

**Comment by Martin Cave (University of Warwick, UK) on OFTA Consultation Document ‘Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services: Analysis of Comments Received, Preliminary Conclusions and Further Consultation’.**

*Introduction*

I have been invited by Hutchison to provide an opinion as an economist working in European markets on proposals made by the TA in his document *Licensing of Mobile Services on Expiry of Existing Licences for Second Generation Mobile Services: Analysis of Comments Received, Preliminary Conclusions and Further Consultation*, dated 19 March 2004. This statement was prepared independently of Hutchison and has not been subject to any editorial control by Hutchison. The opinions expressed here are accordingly entirely my own and cannot be attributed to any other person, company or organisation.

As a professional economist, I have studied the regulation of telecommunications for twenty years. I am a Professor at Warwick Business School in the University of Warwick in the UK, having formerly been Professor of Economics and Vice-Principal at Brunel University in West London. (A brief *curriculum vitae* is appended.) I am the author of many journal articles on telecommunications regulation and a co-editor of the *Handbook of Telecommunications* Vol. 1 (Elsevier 2003). In addition to academic work I have advised many regulators on telecommunications matters – amongst others, Ofcom (and its predecessor OFTEL) in the UK, national regulatory agencies in Greece, Ireland and Portugal, and the European Commission. In 2001 I was appointed by the UK

Treasury and Department for Trade and Industry to prepare an independent *Review of Radio Spectrum Management* (2002), the principal recommendations in which have now been adopted by the UK Government.<sup>1</sup> Many of the remarks that follow are based on the conclusions I reached in the course of preparing the above-noted report.

### *The Consultation*

It is apparent from the TA's document that, in relation to the expiry of existing licenses for second generation mobile services, that he is minded to:

- i) offer a 'right of first refusal' to the nine incumbent GSM and PCS licences
- ii) decline to offer CDMA and TDMA licensees a 'right of first refusal', but to require them to vacate the frequency spectrum they are currently assigned in 2005.
- iii) use some of the vacated spectrum to offer one new mobile licence in the 800 MHz – this licence to be associated with service coverage equipment which imply a particular choice of standard
- iv) reserve the remaining vacated spectrum for future uses.

### *Principles underlying this reponse*

Before commenting on these particular proposals, it may be helpful if I set out some of the arguments which underpin them, relating both to frequency management and the regulation of mobile communications services. In the interests of brevity, I will do so in note form:

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<sup>1</sup> See 'Government agrees recommendations from Cave Review' Press Notice P/2002/631, 15 October

- i) traditional techniques of spectrum management, based on the ‘command and control’ principle, have historically served the industry well, but encounter difficulties in coping with increasing demand and accelerating technical change.
- ii) the introduction of market instruments, such as auctions, for the assignment of licences, has improved efficiency, but not changed in any fundamental way the administrative nature of the procedure whereby spectrum is allocated to particular uses and then assigned to individual licensees. In particular, the regulator – in Hong Kong, the TA – still effectively determines the structure of the mobile industry, by means of decisions such as those contemplated here over how spectrum is to be assigned and taken back.
- iii) moreover, the circumstances in which auctions are conducted – namely, that they offer opportunities likely to recur only at infrequent intervals, with little or no opportunity for the licensee to change its policy or retrieve mistakes – lead to the risk of inefficient assignment and an inefficient industry structure.
- iv) given that the TA has the onerous responsibility of making the key decisions at issue in this consultation, I believe it is possible to address these decisions in terms of the criteria of encouragement of market structures which benefit consumers, incentives to invest efficiently, and technological neutrality.

I shall therefore seek to evaluate the two aspects of the proposed decisions (withdrawal of spectrum and issuing of a new licence) in terms of these criteria.

*The decision not to renew the CDMA and TDMA licences*

It seems to me that two issues are at stake here: the ‘local’ issue of whether the spectrum in question is used in a way which benefits end users and a ‘general’ issue relating to the consequences of requiring any licensee to vacate spectrum at short notice.

I do not feel qualified to offer an opinion on the first issue. In essence the TA is seeking to weigh two imponderables. On one hand, the existing licensees provide service to their customers, which is different from that those provided by others and these consumers would face a switching cost. The licensees’ presence in the market has an impact on competition and thus affects all consumers. Withdrawal of the spectrum will strand certain assets of the licensees and impose losses on their investors.

On the other hand, the intended use of the spectrum has consequences which are extremely hard to calculate. A fifth 3G licensee may turn out to be an example of excessive entry, achieved through a structural intervention based on a highly informal regulatory impact assessment. In indirectly determining the uses to which the spectrum will be put, the TA may be subject to a ‘regulator’s curse’ just as damaging as the ‘winner’s curse’ in auctions, which guides him to select the outcome about which he is most optimistic, rather than the one which yields the greatest benefits. Alternatively, a new 3G licence may unlock the mobile data market in Hong Kong, generating benefits for consumers.

In making this particular decision, the TA has to weigh up conflicting considerations of this type, but should be in no doubt about the fragility of the underlying evidence.

The other more general issue concerns the impact which withdrawal of the spectrum has on investment incentives by all spectrum licensees. In almost all cases, such licensees have to make substantial collateral investments – in the case of a mobile operator including base stations, other network assets and marketing. Unless investors have confidence in the continuing availability of spectrum, they will be deterred by ‘regulatory risk’ from making such investments in the future.

I learnt in the course of my *Review of Radio Spectrum Management* that most commercial licenses in the UK (other than those granted by auction) are annually renewable. This might seem to make any investor highly vulnerable, but comfort was provided by the custom and practice of the regulator (then the Radio Communications Agency -RA) in giving substantial notice of withdrawal of spectrum; this was bolstered by a general recognition that the RA’s past conduct had given licensees a legitimate expectation of renewal within certain parameters, which (it was widely asserted) would be sustainable as a right in UK court proceedings.

I am not here making any claim about the legal situation in the UK (still less in Hong Kong) but underlining the importance of security of tenure as a *sine qua non* for investment in spectrum-using activities. This is reflected in the discussion of licence duration and termination in the *Ofcom/RA Joint Consultation Document on Spectrum Trading* (2003), which notes the importance of giving licensees and potential purchasers maximum certainty over spectrum when they make their investment decisions (Sections 6.6-7).

In my opinion, the TA should be concerned about the reputational consequences of the withdrawal of spectrum at short notice from the CDMA and TDMA licensees. The grounds offered, as set out in para 25 of the consultation document, are not completely specified – in particular there is no indication how efficiency of use of spectrum is measured and how this is linked to investment. There is therefore a risk that this action, if carried through, will generate uncertainty across the range of spectrum users, and deter investment in all areas.

### *Issuing the new licence*

The TA proposes to reserve some of the spectrum vacated by the CDMA and TDMA licensees (Block B) for subsequent use, and to assign the remainder (Block A) to a single licensee, subject to conditions additional to those imposed on other licensees. In particular, ‘the TA proposes that suitable targets be specified on licence conditions to correspond to an active level of mobile data use,’ to be quantified in terms of a proportion of usage, revenue or another magnitude associated with mobile data services. The new licensee will also have more stringent network roll out and geographical coverage requirements (paras 90-92).

Although the new licensee is not explicitly bidden to use cdma2000 technology, there appear to be severe pressures to do so arising from the additional requirements imposed, and the TA has explicitly noted that ‘the cdma2000 standard can achieve high spectral efficiency and 2 x 10MHz in the 800 MHz band should be sufficient for the new licensee to supplement quality mobile services in Hong Kong’ (para 43).

In relation to the new licence, two particular questions arise. Should a new 3G licence be issued? And should it be linked to mobile data services, and cdma2000 in particular?

As noted above, traditional spectrum management techniques leave the TA a key role in the structural regulation of the Hong Kong mobile industry. One of the associated responsibilities is to avoid promoting excessive and unsustainable entry. Doing so wastes national resources, weakens all competitors and risks creating a dangerous dependence on the regulator by 'failing firms'. I have not conducted an analysis of the Hong Kong 3G market place, but I would find it surprising if a small market could support five viable operators. This alone should give the TA significant pause for thought before issuing a fifth licence.

Secondly, the tilt to mobile data services and, arguably, *de facto* to the cdma2000 standard raises a number of questions. These include:

- does the TA have better information about and forecasts of the market place than market participants?
- if mobile data services are seen as being so profitable, why is it necessary to mandate them, rather than relying on the profit motive to allow them to emerge in a competitive process?
- does the TA have a theory as to why an assignment process without a requirement for mobile data services might allow an inefficient applicant to succeed?

On the footing that the answer to the first question is in the negative, a special factor would need to be present to justify the proposed restriction. Yet the consultation document is silent on what this is.

### *Conclusion*

The TA's proposed actions, taken together, represent a highly detailed intervention in the Hong Kong mobile market, specific to certain firms in the part which deals with the withdrawal of spectrum and specific with respect to the services to be provided, and possibly the standard used, by the new licensee. As a general rule, such 'micromanagement' should be based on persuasive evidence that the benefits of the intervention will exceed not only its direct costs but also the costs of the greater regulatory risk all regulatees feel as a result of such interventions.

In my judgement, the proposed action will have almost certain costs – customers switching costs, stranded asset costs, heightened perceptions of regulatory risk across the market place. The evidence produced of benefits is highly conjectural, given that there are already four 3G operators and competing explanations for the defect which the new licence is intended to rectify – the low take-up of digital mobile services.

In these circumstances, I would advise the TA to hesitate before making such a specific and contentious intervention, and carefully examine alternative and less disruptive approaches to the problem identified, including those which may involve more freedom for existing operators to adapt their services.

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**Education**

BA, First Class, Philosophy, Politics and Economics, Balliol College, University of Oxford, 1969  
BPhil in Economics, Nuffield College, University of Oxford, 1971  
DPhil, Nuffield College, University of Oxford, 1977

**Academic Employment to Date**

1971-1974	Research Fellow, Centre for Russian and East European Studies, Birmingham University.
1974-1987	Lecturer and Senior Lecturer, Department of Economics, Brunel University.
1981-1982	Visiting Associate Professor, Department of Economics, University of Virginia.
1987 to date	Professor of Economics, Brunel University.
1988 to 1994	Head, Department of Economics, Brunel University.
1989 to 1994	Dean, Faculty of Social Sciences, Brunel University.
1994 to 1996	Pro-Vice-Chancellor, Brunel University.
1996 to 2001	Vice-Principal, Brunel University.
2001 to date	Professor and Director, Centre for Management under Regulation, Warwick Business School, University of Warwick.

## **Advisory and Consultancy Experience for Government Organisations\***

**Ofcom:** Adviser from 2003

**OFWAT:** Non-executive advisory Director, from 2002.

Appointed by **Chancellor of the Exchequer and the Secretary of State for Trade and Industry** to prepare an independent report on spectrum management, March-December 2001

Contributor to project for **DG Information Society** on Market definitions in telecommunications.

**Postal Services Commission:** Adviser from 2000.

**Civil Aviation Authority: (2000-2003)** Adviser

**Spectrum Management Advisory Group, DTI,** member from 1999

**French Ministry of Finance (1999)** Member, Groupe d'Expertise, electricity grid pricing.

**Competition Commission (1999-2002)** Member.

**Office of Utility Regulation (Jamaica) (1998-2000)** Economic Adviser.

**Monopolies and Mergers Commission (1996-1999)** Member.

**OFTEL (1990-2003)** Economic Adviser.

## **Selected Publications**

### ***Books & Monographs***

(co-edited) *Handbook of Telecommunications Economics*, Vol. 1, Elsevier, 2003.

*Review of Radio Spectrum Management*, 2002.

(With R W Crandall) *Telecommunications Liberalization on Two Sides of the Atlantic*, Brookings Institution, 2000.

(With R Baldwin), *Understanding Regulation*, 1999, Oxford University Press.

### ***Chapters in books***

"Télécommunications au Royaume-Uni jusqu'où la dérégulation peut-elle aller?", in *Concurrence et service public: Textes des Conférences Jules Dupuit Présidées par Marcel Boiteux* (Claud Henry and Emile Quinet, eds) L'Harmattan, 2003 pp 381-407.

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\* Consultancy assignments from firms omitted.

(with T. Valletti) "Il mercato televisivo nel Regno Unito, in *Il mercato televisivo italiano nel contesto europeo: a cura di Antonio Perrucci and Giuseppe Richeri*, Società editrice il Mulino, 2003 pp 165-205.

'The future of European communications regulation: an assessment of the European Commission's 1999 communications review' Colin Robinson ed. *Regulating Utilities – new issues, new solutions*. With Luigi Prosperetti, 2001, pp 99 - 119.

'UK Telecommunications Deregulation, How far can it go?', K. Nakamura (ed) *Convergence of Telecommunications and Broadcasting in Japan, United Kingdom and Germany*, (Curzon Press 2001) pp 53-72.

"Media and Telecoms Regulation in Converging Markets" *e-britannia: the communications revolution*, 2000 with Harry Shooshan.

### **Selected Refereed Articles**

'The economics of wholesale broadband access' *Multi-Media und Recht, Zeitschrift für Informations-, Telekommunikations-und Medienrecht*, 10/2003 pp 15-19.

(with Manouche Tavakoli and John Goddard) 'Do pay-TV subscribers and non-subscribers have different free-to-air TV viewing patterns?' *Applied Economics*, 35, 2003 pp 1379-1385.

'Symposium on access pricing investment and entry' *Telecommunications Policy*, Vol. 27, November/December 2003 pp 657-658.

(with I. Vogelsang) 'How access pricing and entry interact' *Telecommunications Policy*, Vol. 27, November/December 2003 pp 717-728.

(With Luigi Prosperetti) 'European Communications Networks', *Oxford Review of Economic Policy*, No.3, 2001.

(With Robin Mason) 'The Economics of the Internet: Infrastructure and Regulation', *Oxford Review of Economic Policy*, No.2, 2001, pp188-201.

'Voucher Programmes and their Role in Distributing Public Services', *OECD Journal on Budgeting, volume 1 no. 1*. OECD, 2001, pp 59-88.

'Sports Rights and the Broadcasting Industry (with RW Crandall) *Economic Journal*, Feb 2001, pp f4 – f26.

'Are Spectrum Auctions Ruining our Grandchildren's Future?' *Info*, Vol. 2 No. 4, August 2000, with Tommaso Valletti

(With Peter Crowther) "Call Origination and Termination Charges for Accessing the Internet" *International Journal of Communications Law and Policy*, Vol. No.4, 1999/2000.

(With T. Valletti) "Competition in UK Mobile Communications", *Telecommunications Policy*, March 1998, pp 109-131

(With C Cowie) "Not Only Conditional Access: Towards a Better Regulatory Approach to Digital TV", *Communications and Strategies*, No.2 1998, pp 77-101

"Regulating Digital Television in a Convergent World", *Telecommunications Policy*, Vol. 21, 1997, pp575-596