



Université Panthéon-Assas
Paris II



**Proceedings of the Seminar on
Regulation of Asymmetric Mobile Termination Rates**



January 30th 2008

Brussels, Belgium

FOREWORD

It was a pleasure to welcome you in Brussels at our seminar on Asymmetric Regulation of Mobile Termination Rates. We hope that the 150 participants that attended the event – all in all representing major European institutions, more than a dozen national regulatory authorities and many mobile companies as well as telecom consultancies – enjoyed the quality and the intensity of the debate that took place during the four sessions.

This seminar occurred in the midst of a turning point across European mobile markets. The European Commission is currently working on a new set of proposals to regulate the European mobile market by assessing how to control the wholesale fees Mobile Network Operators (MNO) charge one another. These Mobile Termination Rates (MTR) have indeed plummeted over the past five years, but how much further can they be lowered and according to which calendar? Further, is it up to the European Commission to set a pan-European regulation on this matter, or are mobile termination rates a domestic issue to be handled by national regulators? Finally, as national mobile market structures differ markedly in the EU due to varying operator costs, investments, price of labour, is a uniform MTR a valid perspective in the near future?

This debate embodies the key issue: regulation regarding the asymmetries of MTR, meaning the differences of MTR between MNO of the same national market. National telecom regulators have traditionally allowed new entrants to levy higher termination rates than first entrants because the charges act as a *de facto* counterbalance to first mover advantages. While the European Commissioner for Information Society and Media has admitted that new operators may temporarily charge higher rates, she added that eventually all termination rates should converge. Although few would beg to differ with the fact that asymmetric rates should not last forever, the pace of convergence remains an open question.

Addressing the issue of asymmetric regulation of mobile termination rate is a challenging endeavour that will shape the future of mobile markets. This is why we were very grateful to the prominent European scholars and economists that accepted our invitation to share and discuss their latest works and findings so pedagogically.

We would like to warmly thank Prof. Paul W.J. de Bijl, Prof. Martin Cave, Prof. Nicolas Curien, Prof. Tommy Staahl Gabrielsen, Prof. Prof. Steffen Hoernig, Dr.

Karl-Heinz Neumann and Prof. Tommaso Valletti for the quality of their presentations and Mr. Philippe Defraigne for his “savoir-faire” in organising the debates.

And we are very grateful for the support of the conference patrons Avea, Base, Bouygues Telecom, e-Plus, H3G, P4 and Wind.

We are looking forward to welcoming you again to our future events.

Laurent BENZONI,
University of Panthéon-Assas

Edmond BARANES,
University of Montpellier I

Xavier DECOSTER
TERA Consultants

Patrice GEOFFRON
University of Paris-Dauphine

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AGENDA

Chairman – Xavier DECOSTER (TERA Consultants)

09.00-09.30 **Opening address**

Prof. Martin CAVE (University of Warwick)

09.30-10.30 **1. Mobile call termination tariffs: Asymmetric or not?**

Dr. Karl-Heinz NEUMANN (WIK)

Prof. Patrice GEOFFRON (University of Paris-Dauphine)

10.45-11.45 **2. Call termination as a strategic lever for mobile operators**

Prof. Tommy Staahl GABRIELSEN (Norwegian Competition Authority)

Prof. Steffen HOERNIG (Nova University of Lisbon)

11.45-12.30 **Panel discussion with Philippe DEFRAIGNE** (Cullen International)

14.00-15.00 **3. Has mobile call termination regulation failed?**

Prof. Tommaso VALLETTI (Imperial College)

Prof. Paul DE BIJL (Netherlands Bureau for Economic Policy Analysis)

15.15-16.15 **4. Towards a new regulatory framework for MTRs regulation**

Prof. Nicolas CURIEN (CNAM / ARCEP)

Prof. Edmond BARANES (University of Montpellier I)

16.15-17.00 **Panel discussion with Philippe DEFRAIGNE** (Cullen International)

17.00 **Conclusion**

Prof. Patrice GEOFFRON (University of Paris-Dauphine)

Opening address

Prof. Martin Cave

Prof. Cave gave an introductory address to set the terms of the debate. After mentioning the received wisdom on mobile termination and the different views of evaluating mobile operator costs by NRAs, Prof. Cave presented the proposal emerging from new economic models such as treating fixed-to-mobile termination rates separately or confining regulation solely to non-discrimination rules. As for asymmetric termination rates, Prof. Cave called attention to the conflicting views between NRAs, who generally favour higher rates for later entrants, and the European Commission. While allowing asymmetric rates to counterbalance market power between first and later entrants is not ideal, there may be no alternative solution for NRAs.

1. Mobile call termination tariffs: Asymmetric or not?

Dr. Karl-Heinz Neumann

Dr. Neumann started his lecture by presenting all the different asymmetries that arise in the mobile market (market entry, frequency allocation, costs, market shares and termination rates). For each kind of asymmetry, Dr. Neumann presented facts and figures from Europe and Germany, as well as a cost model of German MNOs with different allocated frequency for their network: it shows that costs of a 1.800 MHz network is above those of a 900 MHz one, and that the lower the market shares the higher the gap. He then analysed whether symmetries in termination rates could be a remedy to structural asymmetry in mobile markets, and assessed that symmetry in frequency allocation is a necessary condition to achieve symmetric termination rates.

Prof. Patrice Geoffron

Prof. Geoffron detailed in a first step the rationales behind asymmetric mobile termination rates, and reminded the audience that the ERG accepted a long-term symmetric rate, with asymmetry granted on a transitory basis. He then pointed out the persistence of first mover advantages across European markets, showing that first entrants have *ceteris paribus* higher market shares, revenues and profits than later entrants. He dismissed the possibility that later entrants merely seek a rent through higher MTR, rather than battle for a higher market share. This point was furthered by his demonstration of how venturous it can be to predict how long first entrant advantages will last. He concluded by praising national approaches with tailor-made regulations.

2. Call termination as a strategic lever for mobile operators

Prof. Tommy Staahl Gabrielsen

Prof. Gabrielsen's lecture focused on on-net vs. off-net traffic and prices. Many telecom operators discriminate against off-net. By using a simple model of two competing operators having on-net and off-net prices, several situations come to light (linear or non-linear pricing and uniform or non-uniform pricing). As economic theory seems to assert that there are few collusive incentives on high access charges, it is puzzling to see that access charges are still high. High access charges are, in fact, due to the combination of off-net discrimination, high switching costs and calling club effects. In turn, these high access charges create inefficiencies and undermine consumer welfare. Prof. Gabrielsen thus recommends prohibiting on-net vs. off-net discrimination, which leads to an abatement of switching costs and consequently, lower access charges.

Prof. Steffen Hoernig

Professor Hoernig's presentation focussed on the setting of retail prices when operators create price discriminations between on-net and off-net calls. His aim was to provide evidence regarding the claim of "predatory on-net/off-net price discrimination". He did not assert that anti-competitiveness occurs, but analysed how they would be manifest if they indeed existed. He stated that the hallmark of predatory pricing is a large on-net/off-net differential and that the predatory firm's off-net price increases above competition to reduce the small firm's access revenues as well as to lower the call externality enjoyed by the small firm's customers. He concluded that lower termination charges reduce on/off-net differentials, as well as that both lower symmetric and asymmetric termination charges make predatory actions more difficult, but asymmetric termination charges are more effective in this respect.

3. Has mobile call termination regulation failed?

Prof. Tommaso Valletti

Prof. Valletti focused his lecture on three main topics: waterbed effect, entry deterrence through mobile-to-mobile termination charges, and bill and keep. The waterbed effect consists in rising retail prices as a consequence of lower mobile termination rates. Prof. Valletti's study shows that there is evidence of a ("strong" but not "full") waterbed effect and that this effect has antitrust and regulatory implications. As for entry deterrence, he explained how industry-wide high reciprocal termination rates can be used to keep out potential entrants. Finally he proposed two paths for future regulation: either remove regulation on fixed-to-mobile termination rates which should eventually lead to bill and keep, or impose bill and keep and let the operators choose their own pricing structure (without banning "receiving party pays").

Prof. Paul W.J. de Bijl

Prof. de Bijl presented his studies on the "calling party pays" system. CPP generates externalities as mobile operators can charge fixed operators for termination of calls originating from fixed subscribers rather than charging customers in the market in which they compete. The reverse is far less likely due to regulation constraints, leaving fixed operators with little countervailing bargaining power. Prof. de Bijl proposes to end distortions created by termination rates by setting them to zero for all operators, even the later entrants. This would have many advantages in preventing cross-subsidies from fixed operators to mobile operators, without creating any inflation on usage prices; prices structures would reflect underlying cost levels; and finally it would be a simple and light-handed way to regulate mobile markets.

4. Towards a new regulatory framework for MTR regulation

Prof. Nicolas Curien

Prof. Curien illustrates the rationales behind asymmetric regulation by presenting the French mobile market. Asymmetric termination rates were useful in offsetting previous asymmetry in frequency allocation (a situation that was later rectified), as well as an entry delay combined with switching costs that lead to discrepancies in market shares (although it is hard to draw a line between exogenous factors and internal corporate management and choices). He underlined the fact that due to high fixed-to-mobile

termination rates, fixed operators can not compete with convergent offers launched by mobile operators. The solution to reduce inefficiencies both in the MTM and FTM market would be to set mobile termination rates at cost and to have fixed and mobile termination rates converge in the long run. He concluded by advocating for more harmonisation both at a national and European level.

Prof. Edmond Baranes

Prof. Baranes introduced his lecture by arguing that even though mobile termination rates have strongly decreased in the past years, they still remain above cost and are uneven throughout Europe. Moreover termination rates can be a strategic tool for mobile operators as it is a cost for rivals, and price discrimination between on-net and off-net calls can be even **further discriminatory**. He remained sceptic on the possibility of having shares converge as markets are saturated and believes that regulation should be set by anticipating asymmetric long-term equilibrium. The ultimate goal of regulation should not be to obtain an elusive perfect symmetry in mobile markets, but rather to strike a balance between efficiency in **competition and in production**, to help achieve sustainable competition and to concentrate on maximising genuine consumer welfare.

BIOGRAPHIES

Prof. Edmond Baranes



Professor of Economics at the University of Montpellier I.

Prof. Edmond Baranes obtained a PhD in Industrial Organization from the University of Paris I Panthéon–Sorbonne. He is Professor of Economics at the University of Montpellier. His main fields of work are industrial organization, competition policy, regulation, telecommunications and energy economics. Edmond Baranes is also the Editor of Communications & Strategies.

Prof. Paul W.J. de Bijl



Head of the department Competition & Regulation at CPB Netherlands Bureau for Economic Policy Analysis (Dutch public think-tank for economic policy research).

Paul obtained a PhD in Economics at CentER, Tilburg University joint with the University of Toulouse, within the framework of European doctoral program ENTER. After that, he worked as a consultant at Science & Strategy, a researcher at CPB, policy advisor at the Financial and Economic Policy Directorate of the Ministry of Finance, and research coordinator of TILEC (Tilburg Law and Economics Center) at Tilburg University.

Paul is fellow of ENCORE (Economics Network for Competition and Regulation) and extramural fellow of TILEC. His main research interests are industrial organization, competition and regulation; in particular regulation of telecommunications markets. Together with Martin Peitz he wrote the book *Regulation and Entry into Telecommunications Markets* (Cambridge University Press, 2002), which has received positive critical acclaim from academics, consultants and regulators. A Chinese translation is in the making.

Prof. Martin Cave



Director, Centre for Management under Regulation, Warwick Business School, University of Warwick.

Martin Cave is Professor and Director of the Centre for Management under Regulation, Warwick Business School. He holds bachelor's, master's and doctoral degrees from Oxford University. Until 2001 he

was Professor of Economics at Brunel University.

He specialises in regulatory economics, especially of the communications sector. He is the author of the Independent Review of Spectrum Management (2002) for the UK Government, co-author of Understanding Regulation (1999) and co-editor of the Handbook of Telecommunications Economics Vol. 1 (2002) and Vol. 2 (2005), and author of many articles in journals.

As well as his academic work he has also undertaken studies for the European Commission and advised regulatory agencies. He was a member of the UK Competition Commission from 1996 to 2002. He has advised the European Commission on broadband and international roaming issues, and assists telecommunications regulatory agencies in the UK, Ireland, Greece, Portugal, Cyprus and Singapore. He is responsible for two studies of spectrum management carried out for the Chancellor of the Exchequer in the UK. He has advised the OECD, especially on telecommunications reform in Eastern and Central Europe. He is president of ThinkTel, an international think tank on telecommunications based in Milan.

Prof. Nicolas Curien



Member of the Board of ARCEP, the French regulatory body for electronic communications and postal services.

Graduated from Ecole Polytechnique and Telecom Paris, Nicolas Curien began his career as an assistant professor at Telecom Paris, then as a manager at the Directorate for telecommunications (the former France Telecom), in charge of economic studies. In 1986, he joined the Department of Defence as chief economist. In 1989, he was appointed deputy-director of the National School for Statistics and Economic Analysis (ENSAE), within the Department of Economy and Finance.

In 1992, he was granted the chair “Telecommunications Economics and Policy” at the Conservatoire National des Arts et Métiers (CNAM). He also teaches economics at the Ecole Polytechnique, is a member of the Académie des Technologies (the French National Academy of Engineering) as well as a founding member of the International Telecommunications Society (ITS).

He has written a number of scientific articles and several books in the fields of industrial organization and networks economics.

Prof. Tommy Staahl Gabrielsen



Chief Economist, Norwegian Competition Authority.

Tommy Staahl Gabrielsen is Professor of Economics and Chief Economist at the Norwegian Competition Authority. He holds a master's and doctoral degrees from University of Bergen, Norway. Until 2007 he was a Professor of Economics at University of Bergen and a scientific advisor for the Centre for Research in Economics and Business Administration.

He specialises in industrial organization and competition policy. His main fields of work are within vertical restraints and oligopoly pricing. His academic papers have appeared in scientific journals such as *European Economic Review*, *International Journal of Industrial Organisation*, *Scandinavian Journal of Economics and Information Economics and Policy*

As well as his academic work he has also undertaken several studies for governmental bodies and ministries in Norway, and he has participated and led several large research projects financed by the Norwegian Research Council on competition policy issues. In addition he has advised competition authorities both in Norway and internationally as well as private firms in competition cases.

Prof. Patrice Geoffron



Professor of Economics, University of Paris-Dauphine.

Patrice Geoffron holds a PhD in Industrial Organisation from the University of Paris XIII and is professor of Economics at the University of Paris-Dauphine. Formerly Vice-President for International Policy, he is currently the Director of the LEDa (Laboratory of Economics in Dauphine). Specialist in industrial organisation and network economics (telecommunication, energy and utilities), he co-edited in 2007, with Pr. Laurent Benzoni, the collective book: "Competition and Regulation with asymmetries in Mobile Markets" (Quantifica). Invited Professor in Todai University (Tokyo) and Fudan University (Shanghai). Award of the best PhD thesis in 1991 (French National Association of PhD in Economics). Regular columnist in *Le Monde* since 1997.

Prof. Steffen Hoernig



Professor at the Faculdade de Economia, Universidade Nova de Lisboa.

Steffen Hoernig holds a Masters Degree from University of Georgia (Athens GA, USA); a Diplom-Kaufmann from Universität Bielefeld (Germany); and a PhD in Economics from the European University Institute (Florence, Italy).

Since 2000 he is Professor at Universidade Nova de Lisboa, Portugal.

His area of research is Industrial Organization, with interests in communications economics, R&D, and game theory.

He is author of several articles in academic journals and has advised the Portuguese NRA for the communications sector, ICP-Anacom.

Dr. Karl-Heinz Neumann



General Manager, WIK (Germany).

Karl-Heinz Neumann, a graduate of the University of Bonn with a Ph.D. in Economics, rejoined WIK in April 2001 in the position as General Manager and Director of WIK GmbH and WIK-Consult GmbH. Karl-Heinz Neumann has already been in the same position until 1995. During 1995 and 2001 he worked for RWE Telliance AG as Executive Director for strategy, regulation and national projects. In the last two years he was Member of the Management Board of the Company. In this position he also acted as Member of the Board and as Member of the Supervisory Board of several national and international telecommunications companies.

Besides his telecommunications industry experience, Karl-Heinz Neumann has a broad experience in the consultancy of regulatory authorities, governments and telecommunications companies. He acted as a member of many expert and advisory commissions, related to German telecommunication authorities. Dr. Neumann has led and is leading WIK teams in many European regulatory policy consultancy studies.

Prof. Tommaso Valletti



Professor of Economics at Imperial College London and at the University of Rome "Tor Vergata" (Italy).

Tommaso Valletti has a magna cum laude degree in engineering from Turin and holds a MSc and a PhD in economics from the London School of Economics, where he also taught until 2001. He is a Fellow of CEPR.

Prof. Valletti's main research interests are in industrial economics, regulation, and telecommunications economics. He is the Editor of Information Economics & Policy, Associate Editor of the Journal of Industrial Economics, and on the Advisory Board of the Journal of Network Industries and Communications and Strategies. He has published numerous articles in journals such as the Economic Journal, European Economic Review, Journal of Industrial Economics, Journal of International Economics, and RAND Journal of Economics.

Prof. Valletti is a member of the panel of academic advisors to Ofcom, the UK communications regulator. He is also a member of the panel of academic advisors of the UK Competition Commission. He was a board director of Consip, the Italian Public Procurement Agency, in 2002-2005. He has advised numerous bodies, including the European Commission, OECD, and the World Bank on topics such as network interconnection, mobile telephony markets, and spectrum auctions

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