Communications and Competition Law

Key Issues in the Telecoms, Media and Technology Sectors

Edited by
Fabrizio Cugia di Sant'Orsola
Rehman Noormohamed
Denis Alves Guimarães

International Bar Association
the global voice of the legal profession

Wolters Kluwer
Law & Business
The International Bar Association (IBA), established in 1947, is the world’s leading organisation of international legal practitioners, bar associations and law societies. The IBA influences the development of international law reform and shapes the future of the legal profession throughout the world.

It has a membership of over 55,000 individual lawyers and 206 bar associations and law societies spanning all continents. It has considerable expertise in providing assistance to the global legal community as well as being a source of distinguished legal commentators for international news outlets.

Grouped into two divisions – the Legal Practice Division and the Public and Professional Interest Division – the IBA covers all practice areas and professional interests, providing members with access to leading experts and up-to-date information.

Through the various committees of the divisions, the IBA enables an interchange of information and views among its members as to laws, practices and professional responsibilities relating to the practice of business law around the globe.

The IBA Communications Law Committee is a leading global forum for legal practitioners with specialist expertise or interest in the communications sector. The Committee offers members access to a worldwide network of leading practitioners, in-house counsel and regulators active in telecommunications, content and media markets. The Committee encourages the sharing of sectoral expertise through an
annual newsletter, periodic technical journal and the annual Committee Conference, hosted jointly with the IBA Antitrust Committee.

The scope of the Committee’s work covers network, service and content-related developments across all delivery platforms. This provides members with access to practical global perspectives on the array of technological, commercial and policy issues which confront communications lawyers, their companies and clients.

The Antitrust Committee provides an international forum for the exchange of the most current thinking in the field of antitrust law. In addition, there is a strong commitment to bring together international practitioners to facilitate closer working relationships. The committee is increasingly relied upon by government officials and members of the private sector for its expertise and practical input into antitrust developments.

The Antitrust Committee forms working groups to study major international competition policy issues and to submit comments to regulators on proposed new and reformed legislation. The Committee meets at the IBA Annual Conference and also has a specialist antitrust conference each year, together with regular seminars and events organized by the Committee’s local country chairs.
About the Brazilian Institute of Studies on Competition, Consumer Affairs and International Trade – IBRAC

The Brazilian Institute of Studies on Competition, Consumer Affairs and International Trade – IBRAC is a nonprofit private entity established in 1992 to foster the development of research, studies and debates involving competition, consumer law issues and international trade.

In order to achieve that end, IBRAC has played an active role in the promotion of events, notably the much-heralded International Seminar on Competition Defense, which is held every year with the attendance of illustrious panelists from Brazil, the United States of America, the European Community and Latin America.

In addition, IBRAC also maintains technical cooperation agreements with the Brazilian antitrust authorities (Conselho Administrativo de Defesa Econômica – CADE) and a number of other non-governmental institutions, all of which has translated into constant meetings and workshops to discuss specific topics of relevant subjects.

Also in keeping with its objective of creating a forum on competition defense issues in Brazil, IBRAC maintains a permanent university extension course in São Paulo, whose classes are given by leading professionals and authorities in the Brazilian competition segment.

In the international area, IBRAC has participated as a Non Governmental Advisor at ICN Conferences since the first one in Naples. IBRAC also co-chairs events with IBA, as the pre-ICN event in 2012 and the 24th Annual Communications and Competition Law Conference, in 2013, both in Rio de Janeiro. IBRAC has also organized a biannual event with ABA Section of Antitrust Law (Antitrust in the Americas), and the next edition will take place in Rio de Janeiro, on June 2015.
Consumer law and International trade are also important issues for IBRAC, areas in which IBRAC has been a quite active player in academic and practical discussions.

Since it was founded in 1992, IBRAC has successfully managed to stand as a landmark in the antitrust and competition scenarios. For further information on IBRAC, please visit our Web site at www.ibrac.org.br, or write to our e-mail address ibrac@ibrac.org.br.

Very truly yours,

Cristianne Zarzur, IBRAC President (2014–2015)
Tito Andrade, IBRAC President (2012–2013)

São Paulo September 2014
List of Editors

Fabrizio Cugia di Sant’Orsola is a founding partner of Cugia Cuomo & Associati, has served as Co-Chair of the Communications Committee of the International Bar Association (2011–2013).

He has been a member of the international regulatory counsel in a number of telecommunications reform projects funded by World Bank and EU Commission (including Albania, Azerbaijan, Bulgaria, Kazakhstan and Poland), advised the Italian Treasury in the privatization of Telecom Italia S.p.A. in 1997, and cooperated in the drafting of the Italian part of the European Commission Green Book on multimedia applications in Europe.

He regularly advises national and international carriers in relation to the regulatory aspects of the introduction of convergent telecommunications services and all issues regarding the offering of telecommunication and information technology services. Having been admitted to the Italian High Courts, Fabrizio has also been Legal Assistant to the Italian House of Parliament (1988–1991) and Contract Lecturer in Telecommunications Law (2000–2002) at La Sapienza University, Rome.

He is the author of several publications in the TLC sector and, since 2010, has been a Lecturer of European Law at the SSPLE at the University of Perugia.

Rehman Noormohamed is a partner at Michelmores LLP, a leading U.K. national law firm. Rehman heads up the Technology, Media and Communications (TMC) team and the Intellectual Property (IP) team. He is nationally recognized as a leading expert in his field.

Rehman advises end user and supply chain clients in the TMC, financial services, retail, food & drink, manufacturing, pharmaceutical, central & local government, education, health and emergency service sectors on strategic, tactical and operational matters.

His expertise includes large scale and complex IT, telecoms (fixed, wireless and superfast broadband) infrastructure, BPO and business transformation projects; system integration arrangements; ICT managed service contracts; software licensing and distribution; X-aas contracts; e-commerce (including omni-channel platform arrangements); data protection; information security; all aspects of IP including protection,
exploitation, revenue generation, spin outs, JVs and corporate structuring; EU public procurement, state aid and competition law.

Rehman is a former technology consultant and is also qualified as a professional electronic and communications engineer. He is a member of the British Computer Society, Society for Computers and Law, Institute of Engineering and Technology, the advisory board of “Communication Law Journal” (published by Bloomsbury Professional – international circulation); International Bar Association’s IT, Communications (serving officer) and IP & Media committees.

In January 2014, Rehman was appointed Visiting Professor at Plymouth University’s Futures Entrepreneurship Centre, Faculty of Business. He is a regular contributor and speaker on IT, IP, telecoms, outsourcing, competition law and also on enterprise and entrepreneurship.

Among his degrees, admissions and acknowledgements are: LLB (Hons) Law, University of Exeter; BEng (Hons) Electronic & Communication Engineering, University of Bath; Solicitor Admitted 2001; Leader in the field of IT, Telecoms & IP (Legal 500, Chambers U.K.) 2006-2014.

Denis Alves Guimarães is Partner at Alves Guimarães Política Regulatória S/S, AGPR, a legal, business and economics consultancy in public policies and government affairs, notably antitrust, regulation and anti-corruption.

He practiced law in leading Brazilian law firms (2006-2013), advising global law firms and companies on all areas of antitrust in many sectors of the economy, as well as on regulatory matters and international trade.

In the public sector (2003-2005), Denis was an attorney at the Secretariat of Economic Law of the Ministry of Justice of Brazil (SDE/MJ), where he worked on antitrust and pharmaceutical regulation investigations, as well as on antitrust and regulatory advocacy before international organizations and the Brazilian Legislative Branch and government bodies.

In the academia, he is a Michigan Grotius Research Scholar (University of Michigan), and has a PhD degree in Economic and Public Finance Law from the University of Sao Paulo (USP) Law School.

Denis is Advisory Board Member of the Brazilian Institute of Studies on Competition, Consumer Affairs and International Trade – IBRAC (2014-2015); Member of the Committee of Studies on Competition and Economic Regulation of the Brazilian Bar Association, Sao Paulo Section – CECORE OAB SP (2013-2015); Member of the network of specialists at Instituto Millenium (2014-); and Member of the Committee of Competition of the Sao Paulo Institute of Attorneys – IASP (2013-2015).

He is author, co-author and co-editor of dozens of publications and works on antitrust, regulation, legislative reform, state reform and public policy, including: (1) Concorrência e Regulação no Setor de Saúde Suplementar (Competition and Regulation in the Healthcare Sector, published by Singular in Sao Paulo, Brazil, 2010); (2) Comentários à Nova Lei de Defesa da Concorrência (Comments to the New Brazilian Competition Law, published by Método in Sao Paulo, Brazil, 2012); (3) Competition Law in the BRICS Countries (published by Kluwer Law International in Alphen aan den
List of Contributors

Cristiane Albuquerque is the Head of the Merger and Antitrust Unit for Regulated Markets at CADE’s General Superintendence. She has worked continuously at CADE since 2009 and also from 2005 to 2006, in different positions. She worked with electricity regulation at a Brazilian electricity distributor from 2006 to 2008 and at the Secretariat for Economic Monitoring of the Ministry of Finance (SEAE/MF) from 2004 to 2005. She holds a bachelor’s degree in Economics from the University of Maryland and a master’s degree in Economics from the Federal University of Santa Catarina.

Sílvia Fagá de Almeida is LCA’s Project manager in competition economics, with a degree in economics from the University of São Paulo, and a Ph.D. in economics from Fundação Getulio Vargas – São Paulo (FGV-SP). Her thesis concerned competition policy, assessing empirically the concept of countervailing power and the health-care sector in Brazil, and it was advised by Professor Paulo Furquim de Azevedo, former commissioner at CADE. The research was awarded first prize in a competition by the Secretariat for Economic Monitoring of the Ministry of Finance. During Spring and Fall of 2012, Sílvia Fagá de Almeida was a visiting scholar at the Institute of Latin American Studies – Columbia University (NY), investigating antitrust and regulatory issues. She is also visiting professor of graduate courses in economics at FGV-SP.

Tito Andrade is a partner at Machado Meyer Sendacz e Opice Advogados with a focus on competition matters. Mr. Andrade has an LL.B from Faculdade de Direito da Pontifícia Universidade Católica do Rio de Janeiro, Brazil and holds an LLM from the London School of Economics and Political Sciences (LSE). He was an intern in the General Secretariat of the European Commission, Brussels, Belgium (1999/2000) and in the Rules Division of the World Trade Organization, Geneva, Switzerland (2000). He is a member of the International Bar Association; Brazilian Bar Association; the American Bar Association and he was the President of IBRAC during the years 2012 and 2013. Mr. Andrade is recognized as a tier 1 lawyer by Chambers Latin American Guide and was nominated twice as a 40 under 40 by the survey carried out by Global Competition Review.
List of Contributors

Carlos M. Baigorri is the Superintendent of Competition at ANATEL. Graduated in Economics from the University of Brasilia (UnB) with a Doctorate in Economics from the Catholic University of Brasilia (UCB). Between 2007 and 2009, Dr. Baigorri served as an intelligence analyst in the Cellular Operators Association (ACEL). In 2010, he joined the Brazilian public sector as a specialist in regulation of public telecommunications services, being established at the Brazilian Telecommunications Regulatory Agency (ANATEL) since then. He was Chief Technical Advisor from 2011 to 2013. As the Superintendent of Competition, he is responsible for processes related to merger and acquisitions, price regulation, wholesale regulation, conflict resolutions, investor relations and economic monitoring. He also is a university professor of microeconomics and game theory at UCB and IBMEC-DF.

Chris Boam is Founder of 40A&M LLC, a consulting firm on ICT law and policy issues. He served as Director for International Regulatory Affairs in Verizon, and with a background in international data protection law and compliance, also as data protection officer for Europe for MCI. Chris also served on staff in the U.S. House of Representatives and in private legal practice. A graduate of the University of Scranton and the Catholic University of America Law School, where he was Editor-in-Chief of its communications law journal, Chris has published and spoken on three continents on communications regulatory issues.

Luís Bernardo Coelho Cascão is an associate at Barbosa, Müssnich & Aragão Advogados. He has a Masters in Economic-Intellectual Property Law from the Candido Mendes University (2009) and also a law degree from the Federal University of Rio Janeiro – UFRJ (2006).

Milene Louise Renée Coscione is an attorney with expertise in telecommunications and information technology (IT) at Manesco, Ramires Perez e Azevedo Marques Sociedade de Advogados. She has a Masters Degree in Public Law at Universidade de São Paulo and an Extension in Administrative Law and Economic Law at the Brazilian Society of Public Law – SBDP.

Adriano Augusto do Couto Costa has been an economist at the SEAE’s General Coordination for Network Industries and Financial Services for the last two years. He is a Master of Sciences’ candidate in Corporate Economics at the Catholic University of Brasilia and a Researcher on Infrastructure (Transportation, Energy and Telecommunications), Expert in Corporate Finance, and Bachelor of Economics from the Federal University of Uberlandia. He has more than twelve years of academic and professional experience in telecom, working as an economist at the Brazilian Telecommunications Regulatory Agency (ANATEL) and at the department of projects of the Ministry for Federal Integration for almost five years each, and as a master consultant in the Brazilian think-tank Ipea.
Daniel Crane is Associate Dean for Faculty and Research and Frederick Paul Furth Sr. Professor of Law at the University of Michigan and counsel with the New York law firm of Paul, Weiss, Rifkind, Wharton & Garrison, LLP. He is the author or co-editor of six books, including *The Institutional Structure of Antitrust Enforcement* (Oxford University Press) and over fifty articles and book chapters on antitrust law. Professor Crane frequently appears as a commentator on antitrust matters in major news media outlets such as the Wall Street Journal, the New York Times, National Public Radio, and Bloomberg News and testifies before governmental authorities such as the U.S. Congress, the Federal Trade Commission, and the Justice Department.

Juliana Deguirmendjian is a trainee at Manesco, Ramires Perez e Azevedo Marques Sociedade de Advogados. Her Bachelor of Laws (LL.B) is ongoing at Escola de Direito de São Paulo de Fundação Getulio Vargas – FGV.

Yvan Desmedt is a Partner in the Brussels and Amsterdam offices of Jones Day. He is a member of the Brussels Bar and advises clients on competition law and regulatory matters across a range of sectors, particularly in the regulated industries of TMT, energy, and transportation. His competition law experience includes merger control at the EU and national levels as a notifying party or third-party opponent for clients such as SAP and Warner Music Group. His antitrust experience includes the investigation of interchange fees on behalf of MasterCard, the U.K. roaming case, and the Vitamins cartel at the EU level, as well as various infringement proceedings conducted by the Belgian competition authorities. Yvan also has significant litigation experience. He has represented a number of fixed and mobile operators against the incumbent in Belgium. These proceedings have involved cases before the competition authorities, regulators, administrative courts, and civil courts.

Jeffrey A. Eisenach is a Senior Vice President and Co-Chair of the Communications, Media, and Internet Practice at NERA Economic Consulting. He is also an Adjunct Professor at George Mason University Law School, where he teaches Regulated Industries, and a Visiting Scholar at the American Enterprise Institute, where he focuses on policies affecting the information technology sector, innovation, and entrepreneurship. Previously, Dr. Eisenach served in senior policy positions at the U.S. Federal Trade Commission and the White House Office of Management and Budget, and on the faculties of Harvard University’s Kennedy School of Government and Virginia Polytechnic Institute and State University. He received his Ph.D. in Economics from the University of Virginia in 1985.

Mark English is an associate in Shearman & Sterling’s Brussels office where his practice covers all areas of European and U.K. competition law, with a focus on European Commission antitrust and merger control proceedings. Mark has also represented clients investigated by the U.K.’s Office of Fair Trading and provided antitrust counseling and compliance advice on diverse aspects of U.K. and E.U. competition law. Prior to joining Shearman & Sterling, Mark trained as a solicitor in a commercial law firm in the U.K., completed an internship with Hearing Officers for DG
Competition of the European Commission and worked as an associate in another leading Brussels competition law practice. Mark’s experience covers a range of industries including high-tech and telecommunications, aviation and financial services. Mark was part of the team that represented Samsung in the European Commission investigation of conduct involving the enforcement by Samsung of standards-essential patents in litigation with Apple.

**Alexandre Ditzel Faraco** practices in the Antitrust and Regulation Practice Groups of Levy & Salomão where he represents clients in administrative and judicial matters, and provides broad-based consulting in connection with business practices and antitrust compliance. He has experience in working with complex issues in telecommunications and media sectors. Mr. Faraco holds a Ph.D. and a Post-Doctoral Certification (Livre-Docência) from the University of São Paulo and was a Visiting Scholar at Yale University. He is the author of “Regulação e Direito Concorrencial – As Telecomunicações” (Livraria Paulista) e “Democracia e Regulação das Redes Eletrônicas de Comunicação – Rádio, Televisão e Internet” (Fórum).

**Thays Castaldi Gentil** is a senior associate at Mattos Filho Advogados. LL.M candidate in U.S. Law at Washington University (USA). Bachelor of Law from Mackenzie Presbyterian University. Post graduated in Digital and Telecommunications Law from Mackenzie Presbyterian University. Specialist in Digital Law: Management of Electronic Risk from SENAC/SP. Technician in Telecommunications from Federal Center for Technological Education of São Paulo. Member of groups of studies in Telecommunications and Media & Audiovisual of Brazilian Association of Communications and Information Technology Law (ABDTIC). Professional experience encompasses over twelve years of practice in Telecommunications, Media, Information Technology and Internet industries.

**Silvia Giampaolo** is Partner of Cugia Cuomo & Associati. She is a member of the Rome Bar Association since 2006, got her Law Degree, J.D. at the University of Rome “La Sapienza” (2001) and got her MBA/Global Management at the University of Phoenix (USA) (2007). She focuses her practice on legal and regulatory issues regarding multimedia and telecommunications, commercial and competition, intellectual property, protection of personal data, company law and litigation, and assists domestic and multinational companies before Italian Courts, Governmental and Regulatory Authorities, ADR and Arbitration.

**Ilene Knable Gotts** is a partner of Wachtell, Lipton, Rosen & Katz, where she focuses on mergers and acquisitions. Recent international transactions in which Mrs. Gotts advised include Publicis/Omnicom, Essilor/PPG Industries, Deutsche Telekom/MetroPCS, ConAgra/Ralcorp, and PPG Industries/Georgia Gulf. Ms. Gotts is regularly recognized as one of the world’s top antitrust lawyers, including in *The International Who’s Who of Business Lawyers*, in the first tier ranking of *Chambers USA* Guide, and the “leading individuals” ranking of *PLC Which Lawyer Yearbook*. Mrs. Gotts began her career as a staff attorney with the Federal Trade Commission. From 2009-2010, she
served as the Chair of the American Bar Association’s Section of Antitrust Law, following a variety of leadership positions in the Section. In 2006-2007, Mrs. Gotts was the Chair of the New York State Bar Association’s Antitrust Section. Mrs. Gotts is a frequent guest speaker, has had approximately 200 articles published, and has edited several books.

**Leon B. Greenfield** is a partner of the firm’s Regulatory and Government Affairs Department, and a member of the Antitrust and Competition and Defense, National Security and Government Contracts Practices Groups. He joined the firm in 1990. He has an exceptionally wide breadth of experience representing clients in complex antitrust-related matters. He has represented clients in cutting-edge Section 2 litigation and agency matters. He has secured antitrust clearance for major acquisitions, litigated cases in federal and state court and counseled clients on many types of antitrust issues. In addition, Mr. Greenfield has played significant roles in the criminal and civil aspects of many of the firm’s large cartel matters.

Former Federal Trade Commissioner **Pamela Jones Harbour** is a partner in the Antitrust and Competition Practice and is National Co-Leader of the Privacy and Data Protection team. She is well recognized for her knowledge of evolving areas of competition and consumer protection law, including privacy and data security issues. Pamela’s privacy work includes high-level privacy and data protection counsel for national and international clients. She assists clients with data breach notifications, assessments, and audits, and provides strategic advice on data transfers, particularly as it concerns international data transfers and the European Data Privacy Directive. She has advised foreign governments in Asia, India, Europe, Israel, Australia and New Zealand on privacy and competitive implications of online markets and has testified before Congress as an expert witness regarding antitrust and privacy issues. Pamela served on the Federal Trade Commission from 2003 until April 2010. She works from both the Washington, D.C. and New York offices.

**Wagner Heibel** is partner at GO Associados in the fields of Regulatory and Strategic matters. He has been Director at Telefonica Vivo (mobile and fixed company) and Manager at ANATEL (the Agency) and Telebras. Professor of Regulatory Economics to the ANATEL staff. He has an MBA from FIA/USP, post graduation in economics from the Brasilia University, post graduation in TICs, and an engineering degree from the Brasilia University.

**Marcelo Bechara de Souza Hobaika** is currently a Commissioner at the Brazilian Telecommunications Regulatory Agency – ANATEL, and a member of the Brazilian Internet Steering Committee (CGI.br) and of the Board of Directors of the Center for Information and Coordination of .Br. He has been Attorney General of the Brazilian Telecommunications Regulatory Agency (ANATEL) and Legal Advisor to the Ministry of Communications; President of the Organizing Committee of the 1st National Conference on Communications and Vice-President of ANATEL’s Advisory Council, having also served as Member of the Supervisory Board of the Brazilian Post and
List of Contributors

Telegraph Company. He is a lawyer with an MBA in Business Law from Fundação Getulio Vargas, specialized in Communications and Technology Law and a participant in the I-Law Program at the Berkman Center for Internet & Society at Harvard Law School. He is also certified in Intellectual Property by the World Intellectual Property Organization Academy.

**Andy Huang** is an Associate with the Hogan Lovells Beijing office. His practice is focused on antitrust and other regulatory matters, cross-border M&A transactions and greenfield investments, etc. Andy previously worked with the Ministry of Commerce (MOFCOM). He has developed hands-on experience in dealing with government agencies in China. Andy Huang has researched and written extensively on Chinese law, including two books published by Law Press of China and a co-authored an article in the book “China’s Anti-Monopoly Law – The First Five Years” (Kluwer 2013).

Dr. **Anna Blume Huttenlauch** is an attorney at Freshfields Bruckhaus Deringer LLP, Berlin. She is specialized in German and European antitrust and competition law as well as merger control law. She advises international clients in many different industries with a focus on the telecommunications, media and technology sector as well as consumer products and manufacturing, industrial and services. Anna Huttenlauch completed her legal education at the universities of Passau, Berlin (Humboldt-University) and New York (New York University), where she obtained a master in antitrust and trade regulation law (LL.M.). During her master studies in New York, she interned at the Federal Trade Commission, Antitrust Division. She holds a doctor of laws degree from Humboldt University Berlin (Dr. jur.) and is admitted to the German and the New York Bar.

**Thomas Janssens** is the managing partner of Freshfields Bruckhaus Deringer’s Brussels office and local practice group leader for the antitrust, competition and trade group. Thomas specializes in EU and international antitrust law, covering transactional and behavioral matters. He regularly guides clients through complex multijurisdictional matters, managing cross-border challenges and parallel proceedings before several authorities as well leading teams of Freshfields lawyers and local counsel around the world. His experience crosses a range of industry sectors with a particular focus on regulated industries including telecommunications, media and technology, where he advises a variety of media, telecoms, entertainment and technology clients. He is an Officer on the IBA’s Antitrust Committee and is a regular commentator on topics of EU and national antitrust law. He also serves as co-consulting editor of *Getting the Deal Through: Dominance*, a guide to the regulation of dominant firm conduct in 37 jurisdictions worldwide.

**Thoralf Knuth** is an attorney at Freshfields Bruckhaus Deringer LLP, Cologne. He is specialized in German IT law and criminal law. He advises clients in many different industries on complex data protection issues and has experience in advising international clients in corporate crime investigations. Thoralf Knuth completed his legal education at the European University Viadrina and served his legal traineeship at the
Federal Ministry of Economics and Technology and the higher regional court of Berlin. Before joining Freshfields he worked as team and project manager at a listed e-commerce solutions provider, where he worked, *inter alia*, for international telecommunications operators. Thoralf Knuth is admitted to the German Bar.

**Fabio Ferreira Kujawsky** is a partner at Mattos Filho Advogados, in the Intellectual Property and Technology Team, where he focuses on IP and complex technology transactions relating to outsourcing, information technology, ecommerce, media, entertainment and telecommunications. This transactional work includes negotiation of contracts, joint ventures, mergers and acquisitions and dispute resolution. Mr. Kujawski is an Officer of the Brazilian Information Technology and Telecommunications Association (ABDTIC) and a former Officer of the Technology Committee of the International Bar Association. Mr. Kujawski has been recognized by numerous legal industry journals for his expertise in telecom, media, and information technology, including Chambers & Partners, Who’s Who Legal, Latin Lawyer, Legal 500 and PLC. In 2012 and 2014, Mr. Kujawski was recognized by the publication Best Lawyers as Lawyer of the Year in the areas of Technology and Information Technology.

**Philippe Laconte** is an Associate in the Brussels office of Jones Day. He is a member of the Brussels Bar and focuses his practice on competition law and regulatory matters. He has experience assisting clients in abuse of dominant position, merger and state aid cases before civil and administrative courts, competition authorities and regulators, at EU and national levels. He advises clients in a variety of industries, including telecommunications, energy, and consumer products. He has been involved in a number of litigation proceedings against the incumbent telecommunications operator in Belgium. Philippe also worked for three years in the Washington office of Jones Day, where his practice focused on assisting clients in merger reviews and antitrust investigations before the U.S. Department of Justice and the Federal Trade Commission.

**Chung Nian Lam** is the Head of the Intellectual Property, TMT and Data Protection Practices at WongPartnership LLP, one of Singapore’s largest and leading law firms. In the area of telecommunications, he has extensive experience advising on telecoms regulatory frameworks, service agreements (wholesale and customer) as well as infrastructure projects including network roll-outs and submarine cable projects. He has been named as a leading lawyer in directories such as Expert Guides – Guide to the World’s Leading Technology, Media & Telecommunications Lawyers and Who’s Who Legal: The International Who’s Who of Telecoms & Media Lawyers. He is an officer of the Communications Law Committee of the International Bar Association and is also a regular contributor to the *Computer Law & Security Review*.

**Perry Lange** is a counsel in the Regulatory and Government Affairs Department of Wilmer Cutler Pickering Hale and Dorr LLP, resident in the firm’s Washington office. Mr. Lange practices antitrust and IP law primarily before U.S. courts; especially cases at the intersection of intellectual property and antitrust law, such as standard setting,
IP licensing, and patent misuse. He has represented companies in the technology, telecommunications, pharmaceutical, manufacturing, financial services and transportation sectors in complex antitrust and IP matters in state court, U.S. district courts and federal appellate courts. In addition to civil litigation, Mr. Lange represents clients in criminal and civil antitrust investigations, and counsels clients on the antitrust implications of business practices such as distribution incentives, advertising restrictions, patent licensing and joint venture formation.

Bernardo Gouthier Macedo (Ph.D., University of Campinas, Brazil) is LCA’s managing partner dedicated to economics and law, with applied knowledge of service regulation, expertise in sectorial economics, and great experience in the institutional environment and the requirements of antitrust authorities and regulators. Mr. Macedo has led many projects for major firms in competition economics, economic litigation, regulation and commercial defense. Among the most recent high-profile Brazilian merger cases, Mr. Macedo was in charge of the economic team who advise the parts towards the settlement reached in complex merger processes, such as Camargo Corrêa/Cimpor and Oxiteno/American Chemical, deals that have been nominated to GCR’s 3rd and 4th Annual Awards, Merger Control Matter of the Year – Americas. Bernardo Macedo features since 2012 in Global Competition Review’s The International Who’s Who of Competition Economists, and since 2011 officer in charge of economic issues at the Brazilian Institute of Competition, Consumer and International Trade Studies (IBRAC), the main professional association for competition lawyers and economists in Brazil. Among other professional duties, Bernardo Macedo is a member of the board of Banco do Brasil SA, the biggest Brazilian bank, and was a special adviser to the Ministry of Finance in 2003.

Dr. Federico Marini-Balestra, LLM (Cantab), Ph.D. (Rome), is an associate at Cleary Gottlieb, focusing on regulatory and antitrust matters in the e-communications sector. Beforehand, he was at the Italian Communications Authority (2001-2005). “Young Administrative Lawyer of the Year 2005” and winner of the “Lizette Bentwich Prize” (Trinity College, Cambridge), he has widely published on Competition Law, e-Communications Law and Robotics Law. Among his publications: a textbook on e-Communications Law (“Manuale di diritto europeo e nazionale delle comunicazioni elettroniche”; 2013); the EU chapter of “The Technology, Media and Telecommunications Review” (2013; Dolmans and Salerno co-authors); “Communication technologies and the law: lessons for technology regulation” (2013; D’Ostuni co-author); “I mercati rilevanti dei prodotti e servizi e la regolazione ex ante” (2010; Siragusa and D’Ostuni co-authors). He also published on European Competition Law Review; Computer & Telecommunications Law Review; Global Competition Litigation Review; The Journal of Regulation; and Intellectual Property Quarterly.

Floriano de Azevedo Marques Neto is partner at Manesco, Ramires Perez e Azevedo Marques Sociedade de Advogados. He has a Juris Scientiae Doctor (JSD) degree and is a Tenured Professor at Universidade de São Paulo. He is Full Professor of the Department of Constitutional and Public Law of the Faculty of Law of Universidade de
São Paulo, where teaches at graduation (Administrative Law) and post graduation (Administrative and Regulatory Law); Professor at the LL.M – *lato sensu* post graduation at Law, of Fundação Getúlio Vargas – Rio de Janeiro, and; Visiting Professor at Universidade Federal Fluminense (Brazil), Universidade Católica de Lisboa (Portugal), Escola Superior de Negócios (Peru) and Universidad Externado de Colombia. Professor Marques Neto is President of ASIER – American Association for the Studies of Regulation; Vice-President of SBDP – Brazilian Society of Public Law; Member of the Editorial Boards of the Journal of Public Law and Economics, Journal of Telecommunications Law, Journal of Economic Studies, Journal of Contemporary Administrative Law (ReDAC) and Member of the Editorial Board of *Editora Forum* Publisher. Speaker in many conferences in Brazil and abroad, he authored four individual books, more than fifteen co-authored books and more than two hundred academic articles. More information at: http://buscatextual.cnpq.br/buscatextual/index.jsp.

**Ana Paula Martinez** is a partner with the Antitrust, and Compliance Practice Groups of Levy & Salomão. Ms. Martinez was the Head of the Antitrust Division of Brazil’s Secretariat of Economic Law from 2007 to 2010. She co-headed the cartel sub-group of the International Competition Network – ICN with the U.S. DoJ. Before entering government, Ms. Martinez was an associate with Cleary Gottlieb Steen and Hamilton LLP. Global Competition Review named her on its international lists of the “Top 100 Women in Antitrust” and “40 under 40” and she was selected by her peers as “Lawyer of the Year – Under 40” in 2014 (GCR). She is licensed to practice law in Brazil and New York. She has served as an antitrust advisor to UNCTAD, the World Bank and to the Government of Colombia. Ms. Martinez holds a Master of Laws from both the University of São Paulo and from Harvard Law School and has a Ph.D. in Criminal Law from USP. Ms. Martinez is the Professor in charge of the Graduate Program on Economic Law of Fundação Getúlio Vargas – Rio de Janeiro (Direito).

**Maximiliano Martinhão** is the Secretary of Telecommunications at the Ministry of Communications since 2011. He was born in 1971, in Campinas (SP). He is graduated in Telecommunications Engineering at National Institute of Telecommunications (Inatel) from Santa Rita do Sapucaí (MG). He also holds a master degree in Telecommunications Management from the Strathclyde University (U.K.) and a Bachelor of Law from the Brasilia Higher Education Institute (Iesb). Since 2005, he holds the office of Specialist in Regulation of Telecommunication Public Services at the Brazilian Telecommunications Regulatory Agency (ANATEL). Before working for the Ministry of Communications, he was the General Manager of Certification and Spectrum Engineering at ANATEL, among other managing and advising positions at the Agency. He also served as Planning Engineer at Telebras and was a Brazilian representative in several national and international telecommunication forums.

**Lyda Mastrantonio** is a dual qualified English and Italian lawyer at Preiskel & Co who specializes in national and international Intellectual Property, Information Technology and Telecommunications. She currently advises national and international clients on multi-jurisdictional regulatory matters and on commercial and corporate agreements in
wide range of areas comprising IPRs licensing and assignment, data protection, E-commerce, joint ventures and shareholders agreements. Lyda has an LL.M. in Intellectual Property Law from Queen Mary, University of London with a focus on copyright, trade marks, unfair competition and genetic resources. Preiskel & Co is a boutique law firm based in the City of London that specializes in U.K. and multi-jurisdictional corporate, commercial and regulatory matters.

**João Moura** is Managing Director at TelComp, the Brazilian Competitive Telecommunications Association, with 58 members, providing advisory services on regulatory strategy, network infrastructure deployment and business development. Mr. Moura holds a BA degree in Economics and an MBA from COPPEAD – Rio de Janeiro Federal University. Prior to joining TelComp, Mr. Moura was a Partner at Coopers & Lybrand – a global consultancy firm – with significant experience in strategic advisory services, mergers & acquisitions and corporate restructuring. João Moura has also been the CFO of major industrial organizations and a senior officer at BCP Telecommunication (BellSouth).

**Márcio Issao Nakane** is Associate Professor at the Economics Department at University of São Paulo. Mr. Nakane is also a partner at the economics consulting firm Tendências Consultoria Integrada since 2008. He holds a D.Phil. degree in Economics from University of Oxford and a Master degree in Economics from University of São Paulo. Mr. Nakane worked at the Research Department of Central Bank of Brazil from 2000 to 2007 doing academic as well as policy-oriented research in banking. During 2007 and 2008, he was the coordinator for the Consumer Price Index for São Paulo city (IPC Fipe). Mr. Nakane has academic publications in banking, monetary economics, and industrial organization. He has worked on economic analysis of diverse antitrust cases in Brazil.

**Haitam Laboissiere Naser** holds the office of Public Policy Advisor at the Ministries of Planning, Budget and Management (MPOG) and Communications (MiniCom) since 2011, and he was born in 1981, in Brasilia (DF). He is graduated in Political Science from the University of Brasilia (UnB) and in Law from the University Center of Brasilia (UnCeub). He also holds a specialization in Public Management from the Pioneer Union Social Integration (UPIS) and from the National School of Public Administration (ENAP). Before working for the Federal Government, he worked as a trainee in the American Chamber of Commerce (2006) and as a lawyer at Muniz & Faria Advogados (2009-2010).

**Gesner Oliveira** is former President of the Brazilian competition authority CADE (1996-2000). He was President of Sabesp (Water and Sanitation Company of the State of São Paulo) (2007-2010); Vice-Secretary for Economic Policy at the Ministry of Finance (1993-1996); Professor of Economics at Getulio Vargas Foundation in São Paulo since 1990 and Visiting Professor at Columbia University (2006), Ph.D. in Economics, University of California at Berkeley, 1989. He is presently Partner at GO Associados.
Natalia Porto is a Brazilian qualified lawyer at Preiskel & Co who specializes in Intellectual Property and Information Technology. Her experience comprises advising on MVNO matters, including on the Brazilian telecom legal framework, U.K. data privacy, data protection and retention, as well as IPR licensing and E-commerce. In addition, she advises on corporate matters including investment and shareholder agreements. She holds an LL.M in Commercial and Corporate Law from Queen Mary University of London, which covered the subjects of E-Commerce, International and Comparative Law of Copyright and related rights, and International and Comparative Law of Trade Marks and Unfair Competition. Preiskel & Co is a boutique law firm based in the City of London that specializes in U.K. and multi-jurisdictional corporate, commercial and regulatory matters.

Carlos Ragazzo, CADE’s first General Superintendent (the General Superintendence was created by the new Brazilian competition law, in effect since June of 2012), Carlos Ragazzo was also a Commissioner at CADE from 2008 to 2012. Previously, he held the position of Head of Unit at the Ministry of Finance from 2003 to 2008. Having graduated in a Masters and a SJD degrees from the Rio de Janeiro’s State University, Mr. Ragazzo also holds an LL.M. in Competition and Trade Policy from NYU. Presently, he is an Adjunct Professor of Antitrust Law in the Getulio Vargas Foundation’s School of Law in Rio de Janeiro (FGV Law Rio). Admitted to practice both in Rio de Janeiro and New York.

Marcelo de Matos Ramos is the General-Coordinator for Network Industries and Financial Services at the Secretariat for Economic Monitoring of the Ministry of Finance (SEAE/MF). He is a Master and Bachelor of Sciences in Industrial Engineering, Federal University of Rio de Janeiro. He is a Member of Brazil’s Senior Executive Service, and is for almost fifteen years ahead of the communications and audiovisual sectors at SEAE. Mr. Ramos is Member of the Brazilian Digital Television System Forum, was an Alumnus of the Minerva Program at George Washington University in 2000, and for ten years was a researcher on innovation and intellectual property at COPPE in the Federal University of Rio de Janeiro. He authored several works on competition law and telecommunications.

Miguel Rato is a partner in Shearman & Sterling’s Brussels office where his practice focuses on EU competition law. He advises clients on a wide array of contentious and non-contentious EU competition law issues, with a particular focus on unilateral conduct matters, transactions, and IP licensing in high-tech industries. His experience also encompasses EU merger control and State aid investigations. Miguel has been involved in some of the leading competition cases in high-tech industries and at the intersection of IP and competition law, including the European Commission’s five-year Article 102 investigation into Qualcomm (which garnered the Legal Business award for Competition Team of the Year 2010), the European Commission’s investigation of Microsoft’s conduct regarding the Internet Explorer browser, and the European Commission’s investigation of conduct relating to the enforcement by Samsung of standards-essential patents against Apple.
Lauro Celidonio Gomes Dos Reis Neto is a partner at Mattos Filho Advogados, in the Infrastructure team and has nearly thirty years of experience advising businesses, investors, and sponsors in connection with constitutional, administrative, and regulatory matters, in a wide variety of infrastructure, public works, public concession, and public-private partnership matters. He is Vice-President and Coordinator of Legal Counsel of the Brazilian Association for Infrastructure and Basic Industry (ABDIB), a trade association which represents the interests of approximately 150 infrastructure industry companies. He also serves as a Counselor at the São Paulo Lawyers Institute (IASP) and the Brazilian Institute for the Study of Competition, Consumer Affairs, and International Trade (IBRAC).

Michael Reynolds is President of the IBA. Mr. Reynolds worked with the European Commission’s Legal Service before opening Allen & Overy’s Brussels office in 1979 and has been based in Brussels since then. He has represented major U.K., U.S., Japanese and other international clients in a number of major cases before the European Commission and European Court of Justice. He has advised the Governments of Spain, Russia and Poland on the application of EU law. He has defended clients against whom cases have been brought for infringement of the EU competition rules as well as assisting clients bring complaints and national court proceedings. He has handled a number of major EU merger control cases in both Phases I and II. He advised the Polish government on the convergence of Polish competition law (including state aids) with the EU rules. He has advised the Russian Anti-Monopoly Service on its competition rules under the commission’s TACIS program and also advised the Romanian competition agency under the PHARE program. Mr. Reynolds is a former Chairman of the IBA’s Antitrust and Trade Law Committee and is EU coordinator for the IBA, handling relations with the EU Commission. He is a Director and founding member of the IBA’s Global Forum on Competition, a former Chair of the Legal Practice Division of the IBA, former Secretary General of the International Bar Association (IBA), former Vice President for 2011-2012, and President for 2013-2014. Mr. Reynolds is a visiting professor in European law at the University of Durham. He is a former Board member of British Invisibles.

Barbara Rosenberg is a partner at Barbosa, Müssnich & Aragão Advogados. She has a Doctorate (Ph.D.) in Economic-Financial Law, São Paulo University – USP (2004) and an LLM from University of California, Berkeley (2001). She also has a law degree from São Paulo University – USP (1997). She has been the Director of the Antitrust Department at the Secretariat of Economic Law of the Ministry of Justice of Brazil (SDE/MJ) (February 2003 to December 2005); Foreign associate at Cleary, Gottlieb, Steen & Hamilton (New York, September 2001 to July 2002) and Attorney at the Secretariat of the World Trade Organization – WTO (June to September 2001). Ms. Rosenberg is a Lecturer in competition, international trade and intellectual property law at Getulio Vargas Foundation – FGV; Member of the Editorial Board of the Brazilian Institute of Competition, Consumer and International Trade Law Review – IBRAC and of the Getulio Vargas Foundation Law School Review. She is currently the Vice-President of the IBRAC; Vice-Coordinator of the Intellectual Property and Competition
Committee from the International Chamber of Commerce; Member of the Leniency Group of the International Bar Association; Member of the Competition Commission of the São Paulo Bar Association and “Non-Governmental Advisor” of the International Competition Network.

Camila Yumy Saito is a consultant at the economics consulting firm Tendências Consultoria Integrada since 2006. Ms. Saito has a degree in Economics from University of Sao Paulo and she is currently a master student in the professional Master of Economics program at Fundação Getúlio Vargas in São Paulo (FGV-SP). With more than eight years of experience in economic consultancy, she is a specialist on the telecommunication sector. Her work also includes the coordination of projects related to economic scenarios at regional levels and for different income classes.

Lorne Salzman is a Canadian lawyer with a practice that focuses on telecommunications regulation and competition (antitrust) law. Mr. Salzman has more than 30 years of experience in telecommunications policy, law, regulation and commercial arrangements in Canada and internationally. He represents clients in proceedings before the Canadian Radio-television and Telecommunications Commission (CRTC) and Industry Canada, including matters relating to competitive entry, interconnection, carrier rates, satellite services, dispute resolution, unbundling of carrier services, universal service, local competition, change of control and spectrum licensing. He also advises governments and regulators in various other countries in matters involving competitive entry, licensing, spectrum licensing, carrier rates, legislative reform and interconnection disputes. Mr. Salzman has extensive experience in representing clients in contentious and non-contentious competition law matters. He advises clients on competition law aspects of mergers, joint ventures, strategic alliances, dominant behavior, cartel behavior, pricing policies and distribution practices. He navigates matters through, and prepares submissions to, the Canadian Competition Bureau. He received his LLB from Osgoode Hall Law School of York University, and is called to the Ontario bar. He holds a BASc degree from the University of Toronto, and holds the qualification of a professional engineer in Ontario (P.Eng.).

Guido Lorencini Schuina is advisor of the Secretary of Telecommunications at the Ministry of Communications since 2013, and was born in 1988, in Cachoeiro de Itapemirim (ES). He is graduated in Electrical Engineering from the Federal University of Espirito Santo (UFES), specializing in Telecommunications Engineering and Electronic Engineering. Since 2012, he holds the office of Telecommunications Infrastructure Advisor at the Ministries of Planning, Budget and Management (MPOG) and Communications (MiniCom). Before working for the Federal Government, he worked as a Public Policy Advisor for the State of Espirito Santo (2011-2012) and as a Telecommunications Engineer for the private sector at Embratel (2008-2011).

Hartmut Schneider is a partner in the Regulatory and Government Affairs Department of Wilmer Cutler Pickering Hale and Dorr LLP, resident in the firm’s Washington office. Mr. Schneider practices antitrust law primarily before U.S. agencies and courts and has
extensive experience in securing merger clearance for transactions in a diverse range of
industries, including land-based and wireless communications. He also regularly
counsels clients on legal issues at the intersection of antitrust and intellectual property
law, as well as on the compliance of joint ventures, other horizontal cooperation
agreements and vertical distribution agreements with the antitrust laws. Before
relocating to Washington, Mr. Schneider worked in the Antitrust and Competition
Department of the firm’s Brussels and Berlin offices. In addition to his U.S. antitrust law
expertise, Mr. Schneider has significant experience in EC and German competition law.

Alfonso Silva is partner and head of Carey y Cía.’s Corporate-Telecom Group. His
practice areas span, in general, corporate and business law, financing, mergers and
acquisitions and, specially, all regulatory and transactional aspects related to the
telecommunications industry, including the Telecom law and regulations, concessions,
licenses and permits and state contracts amongst others. Mr. Silva has been appointed
representative and/or board member of several multinational companies that operate
in Chile, including banks. Additionally, he is a member of the board of the Chilean
Direct Selling Association since 1994. He is also an officer of the IBA Communications
Committee since 2010 (in the position of Representative for Latin America). Likewise,
Mr. Silva is a member of the Chilean Bar Association since 1988 and was member of its
Ethics Committee during 2009 and a member of the Legal Committee of the British-
Chilean Chamber of Commerce since 2011. He is also the author of several articles and
publications in the telecommunications field, including the Chilean Chapter of the
“Getting The Deal Through - Telecoms and Media” published by Law Business
Research Ltd. (since 2000). Mr. Silva studied law at the Universidad de Chile and, in
1985, was appointed there as Assistant Professor of Administrative Law. In 1988, he
was admitted to the Bar. Additionally, he received the British Council Award (1992)
and holds a Master of Laws (LL.M.) degree from the University of Cambridge (1993).
He has also been Visiting Professor of the Master of Informatics and Telecommunica-

Mariana Oliveira e Silva is a consultant at the economics consulting firm Tendências
Consultoria Integrada since 2006. Ms. Oliveira holds a Master degree in Economics
from University of São Paulo, having graduated at the Economics Department from
Ribeirão Preto campus. With over six years of experience in economic consulting, she
is a specialist on credit and retail trade sectors. Her work includes the monitoring of
economic activity indicators for the Brazilian economy and the coordination of demand
estimation projects. Ms. Oliveira has an academic paper on switching cost in Brazilian
banking.

Sebastián Squella is a member of Carey’s Corporate-Telecom Group. His main practice
areas include telecommunications and media law, mergers and acquisitions, financing
operations, direct sale matters and assessment in general corporate and commercial
matters. Mr. Squella studied law at the Universidad de Chile and, in 2007, was there
appointed as Assistant Professor of Philosophy of Law. He was admitted to the Chilean
Bar in 2013.
Roberto Domingos Taufick is a Member of Brazil’s Senior Executive Service, Commissioner at the Federal Commission for the Fund of Collective Rights, and Deputy General-Coordinator for Network Industries and Financial Services at SEAE, where has been working for the last three years. Mr. Taufick was the first U.S. Federal Trade Commission International Fellow under the Safe Web Act. For five years served as lead counsel for CADE, the Brazilian Competition Commission. Has previously worked in the telecommunications and corporate team of Tozzini, Freire, Teixeira & Silva Attorneys-at-Law in Sao Paulo. He authored several works on Competition Law. His book on the Brazilian New Competition Law has been adopted by both graduate and undergraduate studies in Brazil’s best law schools. Master of Laws candidate in Law, Science and Technology, Stanford University; Postgraduate Diploma in EU Competition Law, King’s College London; Expert in Competition Law, Fundação Getulio Vargas; Extended education on Competition Law, University of Brasília; Bachelor of Laws, University of Sao Paulo – Largo Sao Francisco campus.

Vivian Terng is an associate at Barbosa, Müssnich & Aragão Advogados. She has a law degree from São Paulo University – USP (2013), with extension studies at L’Institut d’Études Politiques de Paris – SCIENCES PO and WIPO International Summer School on Intellectual Property, Croatia.

Kurt Tiam is an Of Counsel with the Hogan Lovells Beijing office. He joined the corporate and commercial practice group at Hogan Lovells Beijing in 2004. Before joining Hogan Lovells, Kurt practiced as an advocate and solicitor in a leading local law firm in Malaysia. Since joining Hogan Lovells, Kurt represents leading venture capital firms in many of their portfolio investments into China with a focus on internet and technology related investments. He advises regularly on telecommunications related matters including cloud solutions, Machine to Machine applications, data centers, online gaming and mapping services, data transfer and data protection issues. He also advises on the structuring and completion of cross border mergers and acquisitions for both foreign multinationals and PRC clients (private and state-owned entities). His corporate experience includes advising on foreign direct investments and greenfield investments in China.

Regina Ribeiro do Valle is VP at the Brazilian Association of Information Technology and Telecommunications Law (ABDTIC) for 2012-2014, and a member of this Association since 1982. She is also a Member of the International Law Association (ILA), and during seven years has been Chair of the Task Force Group of the Brazilian-American Chamber of Commerce (AmCham). She built her career as a partner in some of the major law firms in Brazil, dedicating her practice to corporate and regulatory law, assisting national and international clients with particular focus on telecommunications, media, entertainment, and electronic commerce. Regina Valle is regularly recognized and recommended as a leader at important publications as The International Who’s Who Legal, International Financial Law Review 1000 and Expert Guides. She has an LL.M. in International Law from the Law School of Universidade de São Paulo (USP) in 2007, and she graduated in the same School in 1976. Among her

Wolrad Prinz zu Waldeck und Pyrmont is an attorney at Freshfields Bruckhaus Deringer LLP, Düsseldorf and specializes in various fields of IP law, in particular in patent law and its intersection to antitrust law. He has substantial experience in patent litigation and has been intensively involved in the recent smartphone litigations. His clients include a number of major international companies in the telecommunication, consumer electronics, pharma and biotechnology industries, which he advises and represents in complex patent litigation. Wolrad completed his legal education at the universities of Heidelberg and Munich, and at the George Washington University Law School. During his LL.M. studies, he served part-time in the chambers of The Hon. Judge Randall. R. Rader at the U.S. Court of Appeals for the Federal Circuit. Before joining Freshfields, he worked as research associate at the Max-Planck-Institute for Intellectual Property, Competition and Tax Law, and as Program Director of the Munich Intellectual Property Law Center (MIPLC) where he was responsible for coordination, implementation and further development of its interdisciplinary LL.M. IP program. Wolrad is a faculty member of the MIPLC. He is admitted to the German bar.

Joep Wolfhagen started his career at Freshfields Bruckhaus Deringer’s Brussels office in the Antitrust, Competition and Trade group. He is currently an associate in the Dispute Resolution department of Freshfields Amsterdam. Joep was educated at the University of Virginia, NYU and the University of Amsterdam, from which he obtained both an LLM Degree in European Private Law and IP/Competition Law. Previously he worked as a trainee for the European Commission (DG Competition), where he was involved in several IP-related competition cases.

Leonardo Fernandez Zago is advisor of the Secretary of Telecommunications at the Ministry of Communications since 2014, and was born in 1984, in São José dos Campos (SP). He holds a degree in Law from the Brasilia Higher Education Institute (Iesb). Since 2007, he has worked as a lawyer in Brasilia (DF), in the areas of civil, consumer and labor law. Before working for the Ministry of Communications, he has worked at Paixão Côrtes e Advogados Associados from 2007 to 2011, and as a lawyer in the consumer and civil law fields from 2011 to 2014.

Cristianne Zarzur is a partner at Pinheiro Neto Advogados where she focused on competition matters, acting on the following areas: merger clearance; non-merger counseling/investigations (cartel investigations, leniency applications, settlement agreements, abuse of dominant position, exclusionary practices, etc); and compliance programs. Ms. Zarzur has an LL.B. degree from the Mackenzie University, São Paulo.
(1995) and a specialization degree in economics from the Getulio Vargas Foundation (1996). Her international experience includes participation in several seminars (ABA, IBA, ICN). In addition, Ms. Zarzur joined the competition and intellectual property law firm Howrey Simon Arnold & White, LLP as a foreign associate during 2000/2001. Ms. Zarzur is currently the president of the Brazilian Institute of Studies on Competition, Consumer Affairs and International Trade – IBRAC. She is listed in several publications such as Chambers Global (Tier 1 in Competition in Brazil), Who’s Who Legal, PLC Which Lawyer, Expert Guides – Women in Business Law, among other publications.
Summary of Contents

About the IBA v
About the IBRAC vii
List of Editors ix
List of Contributors xiii
Foreword by Michael J. Reynolds li
Foreword by Daniel A. Crane liii
Foreword by Gesner Oliveira lv
Preface lvii
List of Figures lxi
List of Tables lxiii

PART I
Convergence, Takeovers and Mergers in the Communications and Technology Industry: Comparative Experiences 1

CHAPTER 1
Introducing Diversity in EU Merger Control
Yvan Desmedt & Philippe Laconte 3
## Summary of Contents

### CHAPTER 2
Summary of Recent U.S. Enforcement Decisions in Communication/Entertainment Industry Transactions  
Ilene Knable Gotts  
13

### CHAPTER 3
Competition and Regulatory Aspects of Convergence, Takeovers and Mergers in the Communications and Media Industries  
Thomas Janssens & Joep Wolfhagen  
27

### CHAPTER 4
Brazil’s Antitrust and Regulatory Reviews of TIM/Telefónica: Lessons Learned  
Ana Paula Martinez & Alexandre Ditzel Faraco  
35

### CHAPTER 5
Changes in the Global Telecommunication Market and Its Implications in Brazil  
Gesner Oliveira & Wagner Heibel  
51

### CHAPTER 6
Mergers in the Canadian Communications Sector: An Increasingly Curious Situation  
Lorne Salzman  
61

### PART II
Looking Ahead: New Markets and Competitive Hurdles in the Offering of Globalized Services  
67

### CHAPTER 7
In Search of a Competition Doctrine for Information Technology Markets: Recent Antitrust Developments in the Online Sector  
Jeffrey A. Eisenach & Ilene Knable Gotts  
69

### CHAPTER 8
The Internet of Things in the Light of Digitalization and Increased Media Convergence  
Anna Blume Huttenlauch & Thoralf Knuth  
91

### CHAPTER 9
Dynamic Markets and Competition Policy  
Bernardo Macedo & Sílvia Fagá de Almeida  
105
CHAPTER 10
Recent Antitrust Developments in the Online Sector
Federico Marini-Balestra

CHAPTER 11
Mobile Payments and Mobile Banking in Brazil: Perspectives from an Emerging Market
Márcio Issao Nakane, Camila Yumy Saito & Mariana Oliveira e Silva

CHAPTER 12
Internet of Things: Manufacturing Companies Industry and Use of ‘White Spectrum’: Ghost in the Machine?
Kurt Tiam & Andy Huang

PART III
Intellectual Property and Competition in Electronic Environments

CHAPTER 13
Competitive Aspects of Cloud-Based Services
Fabrizio Cugia di Sant’Orsola & Silvia Giampaolo

CHAPTER 14
Standard-Essential Patents and US Antitrust Law: Light at the End of the Tunnel?
Leon B. Greenfield, Hartmut Schneider & Perry A. Lange

CHAPTER 15
IP and Antitrust: Recent Developments in EU Law
Miguel Rato & Mark English

CHAPTER 16
Antitrust Cases Involving Intellectual Property Rights in the Communication and Media Sector in Brazil
Barbara Rosenberg, Luis Bernardo Cascão & Vivian Terng

CHAPTER 17
Patents Meet Antitrust Law: The State of Play of the FRAND Defense in Germany
Wolrad Prinz zu Waldeck und Pyrmont

PART IV
Power over Data
Summary of Contents

CHAPTER 18
The Role of Privacy in a Changing World
Chris Boam 233

CHAPTER 19
The Transatlantic Perspective: Data Protection and Competition Law
Pamela Jones Harbour 247

CHAPTER 20
Power over Data: Brazil in Times of Digital Uncertainty
Floriano de Azevedo Marques Neto, Milene Louise Renée Coscione & Juliana Deguirmendjian 257

CHAPTER 21
Big Data and the Cloud: Privacy and Security Threats of Mass Digital Surveillance?
Lyda Mastrantonio & Natalia Porto 281

PART V
Open Internet and Net Neutrality 291

CHAPTER 22
Net Neutrality Regulation: A Worldwide Overview and the Chilean Pioneer’s Experience
Alfonso Silva & Sebastian Squella 293

CHAPTER 23
Net Neutrality in Singapore: A Fair Game
Chung Nian Lam 305

CHAPTER 24
Internet Regulation in Brazil: The Network Neutrality Issue
Lauro Celidonio Gomes dos Reis Neto, Fabio Ferreira Kujawski & Thays Castaldi Gentil 317

CHAPTER 25
The New Brazilian Internet Constitution and the Netmundial Forum
João Moura 329

CHAPTER 26
The Brazilian Telecom Regulatory Scenario and the Proposals of the Internet Law
Regina Ribeiro do Valle 335
### Summary of Contents

**PART VI**  
Regulatory Policy Round Table: A Brazilian Case Study  
343

**CHAPTER 27**  
Competition in the Brazilian Telecommunication Market  
Maximiliano Martinhão, Guido Lorencini Schuina, Haitam Laboissiere  
Naser & Leonardo Fernandez Zago  
345

**CHAPTER 28**  
A New Horizon for Competition Advocacy in Brazil  
Adriano Augusto do Couto Costa, Marcelo de Matos Ramos  
& Roberto Domingos Taufick  
359

**CHAPTER 29**  
Overlaps and Synergies between Regulators in the Brazilian Telecommunications Market  
Marcelo Bechara de Souza Hobaika & Carlos M. Baigorri  
375

**CHAPTER 30**  
The New Competition Law in Brazil and the New Framework for Merger Analysis in Telecom  
Carlos Emmanuel Joppert Ragazzo & Cristiane Landerdahl de Albuquerque  
387

**CHAPTER 31**  
Regulatory Policy Round Table: A Dialogue between Telecommunications and Antitrust Authorities  
Denis Alves Guimarães  
397

Index  
413
Table of Contents

About the IBA v
About the IBRAC vii
List of Editors ix
List of Contributors xiii
Foreword by Michael J. Reynolds li
Foreword by Daniel A. Crane liii
Foreword by Gesner Oliveira lv
Preface lvii
List of Figures lxii
List of Tables lxiii

PART I
Convergence, Takeovers and Mergers in the Communications and Technology Industry: Comparative Experiences 1

CHAPTER 1
Introducing Diversity in EU Merger Control
Yvan Desmedt & Philippe Laconte 3

1. Scope of the Commission’s Competence to Promote Cultural Diversity and Media Plurality under EU Merger Rules 4
# Table of Contents

2. The Commission’s Restrictive Approach in Relation to Media Plurality in News Corp/BskyB ...... 7
3. The Commission’s Interventionist Approach in Relation to Cultural Diversity, as Shown in Universal/EMI ...... 8
4. The Way Forward, Risks, and Opportunities ...... 10

**CHAPTER 2**
Summary of Recent U.S. Enforcement Decisions in Communication/Entertainment Industry Transactions
Ilene Knable Gotts

1. AT&T/T-Mobile ...... 13
2. Verizon/SpectrumCo ...... 16
3. Deutsche Telekom/MetroPCS ...... 18
4. Mobile Phone Patent Portfolio Developments
   4.1. DOJ Mobile Phone Investigations ...... 21
   4.2. FTC Google Settlement ...... 23
5. VIVENDI/EMI ...... 25

**CHAPTER 3**
Competition and Regulatory Aspects of Convergence, Takeovers and Mergers in the Communications and Media Industries
Thomas Janssens & Joep Wolfhagen

1. Introduction ...... 27
2. Regulatory Changes Are Reflective of Consolidation and Convergence Trends ...... 28
3. Consolidation in the Mobile Sector
   3.1. Striking the Right Balance between Competition and Investment Incentives ...... 29
   3.2. Recent EU Practice May Shape the Framework for Further Consolidation ...... 30
   3.3. The Limits of Mobile Consolidation: The US Experience ...... 31
4. Service and Infrastructure Convergence Drive Cable Consolidation
   4.1. Analysing the Effects of Cable Mergers ...... 32
   4.2. Mergers Involving Cable Operators in the EU ...... 32
   4.3. US Cable Consolidation ...... 33
5. Conclusion ...... 33

**CHAPTER 4**
Brazil’s Antitrust and Regulatory Reviews of TIM/Telefónica: Lessons Learned
Ana Paula Martinez & Alexandre Ditzel Faraco

1. Brief Description of the Telefónica/Telco Transaction ...... 36

xxxviii
2. Regulatory Aspects

2.1. Regulatory Framework for Reviewing Transactions in the Telecommunications Sector in Brazil

2.2. Why Telefónica’s Indirect Equity Interest in TIM Brasil May Be Viewed as Problematic from a Regulatory Perspective

2.3. ANATEL’s Review of Telefónica/Telco Transaction

3. Antitrust Review

3.1. Merger Review Framework in Brazil

3.2. CADE’s Review of the 2007 Telefónica/Telco Transaction

3.3. CADE’s Review of the 2010 Telefónica/Portugal Telecom Transaction and Its Impact on the 2013 Telefónica/Telco Transaction

4. Lessons Learned

4.1. Lesson 1: Behavioral Remedies Are Resource-Intensive and Will Likely Be Viewed with Skepticism as a Remedy under Brazil’s New Pre-merger Review System

4.2. Lesson 2: The Regulatory and Antitrust Agencies Are Expected to Conduct Independent Reviews

4.3. Lesson 3: Minority Shareholdings Raise Substantial Antitrust Concerns

4.4. Lesson 4: Enhanced Skepticism towards the Role of Economics in Minority Shareholdings Cases

CHAPTER 5
Changes in the Global Telecommunication Market and Its Implications in Brazil

Gesner Oliveira & Wagner Heibel

1. Scenario 1: Authorization of the Operation That Permits Telefónica to Absorb TIM’s Share of the Market

2. Scenario 2: Splitting of TIM and Its Absorption by the Main Competitors

3. Scenario 3: Arrival of a New Player

3.1. AT&T

3.2. VODAFONE

3.3. VIVENDI

CHAPTER 6
Mergers in the Canadian Communications Sector: An Increasingly Curious Situation

Lorne Salzman

1. Legal Infrastructure

2. Early Days

3. The Turning Point

4. Merger Law Fallout
PART II
Looking Ahead: New Markets and Competitive Hurdles in the Offering of Globalized Services 67

CHAPTER 7
In Search of a Competition Doctrine for Information Technology Markets: Recent Antitrust Developments in the Online Sector
Jeffrey A. Eisenach & Ilene Knable Gotts 69

1. Introduction 69
2. The IT Challenge to Traditional Antitrust Doctrine 71
   2.1. The IT Trifecta: Dynamism, Modularity, and Demand-Side Effects 71
   2.2. Implications for Enforcement 72
3. From Theory to Practice: Recent Enforcement Review Involving IT (and Related) Markets 76
   3.1. Transactions Involving Content Providers 76
       3.1.1. Horizontal Theories 77
       3.1.2. Vertical Theories 79
   3.2. Transactions Involving Database Software 80
   3.3. Transactions Involving Hardware, Platforms, or Networks 82
   3.4. Transactions Involving Potential Competition and Future Markets 87
4. Looking Ahead: Some Issues for the Future 88
   4.2. Big Data and the Internet of Things 89
5. Conclusions 90

CHAPTER 8
The Internet of Things in the Light of Digitalization and Increased Media Convergence
Anna Blume Huttenlauch & Thoralf Knuth 91

1. Introduction 91
2. Digitalization and Convergence as Industry Trends 92
3. Approach of Antitrust Authorities, Namely the European Commission and the German Federal Cartel Office 93
   3.1. Content versus Advertising Markets 94
   3.2. Online versus Offline 94
   3.3. User Reality and Criticism 95
   3.4. How Do Competition Authorities Take the Increasing Competition into Account? 96
   3.5. Challenges Ahead 97
4. Beyond Antitrust: The Spamming Fridge 98
5. Legislation and Consultations 99
6. Let Your Car Tell Your Insurer About Your Whereabouts 102
   6.1. A Real-Life Example 102
6.2. What Positions Have Been Taken by Authorities and Courts? 104
7. Outlook 104

CHAPTER 9
Dynamic Markets and Competition Policy
Bernardo Macedo & Sílvia Faga de Almeida 105
1. Introduction 105
2. The Competition Environment in Dynamic Markets 106
   2.1. Elements That Pose Challenges to Competitors 106
   2.2. Elements That Intensify Competition 107
3. Antitrust Enforcement 109
   3.1. Relevant Market 109
   3.2. Market Power and the Competitive Environment 110
   3.3. Efficiencies 112
4. Conclusions 113
Bibliography 114

CHAPTER 10
Recent Antitrust Developments in the Online Sector
Federico Marini-Balestra 117
1. Introduction 117
   1.1. Over-the-Top Applications and Services Providers 119
2. Net Neutrality vis-à-vis Regulatory and Antitrust 121
   2.2. The European Union: A Complementary Use of Antitrust Law and Regulation to Enforce Net Neutrality 124
      2.2.2. Also on the Antitrust Side Net Neutrality Recently Emerged as a Protagonist 127
3. Recent Initiatives in the European OTT Sector 127
   3.1. Appraising the Role of OTT Services 127
   3.2. Online Search Sector 128
   3.3. Online Selling 131
4. Conclusions 133

CHAPTER 11
Mobile Payments and Mobile Banking in Brazil: Perspectives from an Emerging Market
Márcio Issao Nakane, Camila Yumy Saito & Mariana Oliveira e Silva 135
1. Introduction 135
2. Brazilian Market 136
# Table of Contents

## Chapter 14
**Standard-Essential Patents and US Antitrust Law: Light at the End of the Tunnel?**  
*Leon B. Greenfield, Hartmut Schneider & Perry A. Lange*

1. Introduction 181
2. Standard-Essential Patent Enforcement 182
3. Injunctions Based on Standard-Essential Patents 184
4. Antitrust Violations Based on Abuse of Standard-Essential Patents 187
5. Determining FRAND Rates 188
6. The Ability to Challenge Standard-Essential Patents: Validity/Infringement/Enforceability 190
7. Conclusion 191

## Chapter 15
**IP and Antitrust: Recent Developments in EU Law**  
*Miguel Rato & Mark English*

1. Introduction 193
2. Background 194
   2.1. Factual Context: Standards, SEPs and FRAND Commitments 194
   2.2. Theoretical Context: ‘Hold-Up’ and ‘Reverse Hold-Up’ 195
3. The Samsung and Motorola Decisions 197
4. Critical Assessment 199
5. Final Remarks 202

## Chapter 16
**Antitrust Cases Involving Intellectual Property Rights in the Communication and Media Sector in Brazil**  
*Barbara Rosenberg, Luis Bernardo Cascão & Vivian Terng*

1. Introduction 205
2. Relevant Precedents Involving IPRS 206
   2.1. CDs and DVDs: Abuse of Dominant Position and Patent Pool 206
   2.2. Sham Litigation: Tachographs, Shop Tour and Pharmaceutical, Cases 207
   2.3. Musical Rights and Copyrights: The ECAD Case 209
3. Merger Control in Brazil: General Aspects, Associative Agreements and Licensing IPRS 210
4. Merger Control: Communication and Media 212
   4.2. Film Distribution 213
   4.3. Digital Music and Phonographic Industry 213
5. Final Remarks 214
Table of Contents

CHAPTER 17
Patents Meet Antitrust Law: The State of Play of the FRAND Defense in Germany
Wolrad Prinz zu Waldeck und Pyrmont 215
1. Background: Standardization and FRAND Licensing Declarations 215
2. Setting the Scene: Peculiarities of the German Patent Litigation System 216
3. The Origin: The Orange Book Standard Decision 218
   3.1. Unconditional License Offer on Non-refusable Terms 219
   3.2. Compliance with the Obligations under the Prospective License 220
4. The Orange Book’s Progeny: Subsequent Application and Extension 221
   4.1. Restrictive Interpretation of “Customary License Terms” 222
   4.2. The Amount of the FRAND Royalty 223
   4.3. Rendering of Accounts and Deposit of License Fees 224
5. The Watershed: Developments on the European Union Level 225
6. Changing Tides?: The Impact of the Commission’s Antitrust Investigations in Germany 227

PART IV
Power over Data 231

CHAPTER 18
The Role of Privacy in a Changing World
Chris Boam 233
1. Privacy Is Nebulous, but Its Function in Society Is Not 234
2. Has Law Bridged the Gap: Assuming That We Know What the “Gap” Is? 236
3. The Sea Change in the Role of Trust 240
4. Where Do We Go from Here? 241

CHAPTER 19
The Transatlantic Perspective: Data Protection and Competition Law
Pamela Jones Harbour 247
1. Introduction 247
2. Data Protection and Competition 248
   2.1. Google/Doubleclick and Beyond 248
   2.2. Data Protection and Competition: EU 249
3. Three Theories for Evaluating Privacy Issues in a Competition Law Framework 251
   3.1. Competition in Privacy Protections 251
   3.2. Competition in Technologies to Strengthen User Privacy 253
   3.3. Defining a Product Market for Data 253
4. Privacy, Competition and the Impact on Consumers 254
5. Conclusion 255

CHAPTER 20
Power over Data: Brazil in Times of Digital Uncertainty
Floriano de Azevedo Marques Neto, Milene Louise Renée Coscione & Juliana Deguirmendjian 257

1. Intimacy, Private Life, Honor and Image as Persons’ Fundamental Rights 259
2. Legislation of the Telecommunications Sector in Brazil 261
3. Brazil’s Specific Legislative Initiatives on the Protection and Confidentiality of Data 262
4. Contributions of International Experience to Brazil 264
4.1. Canada 265
4.2. European Union 268
4.3. Brazil 273
5. Conclusion 277

CHAPTER 21
Big Data and the Cloud: Privacy and Security Threats of Mass Digital Surveillance?
Lyda Mastrantonio & Natalia Porto 281

1. Introduction 281
2. The Cloud: An Evolving Model 282
3. Cloud and the EU Digital Agenda 284
4. Users’ (Big) Data 285
5. Privacy and Data Retention 286
6. Security 288
7. Conclusion 290

PART V
Open Internet and Net Neutrality 291

CHAPTER 22
Net Neutrality Regulation: A Worldwide Overview and the Chilean Pioneer’s Experience
Alfonso Silva & Sebastian Squella 293

1. Introduction 293
2. Net Neutrality Concept 295
2.1. Pros and Cons of Net Neutrality 296
3. Regulatory Perspective of Net Neutrality 298
3.1. EE.UU 298
CHAPTER 25
The New Brazilian Internet Constitution and the Netmundial Forum
João Moura

1. The Political Dividends: A Positive Balance 331
2. What Is in That for Businesses? 332
3. Data Protection 332
4. Obligation to Maintain Logs of Connection and Access to Applications 332
5. The Usage of Data from Aggregated Customers to Develop New Applications 332
6. Net Neutrality 333
7. More Revenues, Innovation and Competition 333

CHAPTER 26
The Brazilian Telecom Regulatory Scenario and the Proposals of the Internet Law
Regina Ribeiro do Valle

1. Introduction 335
2. Current Scenario of Internet Services Regulation in Brazil 336
3. Neutrality of Network vis-à-vis the Right to Charge for Quality Services 338
4. Conclusion 340

PART VI
Regulatory Policy Round Table: A Brazilian Case Study

CHAPTER 27
Competition in the Brazilian Telecommunication Market
Maximiliano Martinho, Guido Lorencini Schuina, Haitam Laboissiere
Naser & Leonardo Fernandez Zago

1. Introduction 345
2. Institutional Aspects for Telecommunications in Brazil 345
3. The Brazilian Telecommunications Sector 346
  3.1. The Telecommunications Market 347
    3.1.1. Fixed Telephony 347
    3.1.2. Mobile Telephony and Broadband 348
    3.1.3. Fixed Broadband 348
    3.1.4. Pay TV 349
  3.2. Indicators for the Telecommunication Sector 350
    3.2.1. Indicator for Companies’ Performance 350
    3.2.2. Competition Indicators 350
    3.2.3. Service Indicators 350
4. Actions for the Telecommunications Sector in Brazil 351
Table of Contents

4.1. General Plan of Competition: PGMC 351
4.2. Wholesale Products Broker System: SNOA 353
4.3. Regulation of Industrial Exploitation of Dedicated Lines: EILD 354
4.4. Anatel’s Competition Office 354
4.5. Law of Conditioned Access Service 355
4.6. Infrastructure Sharing 355
5. Conclusion 357

CHAPTER 28
A New Horizon for Competition Advocacy in Brazil
Adriano Augusto do Couto Costa, Marcelo de Matos Ramos & Roberto Domingos Taufick 359

1. Telecommunications and Competition in Brazil 359
1.1. Completion of Universal Access 361
1.2. Digital TV 361
1.3. End of the Term of the PSTN Concession 361
1.4. Not Enough Incentives for Competition 361

2. The Secretariat for Economic Monitoring and the Leap to Competition Advocacy 362
2.1. Advocacy According to the Former Competition Law 362
2.2. Seae as a De Facto Competition Advocate 363
2.2.1. Engaging in Economic-Oriented Opinions to the Public Sector 363
2.2.2. Other Advocacy Measures 364
2.3. Brazil’s 2011 Competition Law: Changes in the Existing Assignments 365

3. Enhancing Competition Advocacy 369
3.1. The National Competition Advocacy Program: A Broader View 369
3.1.1. Overview 369
3.1.2. Outreach 370
3.1.2.1. The Public Sector 370
3.1.2.2. Private Undertakings 371
3.1.2.3. Academic Institutions 371
3.1.2.4. News Agencies 372
3.1.2.5. Final Consumers 372

4. Final Remarks 372

CHAPTER 29
Overlaps and Synergies between Regulators in the Brazilian Telecommunications Market
Marcelo Bechara de Souza Hobaika & Carlos M. Baigorri 375

1. Introduction 375
2. The Necessity of Regulation 378
Table of Contents

3. Anatel’s Role under the Law 8.884/94 379
4. The New Institutional Structure 380
   4.1. The General Plan of Competition (PGMC) 380
5. Synergies 383
6. Conclusion 384
Bibliography 384

CHAPTER 30
The New Competition Law in Brazil and the New Framework for Merger Analysis in Telecom
Carlos Emmanuel Joppert Ragazzo & Cristiane Landerdahl de Albuquerque 387
1. Introduction 387
2. The Telecommunication Sector in Brazil 388
   2.1. The Importance of the Telecommunication Sector in the Brazilian Economy 388
   2.2. Mergers in the Telecom 389
      2.2.1. Minority Shareholding 390
      2.2.2. Vertical Integration and Access to Inputs 390
      2.2.3. Large Horizontal Overlap and Vertical Concerns 390
      2.2.4. Network Sharing 390
3. Merger Review in Brazilian Telecom Sector 391
   3.1. Previous Procedure 391
   3.2. Merger Review under the New Competition Law 393
4. Cooperation between Agencies 395
5. Final Remarks: The Need for Ongoing and Strong Cooperation between the Antitrust and Regulatory Agencies 396

CHAPTER 31
Regulatory Policy Round Table: A Dialogue between Telecommunications and Antitrust Authorities
Denis Alves Guimarães 397
1. Introduction 397
2. Institutional Background 398
   2.1. Secretariat of Telecommunications of the Ministry of Communications (STE/MiniCom) 398
   2.2. Secretariat for Economic Monitoring of the Ministry of Finance (SEAE/MF) 398
   2.3. National Agency of Telecommunications (ANATEL) 399
   2.4. CADE’s General Superintendence (SG/CADE) 399
3. Content Background: Building Policy Consensus 400
4. Improving Policy Consensus 407
   4.1. Merger Reviews 407
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2. Anticompetitive Practices</td>
<td>408</td>
</tr>
<tr>
<td>4.3. Competition Advocacy</td>
<td>408</td>
</tr>
<tr>
<td>5. Overcoming Policy Consensus</td>
<td>409</td>
</tr>
<tr>
<td>6. Conclusion</td>
<td>410</td>
</tr>
<tr>
<td>Index</td>
<td>413</td>
</tr>
</tbody>
</table>
Foreword by Michael J. Reynolds

It gives me enormous pleasure as current President of the IBA to introduce this extremely valuable and informative book based on topics and papers presented following our Communications and Anti trust Conferences in Rio de Janeiro (2013) and Prague (2014).

This annual conference has just celebrated its 25th year. Every year it brings together top experts in communications regulatory and anti trust law and is put on jointly by the communications and Anti trust committees in the IBA. In the audience there are always in-house counsels from some of the top companies in the communications sector.

It is an excellent idea to have collected papers on the two most recent conferences in this book. Taken together the papers give an in-depth and up to date insight into some of the main regulatory and anti trust issues that affect this sector and deal with the major recent cases on both sides of the Atlantic. Taking the annual conference to Brazil was a recognition of this very important market and the papers record the important regulatory and anti trust developments in the communications sector in this BRICS jurisdiction.

I congratulate the officers of the Communications Committee and Anti trust committee on the continuing success of this conference, the first of which I co-chaired in Brussels in 1990. I have no doubt that the annual conference will go from strength to strength in the years to come and this important publication forms part of that achievement.

Michael J. Reynolds
IBA President
Brussels May 2014
Foreword by Daniel A. Crane

It is a generally held belief that sectoral regulation and competition law are the two alternative modes for addressing problems of access, discrimination, and market power in communications and related technology industries. In fact, experience shows that this is far too simplistic a conception of the problem. The legal and regulatory toolkit contains many more tools than command-and-control prescriptions on prices and terms of service, on the one hand, or general antitrust prohibitions on the other. Available tools include adjustments in patent, copyright, or trademark policy to favor open competition or investment, reinforcement of private contractual solutions such as FRAND commitments, and direct governmental investments to subsidize the growth of particular firms or sectors. Sophisticated jurisdictions utilize a combination of these tools to advance innovation and consumer choice in the communications field, also keeping in mind that sometimes the best regulatory intervention is no regulatory intervention at all.

Given the amount of theoretical academic ink that has been spilled on these topics, it is refreshing to see a volume of this kind that channels the experience and real-world knowledge of distinguished practitioners from around the globe. In this fine comparative book, we have the opportunity to examine regulatory vignettes from Asia, Brazil, Europe, and the United States. We see problems of competition in the telecommunications and technology spaces addressed across a range of interfaces, from merger policy, to Internet architecture, to IP interventions, to more traditional regulation. The information is up to date and filtered through the best minds working on the relevant problems.

As with any volume that captures episodic, circumstance-specific vignettes, the sum of this book’s wisdom should be appreciated in the context of the wider theoretical frameworks proposed by the economics and political science literature. We see hints in these pages of market failures and rehabilitations, interest group capture and public choice theory, and of the perennial conflicts between static and dynamic efficiency. It
is to be hoped that this volume will make a lasting contribution to understanding good
and bad legal and regulatory policy in the communications sector.

Daniel A. Crane

*Associate Dean for Faculty and Research &
Frederick Paul Furth Sr. Professor of Law,
University of Michigan.*
*Counsel, Paul, Weiss, Rifkind,*
*Wharton & Garrison LLP*
Foreword by Gesner Oliveira

The idea of publishing this book came up during the 24th Annual Communications and Competition Law Conference, hosted jointly by the IBA and the IBRAC in Rio de Janeiro.

Among several topics highly relevant to the ones active in the fields of Communications and Competition Law, we are particularly pleased to have delivered contributions in respect to two of them: (1) Convergence, Takeovers and Mergers in the Communications and Technology Industry in Part I of this book, where we hope you appreciate the joint contribution prepared by an economist and an engineer on the Changes in the Global Telecommunication Market and Its Implications in Brazil and (2) Regulatory Policy Round Table in the final Part VI of the book, subject approached by us in the 24th Annual Communications and Competition Law Conference.

In respect to the regulatory policy matter, co-editors of this book had the great idea of gathering contributions from the most important Brazilian authorities responsible for formulating and implementing regulatory and antitrust policies for the communications sector. The diversity of regulators somehow involved in this policymaking creates the threat of inefficient overlapping competencies while at the same time makes possible that valuable synergies are achieved.

The final Chapter 31 of the book – Regulatory Policy Round Table: A Dialogue between Telecommunications and Antitrust Authorities – mediates such debate between the main regulators: two high profile government bodies subordinated to Brazil’s President, the Secretariat of Telecommunications of the Ministry of Communications (STE/MiniCom) and the Secretariat for Economic Monitoring of the Ministry of Finance (SEAE/MF); and two independent agencies, the National Agency of Telecommunications (ANATEL) and the CADE’s General Superintendence (SG/CADE).

The chapter also reminds of an issue particularly relevant to economists, the importance of a solid economics bureau within the structure of the antitrust bodies and its ability to conduct complex analyses on any sector of the economy. In the Brazilian case, this body is the Department of Economic Studies (DEE) of the Administrative Council for Economic Defense (CADE).
Foreword by Gesner Oliveira

Having experience in the private and public sectors and in business and academia, we are sure that this book will be a valuable and lasting contribution to practitioners, policymakers and researchers.

Gesner Oliveira
Managing Partner at GO Associados
Professor of Economics,
Getulio Vargas Foundation Business Administration
School of São Paulo (FGV/EAESP)
“Why is it that Communications is subject to special competition rules?” This almost naive question, now that almost twenty years have passed from the dawn of liberalization in communications, has often been posed to regulatory lawyers during their practice, being the postulants operators, colleagues or officers indeed of Competition or Regulatory Agencies. Sometimes the question would be asked almost with a philosophical nuance, probably with some hidden interest in touching deeper cords: “how much does Communications stand out alone as a practice, within the general mare magnum of competition law?”

The answer, if existent, naturally is not clear-cut, and would entail a series of related topics, issues and clarifications. This book provides an attempt to shed some light on the current international debate, and provides an excellent insight into worldwide experiences in the field, from different angles and on the different aspects related to the crucial mix between sector specific regulation and “special” competition rulings applied to communications.

In this respect, it follows the healthy debates triggered by two gatherings of regulatory lawyers of Communications and Competition IBA Committees, held in Rio de Janeiro in 2013 and Prague 2014, and we are very grateful to all contributors for their commitments and contributions.

Fact is that as in all general big-bangs, liberalization and the following digital revolution have moved elements even further apart, and the legal universe of communications is now drifting away and expanding. Nowadays no-one believes anymore that someday, at the end of its strange parabola, “special” competition regulation will dissolve and converge into the general framework, as originally believed. But this is now evidently a non-issue: the particular experience and application of competitive rules provides a lengthy experience to practitioners, enriches the field, and provides for further speculations. Convergence entails the bundling of networks and services, and sector specific regulation is progressively concentrating on other side-related topics, where the competitive battleground now appears very complex, and once formed simply an ancillary side-related content in communications. Matters such as intellectual property of content, or consumer protection, privacy and data security once fell in side categories. Yet connectivity and network offering (the theoretical ground on which
the application of the essential facility doctrine still resides) represents more and more a commodity, and competitive analysis in the area has moved further on to different items, such as necessity to identify FRAND conditions on compulsory licensing of standards, or the strategic role of open sources or the antitrust clearings in case of mergers between operators acting on potential sensitive data aggregation and profiling.

Defined relevant markets appear more and more as silent icebergs drifting away detached from technological evolution and speed of change. It is foreseeable that the communications sector will focus in the near future more and more on the protection and regulation of content, both copyrighted and user-generated, with giants like Google already looking forward to concentrate on all the business-line, from network to content, as in the Google Fiber project. Also, mobile e-commerce, Internet advertising, search engine optimization and geolocalization services appear destined to converge and interact, modifying again the competitive implications and presumably the definition of markets. In this sense the potential growth of mobile online advertising should not be underestimated, as the geolocalization capabilities of modern handsets will expand the possibility for consumer profiling and related tailored promotional contents.

In fact, recent concerns about the protection of personal privacy and the activities of national law enforcement and security services have arisen in the commercial sphere in connection with both transmission services and the emergence of cloud computing and other technologies that offer substantial benefits to users. In their most efficient manifestations, these services and technologies are trans-border in nature, and present familiar private international commercial law problems.

In this respect, this book focuses also on the specific Brazilian experience. In Brazil the NSA scandal has triggered, as known, an initiative at the General Assembly, followed then by the issuing of the Net Mundial statement, the first Internet Charter ever drawn. Yet even before Snowden, heightened public awareness of the rights of access to electronically transmitted and stored communications by law enforcement and security services had added an additional dimension affecting both commercial decisions and regulatory relationships. This additional dimension has been manifest in the deliberations over DG Justice’s proposed European General Data Protection Regulation to replace the 1995 Data Directive, currently debated in Europe. The proposal’s ambitious scope, certain specific provisions such as the right to be forgotten, the anxiety in some quarters (especially in the United States) that it unnecessarily threatens economic efficiency and, as a practical matter, its extraterritorial effect, assured that controversy would attend it.

From the very beginning of consideration of the proposal, the traditional transatlantic complications over privacy protection presented some difficulties. At a foundational level, the rather different perspectives on privacy arise – is it a basic human right, integral to human dignity, or not? Likewise, different approaches to privacy protection – comprehensive in Europe, sector by sector in the United States – lead to a European view deeply skeptical of the possibility of mutual recognition arrangements.

The fact that regulatory and competition review and reform may make treasure also from the outcome of international conferences, debates and fora organized and held by practitioners acting worldwide, ensures that the international community may
truly exploit the vast array of experiences which delve on a continuous basis from practical grounds.

We indeed hope this book will provide you a helpful framework for your everyday practice and comparative analysis.

Fabrizio Cugia di Sant’Orsola,  
Rehman Noormohamed &  
Denis Alves Guimarães  
Rome, London and São Paulo  
September 12, 2014
CHAPTER 7

In Search of a Competition Doctrine for Information Technology Markets: Recent Antitrust Developments in the Online Sector

Jeffrey A. Eisenach & Ilene Knable Gotts

Recent antitrust developments in the online sector – sometimes described as the “Internet Ecosystem” – demonstrate that the search for a coherent and reliable doctrine for evaluating competition issues in high-tech markets remains incomplete. While acknowledging that traditional approaches are often inapposite for assessing the competitive dynamics of high-tech markets, enforcers continue to struggle to devise a coherent alternative framework. We review some recent cases that illustrate the challenges of enforcing competition-law in information technology markets.

1. INTRODUCTION

Information technology (“IT”) markets have been raising difficult issues for competition authorities for more than a century. Indeed, December 2013 marked the 100th anniversary of AT&T’s controversial “Kingsbury Commitment” in which AT&T agreed to interconnect its long-lines networks with local telephone companies in return for a legal monopoly over long-distance service – a deal that ultimately led to decades of litigation and perhaps the most famous consent decree in antitrust history, the 1982

* Jeffrey A. Eisenach is a Senior Vice President at NERA Economic Consulting, Washington DC. Ilene Knable Gotts is a partner at Wachtell, Lipton, Rosen & Katz in New York. The views expressed in this paper are the authors’ and should not be attributed to their firms, clients or other institutions with which they are affiliated.

Competition authorities have struggled to devise solutions to real or theoretical antitrust concerns in virtually every major IT market, from mainframe computers (IBM) to operating systems (Microsoft), from "enterprise management software" (Oracle-PeopleSoft) to search engines (Google).

IT markets pose a variety of analytical challenges. They are characterized by both supply- and demand-side economies of scale and scope, typically implying high market share and/or high levels of concentration (e.g., Herfindahl-Hirschman Index ("HHI")). Although such dynamics could result in market power to the extent that the assets are "essential" to compete, traditional concentration measures are meaningless for determining such potentialities given their limited and static nature. Indeed, rapid innovation and the potential for disruptive entry imply such market power may be ephemeral, even illusory. Strong complementarities (e.g., between smart phones and networks, or operating systems and microchips) place interoperability and interconnection issues at center stage. Particular business practices (e.g., a decision to standardize around one technology but deny interoperability to others) may be efficiency-enhancing and competition-inhibiting at the same time. Consolidation may harm competition in a static sense, yet generate real but sometimes difficult-to-assess benefits for innovation, or demand-side externalities from network effects. Products tend to be highly differentiated (e.g., smartphones with different operating systems and features), leading to prices above marginal cost and, in many cases, prices and terms are set through bilateral bargaining over actual or anticipated quasi-rents.

Our goal in this article is certainly not to resolve these issues, but rather to describe them in a way that illuminates the analytical challenges, provide some recent examples of antitrust reviews involving IT markets, and offer some thoughts on how these issues are likely to present themselves in the future. We also note that while economists continue to make progress towards a better understanding of the competitive dynamics of IT markets, much of that understanding is not yet fully or consistently reflected in practice. We are not suggesting, however, that IT markets get a "free pass" and should not be subject to antitrust law principles, or even worse, that there is a need for regulation to supplant free market behavior. To the contrary: antitrust law enforcement is usually the correct place for addressing both IT market behavior and transactions.

The remainder of this paper is organized as follows. Section 2 presents a taxonomy of the economic characteristics that distinguish IT markets from more traditional markets, grouping them into three categories – dynamism; modularity; and demand-side effects – and provides some examples of the implications of these characteristics for competition analysis. Section 3 discusses several recent situations in which competition authorities have wrestled with such issues in practice. Section 4 offers some thoughts on how these issues are likely to present themselves in the immediate future. Section 5 presents a brief conclusion.

2. THE IT CHALLENGE TO TRADITIONAL ANTITRUST DOCTRINE

Effective antitrust policy is premised on the ability to recognize monopoly power; assess its effects on prices and quality; identify the anticompetitive conduct it sometimes enables (e.g., by raising rivals' costs); and, ultimately, determine its effects on consumer welfare, which, half a century after the Chicago revolution, continues to be acknowledged as the central objective of antitrust. Towards these ends, academics and practitioners have developed various analytical tools, empirical proxies, and rules of thumb (e.g., high market shares and/or high concentration ratios create a presumption of monopoly power or high likelihood of collusion) that together constitute traditional antitrust doctrine. IT markets have characteristics that limit the usefulness of these traditional approaches, often in ways that are not yet well understood. We begin by describing the characteristics that distinguish IT markets from more traditional ones and then discuss some of the challenges these characteristics pose for traditional antitrust doctrine.

2.1. The IT Trifecta: Dynamism, Modularity, and Demand-Side Effects

IT markets exhibit at least three meaningful distinguishing characteristics: dynamism, modularity, and demand-side effects. Dynamism refers to the significance of innovation as a measure of market performance: in dynamic markets, the ability of a firm to offer new and improved products plays at least as significant a role in its success (i.e., its profitability) as the ability to produce and sell existing products at lower prices. In such markets, firms incur significant sunk cost investments to create new products, causing average costs to exceed marginal costs over the relevant range of output, but resulting in product differentiation (innovation being simply product differentiation over time) that allows sellers to recoup their investments by earning high margins (relative to marginal cost). Under current doctrine, high margins are easily mistaken for traditional monopoly power, but assuming low entry barriers, they are not only consistent with, but necessary for, maximization of consumer welfare: they not only allow firms to recoup sunk cost investments, but also provide the incentive to take the risks inherent in innovation.

The assumption of low entry barriers is not a trivial one and other characteristics of IT markets — e.g., demand-side network effects — may call it into question. But it is
nevertheless true that the sort of market power that is so commonplace in IT markets frequently contains the seeds of its own destruction, as today’s hot product can easily become tomorrow’s obsolete clunker (see, e.g., Apple Newton and Palm Pilot).

A second characteristic that distinguishes IT markets is modularity, or what is sometimes referred to as “platform competition.” From an economic perspective, modularity is associated with strong complementarities in production or consumption: operating systems are strong complements with personal computers; online music stores are strong complements with smart phones; smart phones are strong complements with communications networks, etc. Modularity also creates demand for compatibility or “interconnection.” Firms that produce complementary products (e.g., Microsoft and Nokia; Google and Samsung) may team up to create platforms (sets of compatible complements); in other cases (e.g., Apple, Blackberry) firms choose to achieve compatibility through vertical integration.

Competition in such markets takes place both within platforms (e.g., between HTC and Samsung for leadership on the Android platform) and among them (e.g., between Android and iOS). Disputes over interconnection terms – in which firms seek to create and exercise bargaining power and thus maximize their shares of the economic profits created by a successful platform – are commonplace.

Finally, IT markets are also characterized by significant demand-side effects, including economies of both scale and scope. Demand-side economies of scale, also known as network effects, imply that a product is more valuable to consumers as the number of users increases: the prototypical, if now somewhat dated, example is the fax machine. Demand-side economies of scope, by contrast, imply that a product’s value increases with the diversity (as opposed to simply the number) of users: the value of a newspaper to both advertisers and users depends on the presence of the other type of consumer (though for some consumers, the presence of advertisers may detract from the value rather than add to it).

The relationship between competition and consumer welfare in markets with demand-side effects is more complicated than in more traditional markets in several ways. For example, it is well established that a monopolist in a two-sided market has strong incentives to set efficient relative prices (i.e., to engage in efficient price discrimination). In markets with strong network effects, the efficiency benefits of monopoly may exceed the costs in terms of foregone competition.

2.2. Implications for Enforcement

These characteristics of IT markets have important implications for competition policy and antitrust enforcement, challenging accepted rules of thumb, complicating application of time-tested techniques, and forcing regulators to take account of factors that do not play a significant role in more traditional markets.

---

7. See Michael L. Katz & Carl Shapiro, Systems Competition and Network Effects, 8 THE JOURNAL OF ECONOMIC PERSPECTIVES 93 (Spring 1994).
Perhaps most obviously, the dynamic nature of IT markets – the fact that they are characterized by rapid technological change – forces competition authorities to pay greater heed to forecasts of future events than is often the case in more traditional markets, even up to the point of forecasting the impact of mergers and potentially anticompetitive conduct on the development of markets for products that do not yet exist. No combination of economists, lawyers, and technologists has thus far demonstrated much competence in performing this task, and for good reason. As Professor Hovenkamp points out:

\[\text{[I]nvention often produces very sudden and quite unpredictable results. It can completely kill an industry in a few years, as electronic calculators did to slide rules in the 1960s. In the process, it can bring an entirely new industry into existence in an equally short time. It can produce results far different than researchers expected, such as the blockbuster drug Viagra, which was the culmination of a research project seeking a treatment for angina, not for erectile dysfunction. Innovation can produce sudden and dramatic shifts in prices or output and almost instantly expand the range of consumer choices. As a result, predicting and managing competitive processes in highly innovative industries is much more difficult than in markets where technology is very largely constant and most movements affect only the output and price of a set of unchanging products.}\]

It is well understood that dynamism implies that existing monopoly power may be ephemeral, but its implications for antitrust regulation are in fact far more complex and multifaceted than what simple thesis suggests. For example, a merger might be defended on the grounds that the combination is necessary to advance development of a new product – but only if regulators can be persuaded the new product will be successful (and thus enhance consumer welfare).

8. See generally Ilene Knable Gotts and Richard T. Rapp, Antitrust Treatment of Mergers Involving Future Goods, *Antitrust* 178 (2004). Inaccurate predictions of future events can prove embarrassing. The Federal Trade Commission (“FTC”), for example, justified the imposition of conditions in the 2000 AOL-Time Warner merger on the basis of its finding that AOL, as the “leading provider of narrowband internet access,” was “likely to become the leading provider of broadband internet access as well.” See U.S. Federal Trade Commission, In the Matter of America Online, Inc. and Time Warner Inc., Docket No. C-2989 (Complaint) (Dec. 14, 2000) at 3. As it turned out, AOL never became a significant, let alone leading, broadband Internet Service Provider (“ISP”). Similarly, in the AT&T-MediaOne transaction, the Antitrust Division of the U.S. Department of Justice (“DOJ”) expressed concern with the indirect ownership interests that AT&T would have had in both Excite@Home and RoadRunner, two broadband Internet companies, and required AT&T to divest its RoadRunner interest. See Press Release, U.S. Dep’t of Justice, Justice Department Requires AT&T to Divest MediaOne’s Interest in RoadRunner Broadband Internet Access Service (May 25, 2000), available at http://www.justice.gov/atr/public/press_releases/2000/4829.pdf. At the time of the acquisition, Excite@Home and RoadRunner together served the vast majority of subscribers who received broadband Internet service over cable facilities. The DOJ was concerned that AT&T would be able, post-closing, to facilitate collusion and coordination between Excite@Home and RoadRunner in ways that would result in a substantial lessening of competition in the market for aggregation, promotion, and distribution of residential broadband content. However, in 2001, Excite@Home declared bankruptcy.


A second implication of dynamism is its inextricable relationship with the economics of innovation – the cycle of investment, product differentiation, and pricing power (the return on risk and entrepreneurship) that incentivizes innovation in the first place. Dynamic industries display strong economies of scale, tend to have high levels of concentration at any point in time, and are characterized by high profit margins. The implications are profound, calling into question the predictive power of the two most commonly used proxies for actionable market power: market concentration and profit margins. Moreover, the costs associated with Type II error (imposition of remedies on the basis of falsely identified monopoly power) are especially high, as such remedies – often in the form of “sharing” requirements or barriers to consolidation – not only deprive existing firms of the returns on innovation, but signal to future entrepreneurs that the payoff for successful innovation is subject to regulatory truncation.

Since the fifth century B.C., medical doctors have sworn to a Hippocratic Oath that recognizes before all else that they are “to do no harm.” It would be admirable if antitrust enforcers could adopt the same approach – and recognize that enforcement should seek to do more good than harm and that harm will result if they unnecessarily deter innovation or synergies by stopping or conditioning a transaction or conduct that, left alone, would not have been anticompetitive. FTC Commissioner Maureen Ohlhausen has consistently in her public pronouncements advocated for “regulatory humility.” As recently described in a speech before the Free State Foundation:

It is exceedingly difficult to predict the path of technology and its effects on society. The massive benefits of the Internet in large part have been a result of entrepreneurs’ freedom to experiment with different business models. The best of these experiments have survived and thrived, even in the face of initial unfamiliarity and unease about the impact on consumers and competitors . . . Early skepticism does

13. See Franklin W. Fisher, DIAGNOSING MONOPOLY, IN INDUSTRIAL ORGANIZATION, ECONOMICS AND THE LAW: COLLECTED PAPERS OF FRANKLIN M. FISHER (MIT Press, 1991) 3-32. See also Novell, Inc. v. Microsoft Corp., 731 F.3d 1064, 1073 (10th Cir. 2013) (“If the law were to make a habit of forcing monopolists to help competitors by keeping prices high, sharing their property, or declining to expand their own operations, courts would paradoxically risk encouraging collusion between rivals and dampened price competition – themselves paradigmatic antitrust wrongs, injuries to help one another would also risk reducing the incentive both sides have to innovate, invest, and expand – again results inconsistent with the goals of antitrust. The monopolist might be deterred from investing, innovating, or expanding (or even entering a market in the first place) with the knowledge anything it creates it could be forced to share; the smaller company might be deterred, too, knowing it could just demand the right to piggyback on its larger rival.”).
not predict potential consumer harm. Conversely, as the failures of thousands of dotcoms show, early enthusiasm does not predict consumer benefit.

Because it is so difficult to predict the future of technology, government officials, like myself, must approach new technologies and new business models with a significant dose of regulatory humility. . . . We must identify benefits and any likely harm. If harms do arise, we must ask if existing laws and regulations are sufficient to address them, rather than assuming that new rules are required.

And we must remain conscious of our limits . . . . Even worse, data-driven decisions can seem right while being wrong. Political polling expert Nate Silver notes that “[n]one of the pervasive risks that we face in the information age . . . is that even if the amount of knowledge in the world is increasing, the gap between what we know and what we think we know may be widening.” Regulatory humility can help narrow that gap.14

It is important for the U.S. economy that the appropriate balance is achieved.

The presence of strong complements in production – modularity – poses a related but distinct set of challenges, forcing regulators to judge the competitive and consumer welfare implications of interoperable (or interconnected) technologies relative to proprietary or “closed garden” approaches. Refusals to interconnect or to facilitate interoperability (e.g., Microsoft’s refusals to reveal APIs to Netscape or, to take an even earlier example, AT&T’s attempts to prohibit attachment of foreign devices such as the “Hush-A-Phone” to its network) may evidence an intent to foreclose competition and raise rivals’ costs or, alternatively, a welfare-maximizing choice by the platform operator to optimize system functionality15 (as Comcast argued in its defense of its throttling of BitTorrent in the first litigated net neutrality case).16 Where achieving interoperability involves incurring sunk costs (as in the case of standard essential patents (“SEPs”)), the potential arises for opportunistic behavior, though courts have been reluctant to conclude such behavior violates the antitrust laws.17

Lastly, demand-side effects present a multitude of challenges. Most obviously, markets in which demand-side economies of scale (i.e., “network effects”) are significant are subject to “tipping” and may create barriers to entry. Conversely, the very same network effects responsible for these results create real benefits for consumers, who really are better off when, for instance, everyone can learn to use the same (such as QWERTY) keyboard.18 Multi-sided markets (demand-side economies of scope) pose their own special concerns, forcing regulators to consider the effects of

16. See Comcast Corp. v. FCC, 600 F.3d 642 (D.C. Cir. 2010).
18. See, e.g., Katz & Shapiro, supra note 7.
mergers, for example, on both downstream “consumers” and upstream “suppliers.” Economists have only recently begun to develop the tools necessary to assess such effects. Thus, as Ballon and Van Heesvelde conclude:

[C]urrently no clear, general principle exists about how to regulate platforms, and regulators have no operational frameworks that can easily accommodate the particular characteristics of platform markets—such as the existence of externalities across different sides of the platform, and the complex effects of multi-homing of service providers and/or end users.20

The depth of the IT challenge to traditional antitrust doctrine is evidenced by the fact that even the Holy Grail of antitrust enforcement – stable or lower prices – can no longer be taken for granted. In IT markets, price effects in one market have to be weighed against (possibly countervailing) effects in others, as well as against changes in quality, not only contemporaneously but over time: a price increase which leads to higher returns to suppliers may lead to static losses (from lower consumption), but higher rates of innovation and ultimately higher consumer welfare.

3. FROM THEORY TO PRACTICE: RECENT ENFORCEMENT REVIEW INVOLVING IT (AND RELATED) MARKETS

The challenges to traditional antitrust doctrine described above are on vivid display almost daily as competition authorities struggle to identify actionable conduct and assess the competitive effects of proposed transactions throughout the IT sector. In this section, we discuss several recent cases, including transactions involving content providers, database software, hardware, devices, and networks, as well as cases involving potential competition and future markets. The cases discussed highlight the issues agencies face across a diverse, complex, and rapidly changing set of markets in identifying market power and fashioning appropriate remedies.

3.1. Transactions Involving Content Providers

In recent years, both the FTC and the DOJ have reviewed acquisitions involving firms that compete in providing data or content to others. These transactions often held the potential of increasing the rate of innovation, enhancing modularity, and providing demand-side scale and scope efficiencies. Such effects could drive down costs, particularly in nascent sectors. On the other hand, these developments could increase entry barriers or eliminate competition through foreclosure, thereby raising rivals’


costs. The agencies’ response has often been to impose some form of licensing or open access requirements designed to create a “level playing field” for competitors.

3.1.1. Horizontal Theories

A number of recent transactions have involved the combination of firms with databases, in which the agency required that competition be maintained by providing to a third party the rights to one of the databases.

Most recently, on March 24, 2014, the FTC conditioned its approval of CoreLogic, Inc.’s acquisition of DataQuick Information Systems, Inc. The FTC’s complaint alleges that CoreLogic and DataQuick are two of three providers of national accessor and recorder bulk data, and that their combination would have increased the risk of both coordinated and unilateral effects. CoreLogic, which offers a variety of products tailored to lending, investment, and real estate industries, collects and maintains data and is the largest provider of data in the United States. DataQuick offered licenses for such data and had a unique license with CoreLogic that allowed it to relicense data in bulk. The data at issue includes current and historical public record data in a standardized bulk format for the vast majority of real estate properties in the U.S. Customers use this data as inputs into proprietary programs and systems for internal analyses. The database includes more than a decade of information.

It appears likely that the transaction parties argued that combining operations would lower costs of maintaining the database and broaden the user set. To the extent there was competition between the merging firms, that competition would be eliminated. Moreover, the FTC alleged that new competitors were not likely to emerge in this market because of the high cost of obtaining the necessary data (especially historical information). Accordingly, the FTC’s remedy aims to replace DataQuick as a competitive force. The consent requires CoreLogic to license to Renwood RealtyTrac (“RealtyTrac”) historical data and to deliver going-forward data for up to seven years as well as to provide RealtyTrac access to several ancillary data sets that DataQuick provides to its customers. The consent also provides RealtyTrac with access to information regarding customers and data management, requires CoreLogic to provide it with access to technical support for 18 months, and requires CoreLogic to provide certain DataQuick customers with the opportunity to terminate their contracts early and switch to RealtyTrac without penalty. RealtyTrac currently operates an online marketplace of foreclosure real property listings and provides national foreclosure data services to real estate consumers, investors, and professionals and, with this license, RealtyTrac will be a new entrant into the business.

In 2012, the FTC similarly conditioned its approval of CoStar’s acquisition of LoopNet on the sale of LoopNet’s ownership interest in Xceligent to DMG Information,

---

Inc. and other behavioral relief. CoStar, LoopNet, and Xceligent offered listing databases and information services used by brokers, investors, appraisers, developers, and others in the commercial real estate industry. CoStar actively tracks and aggregates commercial real estate listings and property-specific information nationwide and provides subscription-based access to its comprehensive database. LoopNet operated the most heavily trafficked commercial real estate listings database in the United States and offered some commercial real estate information services. Xceligent also actively tracked and aggregated commercial real estate listings and property-specific information and maintained a detailed and comprehensive database.

The FTC’s complaint alleges that the proposed acquisition would reduce competition in the markets for these listing databases and information services and that CoStar and LoopNet are the only two providers with nationwide coverage. The complaint also alleges that Xceligent is the “most similar competitor for information services” to CoStar and, therefore, the combination would eliminate the direct and substantial competition between the two companies due to LoopNet’s ownership stake in Xceligent. The consent requires that the combined Co-Star-LoopNet take certain steps to ensure that Xceligent is able to compete and expand aggressively in the U.S. market for commercial real estate listings databases and information services. Specifically, the consent “imposes certain conduct requirements to assure the continued viability of Xceligent as a competitor to the merged firm and to reduce barriers to competitive entry and expansion. These additional provisions will facilitate Xceligent’s geographic expansion and prevent foreclosure of [the parties’] established customer base.” The consent requires, among other things, CoStar and LoopNet to continue to offer their customers core products on a stand-alone basis for three years. A related provision prohibits the parties from limiting use of the REApplications product, a software tool for managing market research in connection with customers’ purchase, lease, or license of CRE database services from competitors. Also, in 2013, the FTC required Fidelity to sell a copy of LPS’s title plants (databases used to determine title status of real property) in six Oregon counties.

23. Ibid.
24. The “anti-bundling” provisions are aimed to protect Xceligent for a limited period while it expands the breadth and geographic scope of its services.
25. Press Release, Fed. Trade Comm’n, FTC Puts Conditions on Fidelity National Financial’s Acquisition of Lender Processing Services (Dec. 24, 2013), available at http://www.ftc.gov/news-events/press-releases/2013/12/ftc-puts-conditions-fidelity-national-financials-acquisition. This matter is also noteworthy in the debate that Commissioner Wright started where he challenged in his dissent the presumption that a decrease in the number of competitors from four to three, or even three to two, will necessarily harm competition even in highly concentrated markets where entry is unlikely.
3.1.2. Vertical Theories

Some of the most interesting transactions involving content providers were not horizontal, but “vertical” in nature. The DOJ’s Guide for Merger Remedies indicates that vertical mergers “can create changed incentives and enhance the ability of the merged firm to impair the competitive process. In such situations, a remedy that counteracts these changed incentives or eliminates the merged firm’s ability to act on them may be appropriate.” The Guide recognizes that:

> there is a panoply of conduct remedies that may be effective in preserving competition. No matter what type of conduct remedy is considered, however, a remedy is not effective if it cannot be enforced... The most common forms of conduct relief are firewall, non-discrimination, mandatory licensing, transparency, and anti-retaliation provisions, as well as prohibitions on certain contracting practices.

In 2009, Comcast proposed acquiring NBC Universal ("NBCU"). Comcast argued that the transaction would bolster its role as a creator and distributor of content by offering “multiplatform anytime, anywhere” media. Thus, the transaction offered potential gains in terms of dynamism, modularity, and demand-side scale and scope. Although the transaction had certain horizontal aspects since it included NBCU’s cable networks and Comcast already had some content, the DOJ’s focus was vertical in nature: the merger as proposed would allegedly have enabled Comcast to harm competition by either withholding or raising the price of NBCU content for firms that competed with Comcast’s cable operations. In addition to traditional competitors, such as cable overbuilders, satellite services, and telephone companies, the DOJ noted the emerging online competition from online video distributors ("OVDs").

The DOJ indicates that the settlement ensures that the transaction will not chill the nascent competition posed by online competitors that have the potential to reshape the marketplace by offering innovative online services. Under the terms of the consent, the joint venture agreed to license its programming to OVDs on similar, or better, terms than: (1) those that have been obtained under distribution agreements with one of NBCU’s peers; or (2) NBCU offers to traditional video programming distributors. The consent also prohibits Comcast from imposing upon content owners contractual terms that unduly limit a content owner’s ability to negotiate freely creative arrangements with Comcast competitors. The settlement prohibits the joint venture from retaliating against: (1) any broadcast network, affiliate, cable programmer, production studio, or content provider for licensing content to Comcast competitors; or (2) any firm that raised concerns with the DOJ or the Federal Communications Commission (“FCC”)

27. Ibid.
about the transaction. The consent also requires NBCU to adhere to the FCC’s Open Internet provisions regardless of whether they are overturned.\textsuperscript{29}

### 3.2. Transactions Involving Database Software

As with cases involving databases, the agencies’ views of acquisitions involving database software often seem to turn on predictions regarding the competitiveness and conduct of alternative providers and the changes in the incentives of the merged firm following the transaction.

The 2009 Oracle-Sun transaction illustrates these themes. Oracle acquired Sun Microsystems, Inc. for two primary reasons: (1) to gain control over Java; and (2) to integrate vertically its stack of offerings to compete with firms such as IBM and EMC/VMware.\textsuperscript{30} Oracle makes databases and other software for large corporations. Sun Microsystems, Inc., made computer servers and owned the widely used Java platform, which is one of the key software building blocks used in Internet programs and MySQL, an open source database program that critics of the transaction said could someday evolve into a competitor of Oracle and/or Microsoft. Nevertheless, as proposed, the transaction held the potential of jump-starting innovation among rivals IBM and EMC, increasing modularity and expanding demand-side efficiencies of scale and scope.

The DOJ issued a second request, but ultimately closed the investigation on the basis that, according to the DOJ: (1) there were many (perhaps eight or more) open and proprietary database competitors, so customers would continue to have choices; and (2) there is a large community of developers and users of Sun’s open source database with significant expertise in maintaining and improving the software and who could support a derivative version of it.\textsuperscript{31} Thus, the transaction would neither affect the viability of alternative providers nor change Oracle-Sun’s incentives to engage in anticompetitive conduct.

The FTC reached the opposite conclusion in a 2013 consent in which it required that Solera, which had acquired Actual Systems (and two related companies) on May 29, 2012, sell one of the U.S. and Canadian yard management systems (“YMS”) and provide a 10-year license to a key database to ASA Holdings, a company started by former employees of Actual Systems. At the time of the 2012 acquisition, both Solera and Actual Systems developed and sold YMS used by automotive recycling yards. Presumably, the combination would produce cost savings. According to the FTC,

\textsuperscript{29} Ibid. Specifically, Comcast cannot unreasonably discriminate in the transmission of OVDs’ lawful network traffic to a Comcast broadcast customer and is required to give other firms’ content equal treatment under any of its broadcast offerings that involve caps, tiers, metering for consumption or other usage-based pricing.


however, the market for YMS software was already highly concentrated at that time
and the elimination of the competition between the two companies had reduced
innovation for software and caused higher prices for automotive recycling industry
customers. In the relevant geographic markets of the United States and Canada, Solera
and Actual Systems were allegedly two of only three providers of YMS. In this case, the
FTC’s prediction was that alternative providers would not emerge, and that (absent
relief) incentives for anticompetitive conduct would be increased.

The potential for such vertical theories to lead to complex conduct remedies is
illustrated by the DOJ’s 2011 examination of Google’s acquisition of ITA Software,
which it saw primarily as a vertical merger.

ITA had developed the leading independent airfare pricing and shopping system
“QPX.” QPX collects and organizes airline flight schedules, pricing, and seat availabil-
ity for travel services companies. It is used by online travel agents (e.g., Orbitz) and
other flight search services.\(^{32}\) Google, the largest Internet search provider, planned to
launch an Internet travel site to offer comparative flight search services. Google
indicated at the time that it was:

buying ITA Software to create a new, easier way for users to find better flight
information online. By combining ITA Software’s expertise with Google’s technol-
ogy, [Google would] . . . be able to bring new flight search tools for users that
[would] . . . make it easier for them to search for flights, compare flight options and
prices, and get them quickly to sites where they can buy their tickets.\(^{33}\)

Moreover, according to Google, the combination would permit it to make more
significant innovations and bigger breakthroughs than would be possible if Google had
simply licensed ITA Software’s data service.\(^{34}\) Thus, Google presented the transaction
as one that fostered dynamism and demand-side benefits.

The DOJ did not conclude that Google would use its positioning in general search
to gain unfair advantage in travel search. Rather, the DOJ alleged that, after acquiring
ITA, Google could deny QPX to other flight search companies or disadvantage their
access to it, so that Google could gain an advantage for its new flight search services.
These foreclosure concerns arose because the DOJ believed that the remaining options
to QPX were not suitable alternatives.

To address these concerns the DOJ required Google-ITA: (1) to continue to
license QPX to other flight search companies on fair, reasonable, and nondiscrimina-
tory (“FRAND”) licensing terms; (2) to make available to other flight search services
any QPX upgrades it makes available to other customers; and (3) not to enter into
agreements with airlines that would “inappropriately” restrict the airlines’ right to
share seat and booking class information with Google’s competitors. In addition,
Google committed to continue to fund for two years research and development of QPX
at least at similar levels to what ITA had invested in recent years and to develop and

\(^{32}\) United States v. Google Inc. and ITA Software, Inc., No. 1:11-cv-00688-RLW (proposed judgment,

/press/ita/faq.html.

\(^{34}\) Ibid.
offer to travel websites ITA’s next generation “Instasearch” product. The consent provides for mandatory arbitration under certain specified circumstances and establishes internal firewalls to prevent unauthorized use of competitively sensitive information and data gathered from ITA’s customers. The consent also prevents Google’s tying of the system to other products. The duration of the consent is five years (shorter than the typical 10 years found in most consent decrees).

Google’s acquisition of ITA also exemplifies the difficulties in analyzing high-technology transactions and in fashioning remedies. Google’s acquisition held the potential of benefiting consumers by, among other things, resulting in better ways to access ITA’s data and improving overall travel-related searches. For example, Google might facilitate expansion of ITA’s search offerings beyond travel to include hotels. To the extent that Google made fare offerings more transparent, consumers could benefit. Given that Google did not plan to sell tickets, but would instead simply direct consumers to airline or online travel sites to make a purchase, Google’s entry could also benefit consumers by increasing competition to meta-search companies.

As mentioned above, the DOJ thought that Google, which apparently had planned to enter into the flight search service, would use its control over what the DOJ identified as a “critical input” to disadvantage its competitors post-merger. Implicitly recognizing the potential consumer benefits from Google’s acquisition of ITA, the DOJ focused on behavioral conditions that would ensure that the change of ownership of ITA’s business would not result in a change in the access terms to QPX and its improvements or ITA’s internal decisions regarding R&D. The behavioral conditions imposed, however, are highly complex and interventionist in nature. Given the speed at which high-technology marketplaces evolve, as well as the potential that such restrictions could actually hinder competition if left in place too long, it is not surprising to see the DOJ limit the consent duration to five years, rather than the 10-year terms typically seen in consents.

3.3. Transactions Involving Hardware, Platforms, or Networks

As with other IT markets, acquisitions involving hardware, platforms, or networks are often scrutinized to determine whether or not they will create or enhance entry barriers by becoming a bottleneck for rivals to compete. These transactions often involve nascent or quickly evolving marketplaces, with agency decisions premised on imprecise facts regarding the actions and abilities of third parties to develop competing products or platforms.

In 2010, the FTC closed its investigation of Google’s acquisition of AdMob, a mobile advertising network.\(^{35}\) AdMob had been one of the first mobile advertising networks to focus on the iPhone when the Apple App Store opened in June 2009. At the time that Google announced its proposed acquisition of AdMob, Google had a beta advertising network for mobile applications that also operated on some iPhone apps.

The parties indicated that the transaction would: (1) accelerate the pace of innovation and engaging ad units across platforms; (2) build more powerful relevance and optimization capabilities and more powerful technology and tools to monetize mobile traffic; and (3) leverage Google’s sales team, infrastructure, and relationships to increase the effectiveness of display advertising. In other words, to use our paradigm, the transaction would foster dynamism, modularity, and demand-side benefits.

The FTC’s closing statement indicated that the decision not to challenge the transaction “was a difficult one because the parties currently are the two leading mobile advertising networks . . . [and] each of the merging parties viewed the other as its primary competitor. . . .” The FTC decided not to challenge the transaction because Apple announced in April 2010 that it had acquired Quattro Wireless and had transformed Quattro into a new mobile advertising platform called “iAd” that would be released in June 2010. The FTC concluded that Apple had both the ability and the incentive to ensure that advertising networks would not raise prices or reduce the percentage of advertising revenue that they share with app developers.

Also, on December 2, 2011, the DOJ issued a statement indicating that it was closing its investigation of Google’s proposed acquisition of Admeld Inc. (“Admeld”), an online display advertising service provider. In a blog post on the day of the announcement, Google indicated that “[b]y combining Admeld’s services, expertise, and technology with Google’s offerings, [it was] . . . investing in what [it hoped would] be an improved era of flexible ad management tools for major publishers.” In addition, Google promised to continue to support other ad networks, demand-side platforms, exchanges, and ad servers. The DOJ statement indicates that the DOJ focused on the potential effect of the transactions on competition in the digital advertising industry. Both companies provide services and technology to web publishers that facilitate the sale of those publishers’ display advertising space. Admeld operated a supply-side platform that helps publishers optimize the yield from their display advertising. The investigation found that web publishers often rely on multiple display advertising platforms and can move business among them in response to changes in price or the quality of ad placements. As a result, the risk that the market will tip to a single dominant platform is lessened. In addition, there had been recent entrants. The DOJ also evaluated whether the acquisition would enable Google to extend its market power in the Internet search industry to online display advertising.

through anticompetitive means and concluded that the acquisition is not likely to substantially lessen competition in the sale of display advertising.

On the other hand, the DOJ also successfully challenged Bazaarvoice, Inc.’s (“Bazaarvoice”) July 2012 acquisition of PowerReviews, Inc. (“PowerReviews”).\(^{40}\) In that case, the DOJ alleged as the relevant market “rating and review platforms (‘R&R platforms’) used to collect and display consumer-generated product ratings and reviewing online.”\(^{41}\) The DOJ asserted that Bazaarvoice was the leading commercial supplier of R&R platforms and PowerReviews was its closest competitor by a wide margin; further, it argued, although some retailers used in-house R&R platforms, for many retailers such in-house solutions were not a substitute and therefore did not provide a meaningful constraint on the company’s pricing.

The DOJ alleged that PowerReviews had been positioned as the low-price alternative to Bazaarvoice and that the fierce competition between the two companies had led to innovation and new platform features. The complaint quotes several internal company “hot” documents indicating the transaction eliminated Bazaarvoice’s “only competitor” which had “suppressed prices.” In addition, internal documents, among other things, stated that the combination would “avoid margin erosion,” “eliminate feature driven one-upmanship and tactical competition” and “create significant barrier to entry.”\(^{42}\)

The key allegation of the complaint is that “PowerReviews was routinely the only significant threat that Bazaarvoice faced for U.S.-based sales opportunities.” The complaint is also unusual in its failure to allege any ongoing competitive harm, such as higher prices, poorer service, or less innovation – claims typically made in cases challenging a consummated merger. Rather, the complaint simply states that as “a result of the transaction, Bazaarvoice will be able to profitably impose price increases on retailers and manufacturers based in the United States.”

In its defense, Bazaarvoice asserted that the alleged product market was too narrow given that ratings and reviews are one of many tools that brands and retailers use to engage with customers. PowerReviews, it argued, was a small company and generally unprofitable, and was acquired by Bazaarvoice because its operations provided a base for Bazaarvoice’s expansion. According to Bazaarvoice, since the acquisition, there had been substantial competitor repositioning and entry and intense competition on price and innovation. For example, immediately after the merger, Reevoo, a U.K.-based competitor, opened a U.S. office and won customers from Bazaarvoice. In addition, the company argued that the complaint was based on dated, superseded, and excerpted documents and predictions that bear no resemblance to marketplace realities and that the DOJ had ignored what the totality of the ordinary course documents and economic evidence had shown. The merger parties argued that there had been no harm to customers.

The bench trial occurred from September 23, 2013 to October 15, 2013. The DOJ’s opening statements and briefs heavily relied on Bazaarvoice’s internal documents and

\(^{41}\) Ibid. at ¶ 1.
\(^{42}\) Ibid. at ¶¶ 4, 5, 9.
contended that the reason there was no evidence of higher prices post-merger was the existence of the ongoing DOJ investigation and challenge. Bazaarvoice argued there had been no harm to customers and that most customers were not worried about the merger; the reason that rival reviews and ratings software companies had not grown is because the market changed following the transaction, with Google and Amazon offering their own ratings systems and other software companies facilitating retailers and brands to undertake such systems in-house.

On January 8, 2014, the court ruled for the DOJ, finding that Bazaarvoice was unable to rebut the government’s prima facie case. According to the court:

> the purchase of PowerReviews provides “breathing space” for Bazaarvoice in R&R while it prepares to compete in the broader market. . . . It is unlikely that PowerReviews will be replaced by the existing R&R competitors in the next two years, the time frame in which the Court evaluates the likely effects of the merger.

Specifically, the court rejected the fact that none of the 104 customers whose depositions were taken complained that the merger had hurt them, indicating that it would be a mistake to rely on customer testimony about effects for several reasons: (1) Bazaarvoice’s business conduct was likely tempered by the government’s immediate investigation; (2) the customers were not privy to the evidence, including the economic experts’ opinions; (3) many customers had paid little or no attention to the merger and had different levels of knowledge, sophistication, and experience; and (4) with the pricing policies utilized, it is difficult for customers to discern what is actually happening in the market. In addition, the Court indicated that “the potential for witness bias was greater in this case than most. . . . Third-party customers had to testify about their market strategy in front of a vendor that would be negotiating with within a short time.”

Although Judge Orrick notes that “intent is not an element of a section 7 violation,” a significant portion of the decision discusses the strong documentary evidence that establishes PowerReviews as Bazaarvoice’s fiercest (and perhaps only significant) competitor. The court further indicates that Bazaarvoice’s defenses against the government’s arguments were often “undermined by pre-acquisition statements from its and PowerReviews’ executives.” Indeed, the court finds that “anticompetitive rationales infused virtually every pre-acquisition document describing the benefits of purchasing PowerReviews.”

Another, long-term, purpose of the transaction, however, was to grow the business beyond basic R&R. While acknowledging this objective as well, the court indicates that “Bazaarvoice’s efforts at trial to walk away from its central rationale leading up to the merger – that acquiring PowerReviews would significantly diminish price competition for R&R platforms – was, at best, unconvincing.”

The economic testimony appears to have also played a role in the court’s decision to define the market narrowly – and to reject the inclusion in the market of firms that defendants argued could enter rapidly. According to the court, the analysis of the DOJ’s

43. Ibid. at ¶ 35.
44. Ibid. at ¶ 89.
expert (Dr. Carl Shapiro) confirmed what the Judge believed was apparent from the non-expert testimony: “other social commerce tools, including social networking sites, Q&As, and forums, either serve a different purpose than R&R or are insufficient substitutes such that customers would not switch from R&R to a social commerce tool in the face of a SSNIP.”

The court expressly addresses whether its conclusions regarding the merger’s anticompetitive effects should be impacted by the fact that it involves a dynamic high-technology market. While noting that it is debatable whether the antitrust laws are well suited for dynamic markets or if they potentially undermine innovation or are needed because market power is transitory when technology changes too fast for companies to become entrenched, the court indicates that “it is not the court’s role to weigh in on this debate” but instead, “the court’s mission is to assess the alleged antitrust violations presented, irrespective of the dynamism of the market at issue.”

The court concludes that, “while Bazaarvoice indisputably operates in a dynamic and evolving field, it did not present evidence that the evolving nature of the market itself precludes the merger’s likely anticompetitive effects.”

Finally, although most of the attention paid to Verizon’s 2011 agreements with SpectrumCo and Cox to purchase broadband wireless spectrum was directed at the impact on competition in the wireless broadband sector, these agreements also raised some interesting issues with respect to their potential to impact the development of a proprietary set-top box. As proposed, the deal included the creation of a new joint venture (referred to as the “Joint Operating Entity” or the “JOE”) in which the parties would collaborate to develop innovative technology and intellectual property that would integrate wired video, voice, and high-speed Internet with wireless technologies. In other words, the agreement would potentially result in increased dynamism, modularity, and demand-side benefits.

As originally proposed, however, the JOE would function as the exclusive vehicle for R&D for these companies within the JV’s exclusive field for a potentially unlimited duration. The exclusive sales partnerships and research and development collaborations among these rivals, particularly with no end date, could blunt the long-term incentives of the parties to compete against each other, and others, as the industry evolves. Implicit in the concern is that such long-term exclusivity was unnecessary to achieve the potential benefits.

45. Ibid. at ¶ 147.
46. Ibid. at ¶ 141.
47. Ibid. at ¶ 141.
Therefore, the DOJ consent announced on August 16, 2012, among other things, required that the JOE Agreement be amended to allow Time Warner Cable and Bright House Networks to develop independently any technology that they have presented to the JOE for potential development but that the joint venture declines or ceases to pursue. The DOJ consent is somewhat unusual in that it contains certain restrictions that, unless the DOJ later modifies the consent, become effective on December 2, 2016 (five years after the commercial agreements were entered into). These restrictions require the parties to withdraw from the JOE by that date and require the JOE to: (a) license the exiting party with an immediate, irrevocable, perpetual, royalty-free, fully paid-up, non-exclusive license with immediate rights to sublicense, exploit, and commercialize any IP then owned by the JOE; and (b) permit the cable companies to license JOE-developed technology to other wireless carriers if they choose to do so upon leaving the JOE.

3.4. Transactions Involving Potential Competition and Future Markets

As discussed above, the “regulatory humility” advocated by Commissioner Ohlhausen should be the governing principle when dealing with less certain terrain. The trend, however, has been the reverse. In Google/AdMob, the FTC expressly dismissed the proposition that it should be careful not to intervene when the market is nascent, every current competitor is a recent entrant, entry barriers are unclear, and there is little historical data. Instead, in that merger the FTC indicated that it “must subject mergers in nascent markets to the same level of antitrust scrutiny as mergers in other markets.” Similarly, the judge in Bazaarvoice discusses (and even debates) whether applying the antitrust laws might *impede* competition in a dynamic market, but ultimately concludes that the defendant did not establish that the evolving nature of the market itself precludes the merger’s likely anticompetitive effects. In Verizon/SpectrumCo, the DOJ includes a “springing” provision that becomes effective only five years after the transactions closed and seeks to create competition in the future in innovation of wireless devices.

In Nielsen/Arbitron, the FTC goes even further, however, seeking to protect a *future* market for audience measurement services. Nielsen had announced plans to acquire Arbitron on December 17, 2013. The two companies were the leading media ratings businesses, although their operations prior to combining – Nielsen in TV and Arbitron in radio – did not overlap. Both were developing, however, syndicated cross-platform audience measurement services, which would measure the audience for a program through traditional platforms (TV or terrestrial radio) as well as the Internet, satellite, or other means. According to the FTC, the elimination of future competition

between Nielsen and Arbitron would likely cause advertisers, ad agencies, and programmers to pay more for national cross-platform audience measurement services. As a result, FTC Chairman Edith Ramirez and Commissioner Julie Brill voted to condition the transaction’s approval on Nielsen’s obligation to: (1) continue its cross-platform projects with ESPN Inc. and Comscore Inc.; and (2) license Arbitron’s portable people meter and related data, as well as software and technology being used in the ESPN project, to an FTC-approved third party for up to eight years.\footnote{See Statement of the Fed. Trade Comm’n, In the Matter of Nielsen Holdings N.V. and Arbitron Inc., FTC File No. 131-0058 (Sept. 20, 2013), available at http://www.ftc.gov/os/caselist/1310058/130920nielsenarbitroncommstmt.pdf.}

Commissioner Wright dissented from the decision on the basis that there was insufficient evidence to believe the merger would substantially lessen competition in the future market for the audience measurement services.\footnote{See Dissenting Statement of Commissioner Joshua D. Wright, In the Matter of Nielsen Holdings N.V. and Arbitron Inc., FTC File No. 131-0058 (Sept. 20, 2013), available at http://www.ftc.gov/os/caselist/1310058/130920nielsenarbitron-jdwstmt.pdf.} Commissioner Wright argues that the intervention is premised on “a novel theory – that is, that the merger will substantially lessen competition in a market that does not today exist.”\footnote{Ibid. at 1.} Commissioner Wright would impose a higher standard of evidence regarding likely competitive effects in a matter involving future markets.

4. LOOKING AHEAD: SOME ISSUES FOR THE FUTURE

As the cases discussed above demonstrate, IT markets are generating an abundant volume of thorny issues and there is no reason to expect a slowdown anytime soon. Much of what lies ahead for regulators is by nature as unpredictable as innovation itself. Two sets of issues seem certain to play important roles: net neutrality and “big data.”

4.1. Net Neutrality: When (if Ever) Is Ex Ante Regulation Appropriate?

The concept of net neutrality means different things to different people, but from a competition-law perspective the central question is the extent to which refusals to interconnect (or imposition of “discriminatory” interconnection fees) by firms with market power are sufficiently likely to be harmful that they should be per se illegal. Specifically, advocates of net neutrality regulation argue that broadband ISPs have incentives to refuse interconnection with (or discriminate against) “edge” providers of content and applications. They argue further that traditional antitrust standards – which would in general proscribe only conduct that results in the foreclosure of equally efficient competitors – are inapposite in the context of the Internet Ecosystem, since traditional antitrust standards fail to account for the beneficial effects of “openness” (i.e., free interconnection) on innovation by edge providers.\footnote{See, e.g., Robin S. Lee & Tim Wu, Subsidizing Creativity through Network Design: Zero Pricing and Net Neutrality, 23 J. ECON. PERSPECTIVES, 61-76 (2009).}
The FCC’s 2010 Open Internet Order embraced this expansive view of the need for net neutrality regulation and, on that basis, imposed an open access mandate on ISPs, prohibiting them from refusing interconnection with edge providers (“blocking”) or charging them for delivering traffic (“discriminating”). Four years later, in January 2014, the D.C. Circuit Court of Appeals overturned the Order on jurisdictional grounds, while at the same time embracing the Commission’s underlying economic rationale and describing an alternative legal theory, under section 706 of the Communications Act, upon which the Commission might formulate a new set of rules. On May 15, 2014, the Commission issued a Notice of Proposed Rulemaking under which proposed alternative approaches to reinstituting the rules. In the meantime, in April 2014, the European Parliament voted to adopt strict net neutrality rules, which essentially ban all payments from content and application providers to broadband ISPs, though at the time of writing, final adoption of the rules depends on a second vote likely to occur later in the year.

It is impossible to predict how continuing efforts to impose such rules will play out politically and in the courts. What is certain, however, is that the debate will continue over whether certain platforms – in this case broadband ISPs – have both sufficient market power and sufficiently perverse incentives to justify ex ante bans on a broad class of two-sided business models. The political forces favoring such regulation – driven by a combination of misplaced concerns over censorship by ISPs and self-interested efforts by edge providers to avoid bearing the full costs of their services – are powerful, but, and it is our sense that, the debate will continue to evidence a lack of both theoretical and empirical support for such sweeping ex ante interventions, leading in the end towards adoption of a case-by-case enforcement regime for all platform providers markets, including broadband ISPs.

4.2. Big Data and the Internet of Things

The FTC held a workshop in November 2013 on the “Internet of Things.” As described by Commissioner Ohlhausen, the one-way conversations at the outset of the Internet, where websites provided information to users, evolved into the rise of social media, where users responded to websites and created conversations with themselves,

to now, the Internet of Things, where our phones, appliances, cars and other items are able to carry on conversations without human intervention and just inform humans as necessary. The Internet of Things is one of the factors (perhaps the most significant factor) driving the related phenomena commonly referred to as “big data”: the capacity to collect, synthesize, and analyze previously incomprehensible amounts of data. *Science Daily* reported in 2013 that 90% of the world’s data had been generated over the previous two years.62

While much of the focus on “big data” has involved its implications for data security, privacy, and other consumer protection issues, it is also true that access to database information is becoming increasingly important from a competition perspective. Indeed, the central theme of cases like *Bazaarvoice, Nielson/Arbitron*, and the Google “search neutrality” investigations is the capacity for market leaders to capitalize on economies of scale and scope in the collection and analysis of “big data.”

For reasons that should be apparent, we will not try to predict the precise course technology will follow in coming years, let alone the exact implications for competition policy. It seems self-evident, however, that the capacity to collect and assess ever larger amounts of data will continue to expand both technologically and in terms of economic significance; further, that the fundamental economic characteristics of information markets will continue to lead to concerns about market power and anticompetitive conduct in such markets; and, finally, that competition authorities will continue to wrestle with the challenge of determining when intervention is appropriate and in what form.

5. CONCLUSIONS

Policing competition in IT markets presents profound challenges. The defining characteristics of such markets lead naturally to high market shares, apparent barriers to entry and potential market power. On the other hand, their dynamic nature and the potential for high returns for successful innovation challenge the longevity of even the most entrenched monopolists.

The cases discussed above highlight the tensions regulators will continue to face in the years ahead, as well as the challenges facing academics and practitioners in terms of developing more useful frameworks and analytical tools. In particular, regulators need better approaches for assessing the extent to which market power in IT markets is likely to be sustainable, as opposed to transitory, for balancing efficiency benefits of both consolidation and conduct against the competitive costs and for assessing the efficiency tradeoffs, over time, of various forms of remedies.

Index

A

Abuse of dominance, 64, 173, 175, 206, 207
Abusive practice, 158, 207, 310, 341
Access, 9, 29, 48, 55, 63, 77, 95, 119, 138, 156, 166, 194, 211, 216, 243, 254, 263, 282, 294, 305, 317, 330, 336, 345, 361, 375, 390
Access to the courts, 194, 200, 201, 203
Accuracy of data, 266, 269, 275
Advertising budget, 93, 96
Advertising market, 94–97, 178
Advocacy, 205, 359–373, 383, 393, 399, 400, 407–410
AgCom, 127, 128
Agência Nacional de Telecomunicações (ANATEL), 35, 53, 138, 322, 332, 335, 346, 360, 375, 387, 398
Agency cooperation, 48, 287, 388, 394, 395, 396
Amazon, 85, 92, 169, 237
América Móvil, 36, 347
American Convention on Human Rights, 260
Anticompetitive practices, 41, 363, 364, 399, 400, 407, 408, 410
Antitrust defense, 218, 220, 221, 229
Antitrust policy, 71, 112, 114, 387, 389, 393, 395, 397, 398, 409, 411
Apple, 21, 23, 72, 82, 83, 131, 172, 175–178, 185–187, 197, 201, 202, 226
Article 11(2) of the EU charter on fundamental rights, 4, 10
Article 21(4) of the EU merger regulation, 6, 11–12
Article 167(4) of the treaty on the functioning of the EU, 5, 6, 9, 12
Article 102 TFEU, 121, 126, 173, 175–178, 199, 200, 221, 225–227
Article 102(c) TFEU, 121
Associative agreements, 210–212

413
Index

AT&T, 13–16, 20, 31, 33, 51, 55–57, 63, 69, 75
Audiovisual content, 119, 337
Audiovisual services providers, 337
Autonomous car, 98, 99
Auto Parts Designs Case, 209
Axel Springer, 92, 96

Bandwidth, 119, 297, 308, 321, 327, 336–337, 339, 340
Big data, 88–90, 166, 167, 238, 239, 242, 243, 281–290
Booking.com, 132
Bosch, 24, 188
Brasil, 35, 36, 38–41, 45–47, 377, 390, 396
Brazilian Competition Policy System (BCPS), 335, 336, 362–364, 368, 373, 399, 407, 409
Brazilian Supreme Court, 333
Bright house, 16, 18, 87
Broadcasting, 7, 29, 31, 79, 93, 154, 155, 211, 307, 361, 364
Bundeskartellamt (BKA), 132

Canada, 61–66, 81, 142, 258, 264–269, 272, 274–278
Canadian Competition Bureau, 97
Car, 90, 98, 99, 102–104, 166, 209, 233, 239, 250
Carriers, 14, 15, 18, 21, 31, 87, 119, 122, 137, 139, 181, 305, 322, 325, 331, 352, 355, 356, 360, 361
Cellular, 13, 19, 53, 186, 187
Cellular South, 14
China, 153–161
Circulation, 15, 92, 122, 168
Civil Landmark of the Internet, 258, 262–265, 274–279
CLARO, 53, 54, 56, 57
Collection of data, 104, 250, 266, 268, 277, 278
Comcast, 16, 33, 75, 79, 123, 312, 324, 331
Commission, 3, 19, 27, 62, 89, 100, 125, 146, 154, 166, 188, 193, 207, 225, 250, 264, 324, 331, 339, 362
Communications, 3, 13, 28, 61, 72, 92, 111, 117, 155, 165, 192, 193, 205, 229, 234, 257, 283, 294, 317, 330, 337, 346, 360, 375, 388, 398
Communications industries, 28, 65, 111, 133, 193
Competition advocacy, 205, 359–373, 383, 399, 400, 408–410
Competition policy, 5, 11, 72, 90, 105–114, 213, 380, 388
<table>
<thead>
<tr>
<th>Topic</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive dynamics</td>
<td>69, 70, 106, 107</td>
</tr>
<tr>
<td>Conditioned access services (SeAC)</td>
<td>337, 339, 355</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>46, 47, 250, 257–264, 273, 286</td>
</tr>
<tr>
<td>Conflicts of competence</td>
<td>400</td>
</tr>
<tr>
<td>&quot;Connected Continent&quot; package</td>
<td>27, 28, 126, 128, 129, 154, 332</td>
</tr>
<tr>
<td>Consolidation</td>
<td>27–33, 36, 39–41, 47, 51, 54, 57, 70, 74, 90, 109, 127, 249, 255, 258, 262, 264, 278, 314, 354, 360</td>
</tr>
<tr>
<td>Consultation</td>
<td>10, 11, 99–101, 125, 211, 260, 263, 275, 309, 311, 326, 337, 363–368, 370, 395, 409</td>
</tr>
<tr>
<td>Consumer protection</td>
<td>90, 102, 256, 284, 338–339, 369</td>
</tr>
<tr>
<td>Content markets</td>
<td>94</td>
</tr>
<tr>
<td>Content providers</td>
<td>12, 31–32, 76–77, 79, 93, 122, 124, 258, 276, 297, 298, 308, 310, 312, 319–321, 325, 326, 331, 337, 368</td>
</tr>
<tr>
<td>Convergence</td>
<td>8, 12, 27–33, 91–104, 171, 354, 355</td>
</tr>
<tr>
<td>Cooperation</td>
<td>12, 33, 48, 157, 287, 289, 384, 388, 394–396</td>
</tr>
<tr>
<td>Corporate structure</td>
<td>51</td>
</tr>
<tr>
<td>Court order</td>
<td>126, 243, 259, 274, 276, 287, 323</td>
</tr>
<tr>
<td>Cox</td>
<td>16, 86</td>
</tr>
<tr>
<td>Cross-media-effects</td>
<td>96</td>
</tr>
<tr>
<td>Cultural diversity</td>
<td>3–6, 8–12</td>
</tr>
<tr>
<td>Cyber security</td>
<td>98, 289–290, 330</td>
</tr>
<tr>
<td>Data controller</td>
<td>263, 269, 270, 272, 273, 275</td>
</tr>
<tr>
<td>Data protection directive</td>
<td>101, 289, 339</td>
</tr>
<tr>
<td>Data transfer and encryption</td>
<td>154, 158–161, 243, 248, 288, 289, 339</td>
</tr>
<tr>
<td>Department of economic studies (DEE)</td>
<td>399, 409</td>
</tr>
<tr>
<td>Destruction of data</td>
<td>270</td>
</tr>
<tr>
<td>Deutsche Telekom (DT)</td>
<td>13, 15, 18–21, 127</td>
</tr>
<tr>
<td>Differentiated products</td>
<td>111</td>
</tr>
<tr>
<td>Digital Agenda</td>
<td>28, 100, 284–285</td>
</tr>
<tr>
<td>Digitalization</td>
<td>91–104</td>
</tr>
<tr>
<td>Digital media</td>
<td>92, 207</td>
</tr>
<tr>
<td>Directive 95/46/EC</td>
<td>268–271</td>
</tr>
<tr>
<td>Directive 2002/58/EC</td>
<td>268, 270</td>
</tr>
<tr>
<td>DirecTV</td>
<td>33, 55, 56, 58, 390</td>
</tr>
<tr>
<td>Disclosure of data</td>
<td>247, 265, 278</td>
</tr>
<tr>
<td>Discriminatory conduct</td>
<td>338</td>
</tr>
<tr>
<td>Dissemination of data</td>
<td>276</td>
</tr>
<tr>
<td>Draft Bill on Personal Data Protection</td>
<td>258, 262–265, 274, 276, 278</td>
</tr>
<tr>
<td>Draft resolution</td>
<td>277</td>
</tr>
<tr>
<td>Duopoly</td>
<td>96, 97, 298</td>
</tr>
<tr>
<td>Dutch competition authority</td>
<td>32</td>
</tr>
<tr>
<td>DVD Case</td>
<td>206–207</td>
</tr>
<tr>
<td>Dynamic competition</td>
<td>87, 94, 98, 105–114</td>
</tr>
<tr>
<td>Dynamic markets</td>
<td>71, 86, 87, 105–114</td>
</tr>
</tbody>
</table>
Index

E

ECAD case, 209–210
Economics, 35, 41, 49, 74, 139, 239, 320, 365, 369–372, 393
Efficiency(ies), 14, 29, 44, 70, 72, 76, 80, 90, 109, 112–114, 147, 150, 297, 314, 363–364, 375, 378, 384, 395, 409, 410
Efficient institutional structure, 407, 410
Electronic databases, 261
Electronic money, 144, 147–148
Electronic person (E-person), 99
EMC, 21, 80
Emergency services, 102–103, 326, 333
Employees’ data, 103, 289
Entertainment, 13–26, 103, 137, 210, 214, 294, 375
Entry barriers, 30, 45, 71, 76, 82, 87, 106, 149, 254, 297
Espionage, 262, 264, 270, 276
EU law, 173, 177, 193–203, 244
European Convention for the Protection of Human Rights and Fundamental Freedoms, 270
European Court of Justice (ECJ), 101, 104, 131, 176
European Data Protection Supervisor, 100, 271
European Telecommunications Standards Institute (ETSI), 176–177, 179, 195, 197, 199, 215–216, 225–226, 290
Expedia, 132

Expert group, 100

F

Facebook, 112, 118, 168, 254, 285
Fair competition, 311, 314, 335–336, 338
Financial access in Brazil, 142, 149
Financial inclusion, 135, 139–144, 147, 149
Fintech, 57
Foreign investment, 156–157
Fox Film/Warner Bros, 213
FRAND, 22–24
FRAND royalty, 186, 188, 222–224, 229
Frequency spectrum, 154–155, 352
Fundamental rights, 4, 10–11, 104, 194, 200, 203, 248, 258–261, 277, 288, 290
Future markets, 76, 87–88

G

General Data Protection Regulation, 101, 103, 289
General Plan of Competition (PGMC), 351–353, 361, 368, 377, 380–382, 395, 409

416
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>German Federal Cartel Office, 32, 93–98</td>
</tr>
<tr>
<td>Germany, 7, 33, 92–93, 96, 104, 184–185, 197, 215–229, 244, 248, 277</td>
</tr>
<tr>
<td>Google Glass, 104</td>
</tr>
<tr>
<td>GSM, 195</td>
</tr>
<tr>
<td>GVT, 57–59, 347, 379</td>
</tr>
<tr>
<td>H</td>
</tr>
<tr>
<td>Herfindahl-Hirschman Index (HHI), 43, 53, 70, 110, 376</td>
</tr>
<tr>
<td>Hold-up, 24, 182–183, 187, 188, 190, 191, 195–197, 216</td>
</tr>
<tr>
<td>HRS.com, 132</td>
</tr>
<tr>
<td>I</td>
</tr>
<tr>
<td>Implementation of rights, 265, 273, 277–279</td>
</tr>
<tr>
<td>Important competitive force, 30, 31</td>
</tr>
<tr>
<td>Independent Regulatory Agency, 360, 398, 399</td>
</tr>
<tr>
<td>Indicators, 53, 55, 142, 345, 346, 350–351, 364</td>
</tr>
<tr>
<td>Individual access, 265–266, 275</td>
</tr>
<tr>
<td>Industrial Exploitation of Dedicated Lines (EILD), 354</td>
</tr>
<tr>
<td>Industry 4.0, 99</td>
</tr>
<tr>
<td>Information Technology (IT), 69–90, 98, 148, 153, 166, 169, 170, 179, 241, 247, 264, 282–283, 335, 337, 339</td>
</tr>
<tr>
<td>Injunctive relief, 24, 175, 178, 184, 186, 194, 195, 196, 197, 202, 215, 216, 218, 225–226, 228–229</td>
</tr>
<tr>
<td>Institutional efficiency, 409</td>
</tr>
<tr>
<td>Institutional framework, 42, 384, 400, 408, 410</td>
</tr>
<tr>
<td>Institutional improvement, 409, 410</td>
</tr>
<tr>
<td>Institutional loss, 410</td>
</tr>
<tr>
<td>Institutional structure, 375, 380–383, 400, 407, 409, 410</td>
</tr>
<tr>
<td>Insurance, 99, 102–103, 135, 149, 238, 252, 287</td>
</tr>
<tr>
<td>InterContinental Group, 132</td>
</tr>
<tr>
<td>Internet Broadband Access, 336, 350–351, 376</td>
</tr>
</tbody>
</table>

417
Merger control, 3–12, 61, 62, 98, 210–214
MetroPCS, 18–21, 31
Microsoft, 21–23, 70, 72, 75, 80, 117, 169, 177, 184–185, 188–191, 196, 255, 290
Ministry of Communications, 346, 351, 360, 364, 377, 398, 399
Minority shareholding, 35, 42, 48–49, 390
M2M (Machine to Machine), 154–158, 160
Mobile banking, 135–150
Mobile communications, 155, 177, 192, 193, 197
Mobile network operator, 29–31, 136, 149, 307
Mobile payments, 135–150
Mobile phone penetration in Brazil, 138, 142
Mobile phones, 21–23, 137–139, 141–144, 181, 194, 322
Mobile phone subscriptions in Brazil, 138
Mobile virtual network operators, 14, 30, 352
Modularity, 70–72, 76, 79, 80, 83, 86
Monsanto and Bayer, 210–211

National Regulatory Authorities (NRAs), 125, 299
Neighbouring markets, 91, 98
Nest, 91
Netmundial, 329–333, 340
effects, 70–72, 75, 94, 127, 248
infrastructure, 29, 181, 294, 300, 321, 341, 390
neutrality, 121–122, 124, 263, 295, 317–327
News Corp/BSkyB, 4, 6–8, 12
Newspapers, 7, 72, 92–96, 98, 130, 309
NEXTEL, 14, 39, 57, 347–348
Non-binding opinions, 38, 208, 409–410
Non-classical transactions, 210

O
Object identifiers, 101
Office of Fair Trading, 132
Office of the Privacy Commissioner of Canada, 268
Offline media, 94–95
OI, 40, 45, 53, 54, 57, 347, 390–391, 396
On-demand services, 31, 93, 170, 282, 283, 348
Online advertising, 95, 98, 129, 254
Online video platform, 97
Index

Orange, 30, 127, 198, 202, 218–225, 227–229
Overall advertising market, 96
Overlap, 17, 20, 39, 44, 87, 96, 212, 214, 375–384, 390, 400, 408–410
Over regulation, 338–339
Over-the-top (OTT providers), 118–121, 123, 127–128, 135, 337, 338, 373

P

Patent ambush, 176, 183, 221
Patent disclosure, 22, 182, 183, 191
Patent law, 182, 185, 191, 219
Patent portfolio, 21–24, 189–190, 223
Payment institution, 146–147, 149
Payment institution in Brazil, 145, 146
Payment Services Directive (PSD), 144, 146, 147, 149
Personal Information Protection and Electronic Documents Act (PIPEDA), 265–268
PGMC. See General Plan of Competition (PGMC)
Plurality of the media, 3, 4, 6, 12
Policy consensus, 400, 407–410
Policy goal, 397–398
Portability, 88, 101, 129, 168, 171–172, 178, 211, 272, 278, 284, 350, 352
Pre-merger review system, 35, 48, 397
Principle of publicity, 260
Privacy by default, 253, 272–273, 278
Privacy by design, 253, 272–273, 278
Privileged treatment, 340
Processing of data, 157, 166, 266, 269–271, 273, 306
Proofpoint Inc, 99
ProSiebenSat1, 97
Purpose of collection, 158–159, 240, 265–269, 274–275, 278

R

Radio, 62, 87, 93, 100, 154, 155, 336, 352
Reach, 16, 18, 25, 27, 30, 32, 44, 61, 80, 95, 96, 122, 124, 128, 139, 140, 141, 197, 199, 206, 223, 234, 237, 248, 251, 265, 297, 311, 317, 318, 331, 339, 350, 351, 361, 362, 368–372, 379
Realtek, 185, 190, 191
Reasonable and nondiscriminatory (RAND), 22
Reform, 37, 126, 155, 171, 243, 268, 271, 272, 274, 277, 278, 314, 363, 393, 395
Refrigerator, 98, 99, 102, 242
Regulation 1/2003, 194, 197, 202
Regulation of electronic money in Brazil, 144–146
Regulation of payment institution in Brazil, 145–146, 149

420
Index

Regulation of payment institution in Europe, 145–146
Regulatory agency, 48, 322, 326, 335, 339, 341, 360, 365, 378, 379, 387, 391, 393, 395, 396, 398, 399, 407, 408, 409, 411
Regulatory policy, 397–411
Regulatory power, 315
Relevant market, 11, 13, 17, 19, 22, 84, 97, 104, 109–110, 131, 158, 165, 171, 178, 198, 210, 214, 352, 353, 381, 382, 383, 395
Remedies, 25, 29, 30, 32, 35, 41, 44, 45, 47, 48, 74, 76, 77, 79, 81, 82, 90, 131, 132, 185, 194, 197, 200, 202, 227, 229, 255, 256, 268, 381, 382, 390, 391, 392, 394, 396
Retention of data, 288
Reverse hold-up, 195–197
Right of deletion, 101
Right to be forgotten, 101, 272, 273, 278
Right to privacy and private life, 259–261, 274, 276, 277, 288, 298
Rivalry, 44, 107, 111, 182, 212, 352
Robots, 99, 130
Rockstar, 21
Royalty, 18, 21, 22, 23, 87, 158, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 196, 197, 207, 209, 219, 220, 222–224, 226, 229
Royalty stack(ing), 183, 188, 190
RTL, 97
S
Satellite, 32, 33, 37, 55, 79, 87, 155, 337, 367
Score, 102, 103
Secretariat for Economic Monitoring of the Ministry of Finance (SEAE/MF), 398–399, 407, 409
Secretariat of Economic Law (SDE), 43, 208, 210, 362, 363, 364, 368, 369, 371, 392, 393, 408
Secretariat of Telecommunications of the Ministry of Communications (STE/MiniCom), 398, 399
Section 5 FTC Act, 187, 188
Section 2 Sherman Act, 187
Sectorial regulatory agencies, 378, 407
Sectorial studies, 368, 408, 409
Security-as-a-service provider, 99
Security of data, 257, 283, 288–290
Sensors, 91, 101
SFR, 58
Shop Tour Case, 208
SKY, 7, 8, 55, 56, 58, 347, 390
Skye, 118, 127, 305, 306, 338
Smart appliances manufacturer, 91
Smartphone, 21, 70, 92, 93, 108, 175, 177, 193, 215, 218, 227, 337, 372
SNOA, 353–354, 382
Songdo IBD, 91
Sony/EMI, 212–213
Sony Ericsson, 21
Spectrum, 14, 16–21, 27, 28, 30, 37, 39, 54, 56, 62, 64, 65, 66, 86, 87, 100, 153–162, 258, 351, 352, 380, 383
Sprint, 14, 15, 16, 31
Index

| Standard-setting organizations (SSOs), 21, 22, 181, 183, 187, 188, 194, 195, 198, 199, 215, 216, 221, 226 |
| State attorneys general, 14 |
| Storage of data, 158, 159, 165, 167, 168, 169, 170, 171, 282, 287 |
| Supremo Tribunal Federal (STF), 206 |
| Synergies, 58, 74, 375–384, 400, 409, 410 |
| Telefónica, 36, 38–41, 44–49, 51, 52, 53, 54, 127 |
| Telematics box, 102, 103 |
| TIM, 35–49, 52–54, 57, 58, 59, 347, 390 |
| Time Warner, 16, 18, 33, 87 |
| T-Mobile, 13–16, 18, 19, 20, 21, 30, 31, 33 |
| Transmission of data, 125, 270 |
| Two-sided markets, 72, 94, 98, 104, 312, 321 |
| UMTS, 175, 177, 195, 198, 201 |
| UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions, 4, 9 |
| Unfairness Policy Statement, 24 |
| United Nations, 277, 283, 330 |
| Universal/EMI, 3, 4, 6, 8–12, 212–213 |
| Up-to-date data, 126, 266, 269 |
| U.S. Department of Justice (DOJ), 13–23, 31, 33, 76, 79–87, 132 |
| User behaviour, 91 |
| Verizon, 16–18, 31, 64, 86, 87, 123, 325 |
| Vertical foreclosure, 3, 377, 378, 382 |
| Vexatious litigation, 200 |
| Viber, 118 |
| Videolar against Koninklijke Philips Electronics, 207 |
| Video On Demand (VoD), 337, 338, 348 |

422
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vivendi, 25–26, 51, 55, 57–59, 347</td>
</tr>
<tr>
<td>VIVO, 36, 40, 45, 46, 47, 52, 53, 54, 57, 347, 390</td>
</tr>
<tr>
<td>Vodafone, 30, 33, 51, 55, 57</td>
</tr>
<tr>
<td>Wired city, 91</td>
</tr>
<tr>
<td>Working Party on the Protection of Individuals with regard to the Processing of Personal Data, 270, 271</td>
</tr>
<tr>
<td>W</td>
</tr>
<tr>
<td>Washington Post, 92</td>
</tr>
<tr>
<td>WhatsApp, 118, 293, 305, 308, 338</td>
</tr>
<tr>
<td>White spectrum, 153–162</td>
</tr>
<tr>
<td>Willing/unwilling licensee, 188, 190, 191, 198, 226, 228, 229</td>
</tr>
<tr>
<td>Y</td>
</tr>
<tr>
<td>Yahoo, 128, 255</td>
</tr>
<tr>
<td>YouTube, 127, 168, 339, 372</td>
</tr>
</tbody>
</table>