (WSIS).[203] This initiative of the United Nations and the International Telecommunication Union (ITU), which aimed to "build a people-centred, inclusive and development-oriented Information Society",[204] is not the first but definitely the most far-reaching endeavour to exploit the benefits of ICTs.[205]

Focusing on the *sociological* concept of Information Society and for the purposes of this article, we shall use a simplified "working" definition of the Information Society with an emphasis on its spatial and cultural aspects[206] and their implications for the objectives of communications regulation. With this caveat in mind, "Information Society" could be defined as a society in which the creation, distribution and manipulation of information has become the most significant economic and cultural activity. Information is however to be understood not only in the sense of mere facts but also, more broadly, as knowledge.[207]

In its spatial aspect, the Information Society could be then construed as *information networks*, "which connect locations and in consequence have dramatic effects on the organisation of time and space".[208] These effects could be seen both as stemming from the globalisation of marketplaces[209] and the technologies allowing instant communications and data transfer, which ultimately result in a "shrinking world".[210] These "time/space compressions"[211]

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databases, and consumer electronics that will put vast amounts of information at users' fingertips […] [and] change forever the way people live, work, and interact with each other". See US Department of Commerce, The National Information Infrastructure: Agenda for Action, Washington, DC, 15 September 1993, at Executive Summary. See also Herbert Kubicek, William H. Dutton & Robin Williams (eds.), The Social Sharing of Information Superhighways: European and American Roads to the Information Society, Frankfurt: Campus, 1997.

[203] The WSIS was constructed as a two-phase forum (Phase One: Geneva 2003 and Phase Two: Tunis 2005). See WSIS, Declaration of Principles, WSIS-03/Geneva/Doc/4-E, 12 December 2003; WSIS, Plan of Action, WSIS-03/Geneva/Doc/5-E, 12 December 2003; WSIS, Tunis Commitment, WSIS-05/Tunis/Doc/7-E, 18 November 2005; WSIS, Tunis Agenda for the Information Society, WSIS-05/Tunis/Doc,6(Rev.1)-E, 18 November 2005. See also European Commission, Towards a global partnership in the Information Society: EU perspective in the context of the United Nations World Summit on the Information Society (WSIS), COM(2003) 271 final, 19 May 2003; European Commission, Towards a global partnership in the Information Society: The contribution of the EU to the second phase of the WSIS, COM(2005) 234 final, 2 June 2005. For all relevant documents, see http://www.itu.int/wsis/.

[204] WSIS Declaration of Principles, *id.* at para. 1.

[205] For a full account of previous international and regional fora on Information Society (such as the Okinawa Charter on Global Information Society, 2000 or the G-7 Information Society Conference, 1995), see http://www.itu.int/osg/spu/wsis-themes/Access/IS_Principles.html.

[206] Building upon the analysis of Frank Webster, who identifies five definitions of an Information Society, namely: (i) technological; (ii) economic; (iii) occupational; (iv) spatial and (v) cultural. See Frank Webster (1995), *id.* at 6 *et seq*.

[207] William H. Dutton, Social Transformation in an Information Society: Rethinking Access to You and the World, Paris: UNESCO, 2004, at 27.

[208] Frank Webster (1995), *supra* note 199, at 18.

[209] On globalisation (in particular economic globalisation), see Peter van den Bossche, The Law and Policy of the World Trade Organization, Cambridge: Cambridge University Press, 2005, at 3 *et seq*. See also an excellent collection of contributions on globalisation in David Held & Anthony McGrew (eds.), The Global Transformations Reader, 2nd ed., Cambridge: Polity, 2003.

[210] See "The Shrinking World: The Impact of Transportation Technology on Effective Distance" in Anthony G. Oettinger, "Information Technologies, Government and Governance: Some Insights from History", Incidental Paper, Program on Information Resources Policy, Harvard University, September 1998, available at http://www.pirp.harvard.edu. See also John B. Thompson, "The Globalization of Communication" in David Held/Anthony McGrew, *id.* 246-259.

have numerous repercussions and mostly notably in our context lead to increasing *interconnectedness* within the information networks. The emergence of all-encompassing global networks, on the other hand, underlines the significance of the *flow of information*,[212] *i.e.* the content that spreads through them.

Undoubtedly, the global reach and technological potency of these infrastructures have allowed for vast amounts of information to be disseminated. Especially now that digitisation has become ubiquitous, all types of content (audio, video or text) expressed in ones and zeros could be distributed over any network (telephone, cable or mobile) at the speed of light. New forms of communication are emerging (such as weblogs[213] and online social networking platforms[214]) and together these developments have led to a fundamental shift in the traditional channels of distribution of content.

The means of distribution have accordingly changed the *content* being distributed. In the words of Jean Baudrillard, "there is more and more information, and less and less meaning".[215] The emergence of transnational communication conglomerates as key players in the global system of communication and information diffusion[216] has led to a simultaneous transformation of the type and variety of content being distributed. Formats and contents of TV programmes, films and shows have become increasingly *homogeneous*.[217] Although this globalisation and "uniformisation" of content do not necessarily (and automatically) mean a cultural desert, where diversity has perished and the rules are made by transnational corporations,[218] they do lead to the

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[211] As referred to by Anthony Giddens. See Anthony Giddens, Modernity and Self-Identity: Self and Society in the Late Modern Age, Cambridge: Polity, 1991. On the "Age of Simultaneity", see Neal M. Rosendorf, "Social and Cultural Globalization: Concepts, History, and America's Role" in Joseph S. Nye & John D. Donahue (eds.), Governance in a Globalizing World, Washington, DC: Brookings Institution Press, 2000, 109-134, at 115 *et seq*.

[212] Frank Webster (1995), *supra* note 199, at 19, referring to Manuel Castells, The Informational City: Information Technology, Economic Restructuring, and the Urban Regional Process, Oxford: Blackwell, 1989.

[213] See *e.g.* Neue Zürcher Zeitung, "Von Blogs, Phlogs, Vlogs und Flogs", 29 August 2005; Dan Gillmor, We the Media: Grassroots Journalism by the People, for the People, Sepastobol, CA: O'Reilly Media, 2004.

[214] *See e.g.* http://www.myspace.com and http://www.facebook.com.

[215] Jean Baudrillard, Symbolic Exchange and Death, London: Sage, 1993, at 5, as referred to by Frank Webster (1995), *supra* note 199, at 22. On the "multi-channel paradox", whereby despite the diversity of channels, there is no actual diversity of content, see Mónica Ariño, "Competition Law and Pluralism in European Digital Broadcasting: Addressing the Gaps" (2004) Communications and Strategies, 54, 97-128, at 98-99.

[216] See *e.g.* Robert W. McChesney, "The New Global Media" in David Held & Anthony McGrew, *supra* note 209, 278-285; Christoph Beat Graber, Handel und Kultur im Audiovisionsrecht der WTO. Völkerrechtliche, ökonomische und kulturpolitische Grundlagen einer globalen Medienordnung, Berne: Staempfli, 2003, at 45 *et seq*.

[217] For a critique of the cultural industries and on the homogeneity of content, see Christoph Beat Graber, *id.* at 18 *et seq*. For arguments against homogeneity, see Gaetano Romano, "Technologische, witschaftliche und kulturelle Entwicklungen der audiovisuellen Medienmärkte in den letzten Jahren" in Christoph Beat Graber, Michael Girsberger & Mira Nenova, Free Trade *versus* Cultural Diversity: WTO Negotiations in the Field of Audiovisual Services, Zurich: Schulthess, 2004, 1-13, at 4 *et seq*. For an interesting comment on the global power of American popular culture (influencing through attraction rather than coercion), see Neal M. Rosendorf, *supra* note 211, at 117 *et seq*. A converged communications industry with few voices was in fact predicted as early as 1947, when Theodor Adorno and Max Horkheimer saw a "fusion of all arts into one work" in the production by the communications industry in the United States of cultural products for the undifferentiated masses that would result in standardisation of the product. They feared this result would drive out individual creativity and cultural diversity. See Theodor Adorno & Max Horkheimer, Dialectic of Enlightenment, London: Verso, 1979 (first published 1947).

[218] See *e.g.* Herbert Schiller, "Striving for Communication Dominance: A Half-Century Review" in Daya Kishan Thussu (ed.), Electronic Empires: Global Media and Local Resistance, London: Edward Arnold, 1998, at 17-26.

completely changed media and communications environment that we are now faced with.[219] An environment that has the potential for affecting acutely and changing our *culture*.[220]

To use the words of Manuel Castells, "[f]or all the science fiction ideology and commercial hype surrounding the emergence of the so-called 'information superhighway', we can hardly underestimate its significance. The potential integration of text, images, and sounds in the same system, interacting from multiple points, in chosen time (real and delayed) along a global network, in conditions of open and affordable access, does fundamentally change the character of communication. And communication decisively shapes culture, because, as Postman writes, 'we do not see … reality … as 'it' is, but as our languages are. And our languages are our media. Our media are our metaphors. Our metaphors create the content of our culture".[221]

Without engaging in (the rather difficult[222]) analysis of the concept of culture,[223] for the purposes of this article, we can conclude that the Information Society is a *new* type of society that has multiple ramifications for media and communications, and consequently for culture. It is moreover not just a given reality but also a process, an evolution, which could be further shaped. Regulatory frameworks should thus address the present ramifications of the Information Society, while simultaneously providing for the protection of a certain "package" of values in this development and their constant reassertion. This set of values forms precisely what we formulated at the beginning of the Section as higher objectives.

The changing dynamics of the communications industries in the context of the Information Society does not mean that everything has changed and the "old" values have been emptied of their content.[224] Yet, there have been attempts to formulate "new" rights that would fit better into the new communications environment. Jan van Cuilenburg and Pascal Verhoest suggest, for instance, in the context of discussing convergence, the formulation of two new concepts, namely "freedom of communication" and "access". The former is intended to mean the right to send or

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[219] John B. Thompson, "The Globalization of Communication" in David Held & Anthony McGrew, *supra* note 209, 246-259. Thompson suggests notably that, "the appropriation of globalized symbolic materials involves […] *the accentuation of symbolic distancing from the spatial-temporal contexts of everyday life*". *Id.* at 256 (emphasis in the original). See also Christoph Beat Graber, *supra* note 216, at 22 *et seq.*

[220] Manuel Castells, The Information Age: Economy, Society and Culture, Vol. 1: The Rise of the Network Society, *supra* note 199, at 357 (emphasis added).

[221] *Id.* at 356, referring to Neil Postman, Amusing Ourselves to Death: Public Discourse in the Age of Show Business, New York: Penguin Books, 1985, at 15 (abridged in the original). See also in that sense, Ludwig Wittgenstein, Tractatus Logico-Philosophicus, London: Routledge, 1999 (also available at http://www.gutenberg.org/etext/5740, who famously noted at para. 5.6. that: "The limits of my language mean the limits of my world (in the original: "Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt").

[222] It was in 1952 when Kroeber and Kluckholn compiled a list of more than 200 different definitions of culture (see Alfred L. Kroeber & Clyde Kluckholn *et al.*, Culture: A Critical Review of Concepts and Definitions, Cambridge, MA: Peabody Museum, 1952). Since then the concept has only gained in complexity and controversies despite the ample literature discussing it.

[223] For a comprehensive analysis of the concept of culture and the relevant theories, see Christoph Beat Graber, *supra* note 216, at 11 *et seq*. See also Nicholas Garnham, Emancipation, the Media, and Modernity: Arguments about the Media and Social Theory, Oxford: Oxford University Press, 2000, at 140 *et seq*.; Anthony D. Smith, "Towards a Global Culture" in David Held & Anthony McGrew, *supra* note 209, 278-285.

[224] P.H. Longstaff remarks in that regard that, "[a] fallacious idea of the so-called Information Revolution is that everything has changed and that the old rules no longer apply. This is not the first time a new technology has made a new means of communication possible and, at the same time, made it possible for existing communications systems to evolve and merge into one another. Those who thought everything was new had an underdeveloped knowledge of history. The fundamentals of communication, networks and competition have not changed. It's the technology (and to some extent the broader scope) that's different". See P.H. Longstaff, The Communications Toolkit, Cambridge, MA: MIT Press, 2002, at 2.

not to send, and to receive or not receive messages without any hindrance by any third party, while "access" signifies the possibility for individuals, groups and organisations to share society's communications resources.[225] Similarly, in the course of the preparatory work of the WSIS, there was an attempt to formulate a "right to communicate". The draft declaration on the "right to communicate" stressed the necessity for a new human right, partly embracing existing rights and partly composed of new ones, such as the right to access to technologies or the right of protection against cyber crimes and cyber terrorism.[226]

Urs Gasser addresses the issues more comprehensively and suggests three core values as cornerstones of a regime.[227] The first is *informational autonomy*, which builds upon the theses of Yochai Benkler,[228] and is to be understood as encompassing three elements, namely the freedom to make choices among alternative sets of information, ideas and opinions; the right to express beliefs and opinions and finally, in a digital networked environment, the right of the user to participate in the creation of information, knowledge and entertainment. The second core democratic value is *diversity* in the sense of a wide variety of information from a great variety of competing sources. Gasser advocates that, "a diverse information environment in its current incarnation not only improves deliberation and decision-making processes. Rather, the diversity of information, knowledge, and entertainment is an important aspect of the broader concept of cultural diversity which has been recognized as a fundamental value of our societies".[229] Finally, as a third core value, he identifies *high quality information*, which is to be construed not only in its functional and cognitive aspects but also notably, in its aesthetic and ethical dimensions.

Despite the comprehensiveness of the latter approach and its arguably more adequate fit to the environment of contemporary communications, we hold that there is *no* need to formulate *new* rights to respond to the new modes of communication. It is, on the contrary, perhaps now more important than ever to affirm the innate human values. As stated in a key Background Note of the WSIS, "[t]he human rights standards developed on the basis of the United Nations Charter and the Universal Declaration of Human Rights constitute a set of internationally adopted norms, relevant to all spheres of life, *including* the Information Society".[230] The established human rights are indeed flexible enough to capture all of the above situations, while also benefiting from the jurisprudence of the national, regional and international courts interpreting and applying these rights. Furthermore, taking a different perspective, one could say that what we are dealing with here, are above all *regime collusions*,[231] *i.e.* collusions between values inherent to different

[225] Jan van Cuilenburg & Pascal Verhoest, "Free and Equal Access: In Search of Policy Models for Converging Systems" (1998) Telecommunications Policy, 22:3, 171-181.

[226] The approach encountered heavy criticism because of its supposedly too far-reaching consequences and did not materialise in the WSIS final documents. See WSIS, Statement on the Right to Communicate by Article 19 Global Campaign for Free Expression, WSIS/PC-2/CONTR/95-E, London, 14 February 2003.

[227] Urs Gasser, "Regulating Search Engines: Taking Stock and Looking Ahead" (2006) Yale Journal of Law and Technology, 9, 124-157, at 150-157.

[228] Yochai Benkler, The Wealth of Networks: How Social Production Transforms Markets and Freedom, New Haven/London: Yale University Press, 2006, 133-175.

[229] Urs Gasser, *supra* note 227, at 152.

[230] WSIS, Background Note on the Information Society and Human Rights, WSIS/PC-3/CONTR/178-E, 27 October 2003, at 2 (emphasis added).

[231] In the sense formulated by Lescano and Teubner. See Andreas Fischer-Lescano & Gunther Teubner, "Regime-Collisions: The Vain Search for Legal Unity in the Fragmentation of Global Law" (2004) Michigan Journal of International Law, 25, 999-1046.

social systems, such as economy *versus* art. Since each social system is bound by its language,[232] communication may be facilitated if we use the "old" terms.

Following this line of reasoning, while acknowledging the fact that, "[a]ll human rights are universal, indivisible and interdependent and interrelated",[233] we could identify the *right to freedom of opinion and expression* as the most central[234] of these standards[235] in the realm of communications.[236] The freedom of expression is key as an individual right but also in its specific interpretation in the sense of *pluralism*,[237] particularly important in the contemporary media society. Human rights could be further viewed as guarantees and enablers of *cultural diversity*,[238] the protection of which is critical in light of the implications of the changed

[232] Or "binary code", as defined by Niklas Luhmann. See Niklas Luhmann, Law as a Social System, Oxford: Oxford University Press, 2004. See also Gunther Teubner, Richard Nobles & David Schiff, "The Autonomy of the Law: An Introduction to Legal Autopoiesis" in David Schiff & Richard Nobles (eds.), Jurisprudence, London: Butterworth, 2003, at Chapter 19.

[233] "All human rights are universal, indivisible and interdependent and interrelated. The international community must treat human rights globally in a fair and equal manner, on the same footing, and with the same emphasis". See UN Vienna Declaration and Programme of Action, A/CONF. 157/23, 25 June 1993, at para. 5, reiterated by the World Summit on Information Society, WSIS Declaration of Principles, Document WSIS-03/Geneva/Doc/4-E, 12 December 2003, at para. 3.

[234] The centrality of the right to freedom of expression and information is reiterated in the WSIS, Background Note on the Information Society and Human Rights, *supra* note 230, especially at 2-3. See also United Nations, Promotion and protection of the right to freedom of opinion and expression, Report of the Special Rapporteur Abid Hussain, pursuant to Commission on Human Rights resolution 1993/45, E/CN.4/1995/32, 14 December 1994, at para. 35.

[235] Other human rights specifically relevant to the Information Society include the prohibition of discrimination (Article 7 UDHR), the right to privacy (Article 12 UDHR), intellectual property rights (Article 27 UDHR), the right to standard of living (Article 25, para. 1 UDHR) and the right to education (Article 26 UDHR). See WSIS, Background Note on the Information Society and Human Rights, *supra* note 230 and Deborah Hurley, Pole Star: Human Rights in the Information Society, Montreal: International Centre for Human Rights and Democratic Development, 2003.

[236] The right of freedom of opinion and expression is formulated in Article 19 of the Universal Declaration of Human Rights (GA Resolution 217 A (iii), UN Doc. A/810, 10 December 1948) as including "freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers". It is reiterated in Article 19 of the International Covenant on Civil and Political Rights (*supra* note 166), thereby making it binding and fully applicable to the parties (by 1 September 2005, 154 countries were parties to the Covenant). The freedom of opinion and expression has been explicitly reaffirmed at the European level as well. See Article 10 of the Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms, Rome (*supra* note 166) and Article 11 of the Charter of Fundamental Rights of the European Union (*supra* note 162).

[237] See European Court of Human Rights, *Informationsverein Lentia and Others v. Austria*, 24 November 1993, Application No 13914/88 and 15041/89, 17 EHRR 93. At para. 38 therein, the Court noted that, "[imparting] information and ideas of general interest […] cannot be successfully accomplished unless it is grounded in the principle of pluralism". For a comprehensive analysis, see also Christoph Beat Graber, *supra* note 216, at 110 *et seq.*

[238] See Article 4 and 5 of the Universal Declaration on Cultural Diversity, adopted at the 31st Session of the General Conference of UNESCO, 2 November 2001, Paris and Article 4(1) of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions, adopted at the 33rd Session of the General Conference of UNESCO, 20 October 2005. On cultural diversity, see Christoph Beat Graber, *supra* note 216, at 73 *et seq.*; Joost Smiers, Arts under Pressure, New York: Zed Books, 2004 and the collection of contributions in Christoph Beat Graber, Michael Girsberger & Mira Nenova (eds.), Free Trade *versus* Cultural Diversity, *supra* note 217. On the UNESCO Convention on the Protection of Cultural Diversity, see Christoph Beat Graber, "The New UNESCO Convention on Cultural Diversity: A Counterbalance to the WTO" (2006) Journal of International Economic Law, 19:3, 553-574 and Rachael Craufurd Smith, "The UNESCO Convention on the Protection and Promotion of Cultural Expressions: Building a New World Information and Communication Order?" (2007) International Journal of Communication, 1, 24-55.

communications environment outlined above: "Freedom of expression, media pluralism, multilingualism, equal access to art and to scientific and technological knowledge, including in digital form, and the possibility for all cultures to have access to the means of expression and dissemination are the guarantees of cultural diversity".[239]

The above covers only a tiny fraction of the complex and diverse issues emerging from the cultural aspects of the Information Society and their relation to human rights standards.[240] The purpose of this Section was not to provide an exhaustive commentary on the debate, but rather to show that there are indeed higher goals with immediate relevance to communications. We should acknowledge that infrastructure could influence the content being carried over it, or alter the transport environment in ways that have a considerable impact on the content and/or on the access to this content. Consequently, technical transformations (notably, digitisation) could have grave effects on the innate human values, such as freedom of expression and information and ultimately, cultural diversity and identity.

Considering the *institutional* aspect of human rights and not construing them simply as individual rights,[241] they need to be reflected both in the regulatory regime for electronic communications and in its implementation.

The International Covenant on Civil and Political Rights,[242] the International Covenant on Economic, Social and Cultural Rights,[243] the UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions,[244] and in the EC context, the European Convention for the Protection of Human Rights and Fundamental Freedoms,[245] the Charter of Fundamental Rights of the European Union[246] entail obligations with regard to the protection of human rights. The EC has formulated also explicit provisions for the promotion of culture[247] and provides in the current regime for electronic communications that, "[n]ational regulatory authorities may contribute within their competencies to ensuring the implementation of policies aimed at the promotion of cultural and linguistic diversity, as well as media pluralism".[248] It

[239] Article 6 of the Universal Declaration on Cultural Diversity and Article 2(1) of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions, *id.*

[240] For a comprehensive analysis of the cultural rights at the global and regional levels, see Christoph Beat Graber, *supra* note 216, at 99 *et seq.*

[241] Christoph Beat Graber, *id.* at 100, referring also to Walter Kälin, "Menschenrechtsverträge als Gewährleistung einer objektiven Ordnung" in Walter Kälin *et al.* (eds.), Aktuelle Probleme des Menschenrechtsschutzes, Berichte der Deutschen Gesellschaft für Völkerrecht, Vol. 33, Heidelberg: C.F. Müller, 1994, at 27 *et seq*.

[242] United Nations, International Covenant on Civil and Political Rights, *supra* note 166.

[243] United Nations, International Covenant on Economic, Social and Cultural Rights, *supra* note 166.

[244] See *supra* note 238. See also Council Decision on the Conclusion of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions, 8668/1/06,REV1(en), Brussels, 11 May 2006.

[245] Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms, Rome, *supra* note 166.

[246] Charter of Fundamental Rights of the European Union, *supra* note 162.

[247] Article 151(1) of the EC Treaty, for instance, states: "The Union shall contribute to the flowering of the cultures of the Member States, while respecting their national and regional diversity and at the same time bringing the common cultural heritage to the fore". Para. 4 of the same Article states further that, "[t]he Community shall take cultural aspects into account in its action under other provisions of this Treaty, in particular in order to respect and promote the diversity of its cultures". On the duties of the EC institutions in the field of culture, see Bruno de Witte, "Trade in Culture: International Legal Regimes and EU Constitutional Values" in Gráinne de Búrca & Joanne Scott (eds.), The EU and the WTO – Legal and Constitutional Issues, Oxford/Portland, Oregon: Hart, 2003, 237-255, at 252 *et seq*.

[248] See Article 8(1) of the Framework Directive, at para. 3.

remains to be seen, however, how, in reality, these intangible values will be effectively protected against the sweeping technological and market developments in electronic communications, especially considering the existing fragmentation of legal instruments at the international level.[249]

IV. CONCLUSION

A full account of the goals of regulation and in particular, of communications regulation, is not possible. To use the vivid comparison of Mel Kenny, any attempt at identifying the precise goals of regulation could be indeed similar to "nailing a jellyfish".[250]

Our analysis, based on elements of the primary and secondary EC law, but seen from a broader perspective, although not exhaustive, clearly reveals the *multiplicity* and *diversity* of objectives that can be conceptualised in the regulatory environment of electronic communications. These range from the conventional pursuit of consumer welfare through universal service to some higher goals of specific importance in communications, such as protection of freedom of expression and cultural diversity.

It is important to acknowledge that these goals cannot be framed into a neat hierarchical system where the policy-makers and/or the regulatory agencies could order their tasks in such terms as "firstly deal with competition on the markets; secondly, with innovation; thirdly, with culture, etc." There is indeed a simultaneous "first priority" quality of all the objectives, both economic and societal, which renders the design of an adequate "toolbox" fairly intricate. Furthermore, one can observe intense positive and negative dependencies (trade-offs) between the different objectives in that they feed into each other's achievement (*e.g.* internal market promotion and standardisation), or conversely, one is accomplished to the detriment of another (*e.g.* intellectual property protection and standardisation). As the somewhat deeper analysis of innovation further proved, there are a number of factors stemming from the specificities of electronic communications that complicate the pursuit of a single goal. The example of universal service showed, however, that the policy goals can *evolve* and be filled with new substance. A possible conclusion to be drawn from the systematic examination of the objectives of communications regulation is that there are complex linkages between them that ultimately form a system of variable interdependence, where a specific objective may change in response to a particular change within the system, thereby influencing all other elements.

To reduce the abstractness of such a conclusion, we could refer to a real-life example, namely that of Digital Cinema Initiatives (DCI).[251] DCI is a joint project of the six major Hollywood motion picture studios (Disney, Fox, MGM, Paramount, Sony, Universal and Warner Brothers) inaugurated in March 2002 with the goal of developing a system specification for digital cinema.[252] DCI pursues the adoption of this digital cinema standard and assists its deployment in movie theatres. DCI could be construed as a lucid example of new technological

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[249] Christoph Beat Graber, *supra* note 216, at 113.

[250] Mel Kenny, *supra* note 10, at 101. Mel Kenny makes the comparison in the context of the objectives of competition law and not in a general sense, as we take the liberty of doing here.

[251] See http://www.dcimovies.com.

[252] Digital cinema refers to the use of digital technology to distribute and produce films. Films could be distributed via hard drives, DVDs, satellite or other networks. The economic advantages of digital cinema are immense: production and distribution costs fall radically (*e.g.* Rick McCallum, a producer of *Star Wars Episode II: Attack of the Clones*, said that it cost USD 16,000 for 220 hours of digital tape where a comparable amount of film would have cost USD 1.8 million) and economies of scale and scope are manifest.

developments (stemming from digitisation and convergence) and market developments (as an industry response to applying the technology and creating a new standard). Against the backdrop of our elaborations above, we could identify the DCI project as exhibiting strong network effects, but although it creates positive economies of scale and scope, it entails dangers of lock-ins to the developed standard. Competition between standards is seriously reduced and although the DCI specifications are arguably an open architecture, the question of access is a thorny one. Furthermore, one cannot help but notice the competition law issues since the standard is developed by the six major Hollywood studios, which hold the lion's share of the media market's pie. This concentration of market power along the entire value chain of production and distribution of content, including control over the distributing networks and the industry standard clearly endangers the "higher" goals of pluralism and diversity, as mentioned above. Furthermore, non-digitised content has no distribution channel in the DCI scheme.

Against the above example and reiterating our interim conclusions, we hold that there should be increased awareness of the multiple effects of every event and/or decision in the complex communications system. Above all, regulatory frameworks will have to achieve *balance* within the system[253] taking into consideration the unintended consequences of single actions. The pursuit of balance will further have to accommodate the dynamism of electronic communications. The objectives would thus have to be maintained, while balancing the *flexibility* to meet new situations against the *certainty* inherent to regulation.[254]

In conclusion, one can submit that economic efficiency and public interest objectives form two fundamental and complementary sets against which the likely performance of markets should be judged and specific regulatory criteria developed. Identifying regulatory criteria in this way will allow any corresponding measures to be clearly targeted at meeting the defined objectives, thus minimising possible distortionary and secondary effects on the market. However, since communications are a system of technological, economic and social linkages that profoundly influences the way we live, an adequate regulatory framework should also be able to take account of and address the relevant higher objectives, taken in the broad context of social welfare.

[253] P.H. Longstaff notes in that regard that, "[s]trategies that are good for an individual agent are often a disaster for the group". See P.H. Longstaff, *supra* note 224, 19.

[254] See Damien Geradin & Michel Kerf, Controlling Market Power in Telecommunications, Oxford: Oxford University Press, 2003, at 338 *et seq*.