

the *NPRM* would result in an increase in the deficit on certain routes.^{52/} Presumably, the U.S. would also be subject to the same "cost-based" criteria of the *NPRM*, and so a result of the application of the *NPRM* would be an unequal division of accounting rates in the USA's bilateral relations with all countries not in category 1. It is noted, however, that the historical thrust of the U.S. campaign for accounting rate reform has, in the main, yet to address the fact that the logical consequence of embracing "cost-based accounting rates" is a departure from the existing principle of equally dividing (50:50) the total accounting rate between correspondents.

The settlement deficit itself represents only one facet of the complex equation which produces the U.S. balance of trade in communications. As such, considered in isolation, it can be misleading. For example, in today's convergent multimedia environment, it would be no more meaningful for the European Union to adopt a policy based solely on the U.S. balance of payments surplus in programming with Europe, which currently stands at \$6.3 billion, without taking into account all the other issues involved in the complex trading relationship it has with the U.S..

When examining the causes behind traffic imbalances and their resulting outpayment deficits, it is also necessary to look beyond the cost conundrum to gain a perspective regarding the causes of deficit levels; socioeconomic factors and other national characteristics play their parts. In the specific case of an assessment of U.S. outpayment deficits, it is necessary to consider international traffic patterns, currency exchange rates, international

^{52/} For example, the current settlement deficit with the Cayman Islands is \$2.153 million whereas under the "cost-based" proposals of the *NPRM* it would be \$2.339 million. Equivalent figures for Bermuda would be \$2.014 million and \$2.402 million.

trade patterns, relative disposable income, the structural features of economies, culture, tourist activities, immigration and ethnic composition, and teledensity.^{53/}

One factor that contributes greatly to any settlement imbalance is alternative calling procedures. As Americans have begun to travel more, U.S. carriers have correspondingly begun to publicize their international services, and to introduce international calling cards and USA Direct-type services. The use of such cards has grown quickly because of the convenience of the service, the ability to access English-speaking operators, and high foreign tariff rates. Foreign nationals are increasingly being targeted for these card services, particularly as recently it has even become economically rational to offer "two-leg," or refile, service. U.S. carriers are now promoting their versions of USA Direct service where, outside the U.S., subscribers call from country 1 to country 2 by combining two outgoing calls from the U.S. These two outgoing calls from the U.S. would replace what would previously been a single bilateral call which would not have involved the U.S..

Another form of alternative calling procedure which has distorted the settlement deficit is call-back.^{54/} When resellers began to attract the business of large corporations, they needed increased international capability. Many of the contracts they negotiated with facilities-based carriers resulted in rates below the settlement rate. The underlying carriers

^{53/} Another factor in the equation is the U.S. balance in trade in telecommunications manufacturing, much of which is paid for by developing countries out of their accounting rate revenues. For example, while the Philippines was the fourth largest net settlement receiver of the U.S., with \$161.1 million in 1995, U.S. telecommunications equipment manufacturers have seen their exports to the Philippines rise by 890% over the last five years to \$277 million. It seems likely that were it not for the net settlement inpayments, it is unlikely that Filipino carriers would be able to afford their current level of investment in new equipment.

^{54/} Call-back service enables a customer in one country to access dialtone in another country and carriers to bill customers at the latter country's tariff rate. See note 17, *supra*.

were eager for the business and could offer such rates because, at the time, the effect of the ISP's requirement for proportional return traffic resulted in a payment from the foreign carrier in excess of the loss on the outpayment. Given these low rates, resale carriers had an incentive to maximize outgoing traffic through call-back.

Although the effect of these alternative calling procedures on the U.S. settlement deficit is severe, they are aggressively marketed, sold and billed overseas, and therefore generate significant revenues for U.S. carriers not reported as accounting settlements. For example, the U.S./Hong Kong bilateral traffic has moved from 1.2:1 in 1990 to 7.6:1 today, with traffic much heavier from the U.S.. As the *NPRM* notes, this new imbalance is primarily the result of carrier refile and call-back,^{55/} which have consistently increased on that route since 1994. The impact of these factors on the U.S. settlement payment in 1996 on the U.S./Hong Kong route alone was an increase of approximately \$180 million. This growth in the imbalance with the U.S. is typical of other countries in the region. All this has taken place despite the fact that IDD collection charges on the U.S. route are generally lower from the region than out of the U.S.. However, it is important to recognize that it is the overseas callers who are paying for these telecommunications services, rather than the U.S. consumers and shareholders. U.S. carriers are paying only part of these revenues back to the originating country; the substantial remainder is retained in the U.S. to the benefit of those U.S. consumers and shareholders.^{56/}

^{55/} *NPRM*, ¶ 12 & n.15.

^{56/} Where the customer is a foreign national, the resulting accounting rate outpayments are, generally, more than offset by the foreign currency revenues paid either the U.S. underlying carrier or the U.S. service provider. Where the customer is a U.S. national calling from overseas, the resulting outpayment represents a foreign currency savings on
(continued...)

The impact of the alternative calling procedures on the accounting rate regime is to double the traffic imbalance and, therefore, the outpayment deficit. When this is considered together with the collection rate revenues from overseas customers, the real deficit can be seen to be overstated significantly.

In view of the above, it seems reasonable to assume that even if every foreign carrier establishes a cost-based accounting rate, there will be a sizeable settlement deficit. The precise amount no one really knows. Any attempt to alleviate the settlements deficit must therefore include an analysis of, *inter alia*, the role of the FCC's policies promoting international call-back, the provision of USA Direct-type services, and other measures which skew the ratio of inbound to outbound calls. Obviously, the interrelationship of these matters and above-cost accounting rates must be evaluated if any "solution" to the settlements deficit is to be found.^{57/}

IV. THE COMMISSION HAS NOT DEVELOPED A SUFFICIENT RECORD TO REQUIRE A CARRIER TO VITIATE CONTRACTS WITH FOREIGN CARRIERS FOR TERMINATING SERVICE OR TO CONDITION OR REVOKE U.S. AUTHORIZATIONS

The *NPRM*, as noted above, discusses a number of actions the FCC can take to enforce its decision, including requiring a U.S. carrier to ignore its contractual obligations and conditioning, or revoking, carrier authorizations.^{58/} The FCC's ability to do such,

^{56/}(...continued)

what the customer would have paid for an ordinary international direct dial call. In both cases, the U.S. is a net beneficiary.

^{57/} The *NPRM* also does not explain how above-cost accounting rates thwart competition. Certainly, competition under current conditions has been growing rapidly in the international sphere.

^{58/} *NPRM*, ¶¶ 83 and 89.

however, is quite limited. Under the Supreme Court's *Sierra-Mobile* doctrine and Section 201(b) of the Communications Act, the FCC has the power to abrogate a contract only if it is unlawful because it "adversely affect[s] the public interest."^{59/} Out of a concern for maintaining the stability of contracts and preserving the bargaining expectations of contracting parties, however, courts and federal agencies have placed a very high burden on agencies seeking to declare a contract or contract provision to be unlawful.^{60/} The FCC itself also has stated that a complainant seeking to show that a contract is unlawful bears a

^{59/} *Federal Power Common v. Sierra Pacific Power Co.*, 350 U.S. 348, 355 (1956); *see also United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332, 346 (1956). Section 201(b) of the Communications Act provides, in pertinent part, that

nothing in this Act or in any other provision of law shall be construed to prevent a common carrier subject to this Act from entering into or operating under any contract with any common carrier not subject to this Act, for the exchange of their services, *if the Commission is of the opinion that such contract is not contrary to the public interest.*

47 U.S.C. § 201(b) (emphasis added). In *Western Union Telegraph Co. v. FCC*, 815 F.2d 1495, 1501 n.2 (D.C. Cir. 1987), the Court noted that:

Although the legal standard [under *Sierra-Mobile*] for changing contract rates (they must be "unlawful") differs from the standard for changing other contract provisions (they must disserve "the public interest"), in fact the two standards are not very different.

^{60/} The Supreme Court observed in *Mobile* that, by preserving the integrity of contracts, the Natural Gas Act permitted the stability of gas supply arrangements "essential to the health of the natural gas industry." 350 U.S. at 344; *see also San Diego Gas & Elec. Co. v. FERC*, 904 F.2d 727, 728 (D.C. Cir. 1990) (the Court affirmed FERC's finding that modification of the power contract was not in the public interest because "[t]he certainty and stability which stems from contract performance and enforcement [are] essential to an orderly bulk power market").

high burden of proof.^{61/} The courts have also made clear that conditions placed on an authorization or the revocation of an authorization must be supported by a strong public interest showing supported by record evidence.^{62/}

In view of the *NPRM*'s lack of any basis upon which the Commission can determine the proper accounting rate for any foreign carrier, and even its failure to determine whether moving accounting rates to cost would reduce significantly the imbalance of traffic, it is not possible for the FCC to make relevant public interest findings to support vitiating any contract or conditioning or revoking carrier authorizations.

V. CONCLUSION

C&W, as the Commission is aware, operates in a number of jurisdictions in over 55 countries. It is, therefore, acutely aware of the difficulties and frustrations that can be associated with the multi-jurisdictional/bilateral telecommunications environment. C&W's comments in this proceeding, therefore, are not driven by an inability to understand or agree with most of what the *NPRM* seeks to accomplish. Rather, its comments stem from its belief that the unilateral steps contemplated by the *NPRM* risk increasing the resistance to, and thus retarding, the beneficial changes now occurring in the international telecommunications marketplace. This is not in anyone's best interest. C&W respectfully suggests that the

^{61/} See *ACC Long Distance Corp. v. Yankee Microwave, Inc.*, 8 FCC Rcd 85 (Com. Car. Bur. 1993), *aff'd on recon.*, 10 FCC Rcd 654, 657 (1995); *Expanded Interconnection with Local Telephone Company Facilities*, 8 FCC Rcd 7341, 7346 (1993); *Competition in the Interstate Interexchange Marketplace*, 7 FCC Rcd 2677, 2682 (1992); *Amendment of the Commission's Rules Relative to Allocation of the 849-851 Mhz/894-896 Mhz Band*, 6 FCC Rcd 4582 (1991).

^{62/} See *MCI Telecomm. Corp. v. FCC*, 561 F.2d 365, 380 (D.C.Cir. 1977), *cert. denied* 434 U.S. 1040 (1978).

proper way to accomplish the *NPRM's* objectives is for the Commission to continue to use the bilateral approach with which it has had so much success.

Respectfully submitted,

CABLE & WIRELESS, PLC

By:


Philip V. Permut

Aileen A. Pisciotta

Rebekah J. Kinnett

KELLEY DRYE & WARREN LLP

1200 19th Street, N.W.

Suite 500

Washington, D.C. 20036

Its Attorneys

Madeleine Elizabeth Wall
Group Director of Legal and
Regulatory Affairs
Cable & Wireless, plc
124 Theobalds Road
London WC1X 8RX
United Kingdom

February 7, 1997

CERTIFICATE OF SERVICE

I, Rebekah J. Kinnett, hereby certify that I have served a copy of the foregoing
"Comments of Cable & Wireless, plc" on this 7th day of February, 1997, upon the following
parties by hand delivery:

Donald Gips
Chief, International Bureau
Federal Communications Commission
2000 M Street, N.W., Room 827
Washington, D.C. 20554

Diane J. Cornell
Chief, Telecommunications Division, International Bureau
Federal Communications Commission
2000 M Street, Room 838
Washington, D.C. 20554

Peter Cowhey
Chief, Multilateral and Development Branch
Federal Communications Commission
2000 M Street, Room 849
Washington, D.C. 20554

Kathryn O'Brien
International Bureau
Federal Communications Commission
2000 M Street, N.W., Room 822
Washington, D.C. 20554

International Transcription Services
1919 M Street, N.W., Room 246
Washington, D.C. 20554



Rebekah J. Kinnett

FCC PROPOSAL ON INTERNATIONAL SETTLEMENT RATES

In its Notice of Proposed Rule Making "In the Matter of International Settlement Rates", the FCC presents proposals for setting benchmark settlement rates for international message telephone services (IMTS), differentiated by countries at different stages of economic development, and proposes to mandate US carriers to negotiate settlement rates at or below the benchmarks within specified transitional periods, which are also differentiated according to countries' levels of economic development.

This commentary reviews the proposals, focussing chiefly upon the manner in which it is proposed that the benchmarks be set. It is however, also useful to set this against the background of general features of the market in international telecommunications.

1. Trends in Settlement Rates

The FCC Notice provides information about recent declines in settlement rates, at an annual rate of about 8% between 1992 and 1996. This conclusion is also supported by data collected by the OECD¹ and data published by OFTEL². Against this must be set, of course, the declining costs of providing the service. Nonetheless, it is clear that existing regulatory and market pressures are regularly generating significant declines in rates, which - since the rates are generally too high - is desirable.

There are a number of explanations for this³. As the Notice points out, it has become increasingly common for traffic to be delivered from A to B, between which there is a high settlement rate, via C, if the resulting combination of settlement rates (A to B and B to C) is less than the settlement rate from A to B. Increasingly, countries find it to their advantage to

¹ OECD, *International Telecommunication Pricing Practices and Principles: a Progress Report 1995*.

² OFTEL, *International Accounting Rates*, December 1995, June and December 1996.

³ See M. Cave, "The Economic Consequence of the Introduction and Regulation of International Resale of Telecommunications Services", in D. Lamberton (ed), *Beyond Competition: The Future of Telecommunications*, North-Holland, 1995, pp 207-226. M. Cave and M. Donnelly, "The Pricing of International Telecommunications Services by Monopoly Operators", *Information Economics and Policy*, 8 (1996), pp 107-123. M. Scanlan, "Why is the International Accounting Rate System in Terminal Decline, and What Might be the Consequences?", *Telecommunications Policy*, 20, 10 (1996), pp 739-754.

configure settlement rates in order to benefit from such arbitrage opportunities. Second, as the Notice also points out, technologies for bypassing the settlement rates, including use of the Internet, are becoming increasingly widespread. These market factors are combining with declining costs to bring settlement rates down.

It is true that increasing call reversion, through - for example - the use of call-back services, increases resistance to a decline in settlement rates on the part of countries with a growing balance of incoming traffic. The Notice is, however, largely silent on the quantification of this effect, confining itself to a single footnote related to Hong Kong at para 12. No mention is made of call reciprocation (the tendency for a call in one direction to elicit another one in return), although it is recognised that this factor creates incentives, other things being equal, to reduce settlement rates.

2. The Interpretation and Purposes of Above-Cost Settlement Rates

The Notice asserts in several places that an excess of settlement rates over the terminating country's incremental costs represents a subsidy of the domestic operator by overseas carriers or subscribers. From an economist's perspective this is an unsatisfactory use of the term "subsidy", since proving a subsidy requires more rigorous evidence than demonstration of the existence of a margin over incremental cost⁴. Nor, of course, is the presence of a deficit in a particular traded sector such as international telecommunications in any way remarkable.

The discussion of subsidy leads into the more general question of the nature of the source from which an operator can legitimately recover its common costs. The Notice argues that, in a competitive market, rates for terminating international calls would be pushed down to incremental cost. However, governments and regulators may legitimately have policy objectives which allow some recovery of common costs from international call termination.

The chief of these is likely to be the desire to build up the network in order to gain the benefit of network externalities and to further economic and social development. Observation of network development in a variety of countries suggests that certain stages of this process, particularly the stage of mass market take-up, are best achieved by keeping installation and rental charges low to stimulate line demand⁵. This means that a larger proportion of common costs, and possibly even a deficit on the provision of access, has to be recovered from local, domestic and international calls. There is no obvious reason why some of this burden should not be carried by incoming international calls. Conventional

⁴ See, for example, G. Faulhaber, "Cross-Subsidization: Pricing in Public Enterprises", *American Economic Review*, 65, (1974) pp 966-977.

⁵ See M. Cave, C. Milne, M. Scanlan, *Meeting Universal Service Obligations in a Competitive Telecommunications Sector*, DGIV, European Commission, 1994.

Ramsey pricing considerations suggests that international calls which are price-sensitive should bear a relatively low (but not a zero) share of this burden. But this share is increased once account is taken both of efficiency arguments associated with network externalities, and of equity considerations.

Enforcement of the principle that international call termination should be priced at incremental costs deprives governments, regulators and carriers of opportunities to pursue through their tariff structures perfectly legitimate policy objectives relating to domestic pricing and to the attainment of universal service objectives. This is exemplified by, amongst other countries, the United States' universal service policy objectives, which are attained through financial support from operators' revenues from a range of sources. The point is strengthened in the case of countries where international incoming minutes are a large portion of total minutes.

Against this, the Notice argues that the longterm objectives of network roll-out is, as an empirical matter, better served by low settlement rates, which encourage network usage and generate more revenue. (This argument requires the assumption that reducing settlement rates leads to lower international tariffs - an outcome which depends significantly upon the competitive structure of the industry and the nature of demand.) Less developed countries whose primary aim may be to promote domestic calling may, by contrast, have different experiences. It is by no means a foregone conclusion that cutting settlement rate will facilitate network roll-out.

In conclusion, benchmark systems, particularly if the benchmark were set at incremental costs, deny governments access to legitimate telecommunications policy options and may in certain circumstances hamper network development.

3. Calculating the Benchmark

The Components

The components identified in the Notice as necessary for the completion of an international call - international facilities, an international gateway and a national extension - are standard, and endorsed by the ITU. It is worth noting, however, that in some countries the main function of the network is to provide international service, and that the national network, confined to a small geographical area, is little more than an appendage.

The Lower Bound

The proposed method for calculating the lower end of the benchmark is not satisfactory. The Notice proposes using an estimate made by AT&T of its "average network cost" for the termination of inbound international calls, for application to all countries. It acknowledges

that "our estimate is not a precise measure of incremental costs", and encourages carriers to provide further information (para 50). This procedure is probably less illegitimate in the cases of international facilities and the international gateway than it is in the case of the national extension. Yet even in the first of these two, there is still some element of distance sensitivity. The mode of transmission (cable or satellite) may also have an impact. International gateway costs are also likely to depend upon the volume of traffic as well as upon the vintage of the equipment.

However, the assumption of a uniform national extension cost is particularly questionable. There is evidence from a number of studies, including engineering/economic models⁶ and analysis of the costs associated with universal service⁷, that the costs of delivering telephone calls vary considerably in accordance with terrain, population density, the nature of the equipment used, the configuration of the network and other considerations. It is unlikely that the United States is a representative country in these respects.

Finally, there is the question of whether to include in the US proxy costings the access charges that AT&T pays to the LECs for use of the local loop. The drafting of paras 51 and 52 implies that this element has been excluded from the US estimate, to yield a figure of 6¢ per minute, which is then uprated by 3¢ to take account of possible differences in cost conditions overseas. Yet if such access charges are designed to achieve legitimate government policies relating to the structure of prices, there is no reason why incoming international traffic should not pay them. In the absence of evidence in favour of the 3¢ per minute uprating, it is difficult to regard it as much more than a shot in the dark. There are thus severe objections to the method of estimating the lower bound of the benchmark.

The Upper Bound

This relies in the case of the international facility component upon a translation of foreign carriers' private line rates for dedicated international circuits into costs per minute, use of a regionally-based ITU cost estimate, differentiated by technology, for the international gateway component, and the use of domestic tariffs to price the national extension component.

The prices of international private leased circuits are the outcome of commercial decisions by carriers; the prices of domestic calls are often and legitimately engineered by governments to meet social objectives; in neither case therefore is a sound benchmark established consistent with the underlying purpose of the rule making. The method chosen arbitrarily limits the rate at which common costs are recovered in international call termination charges in a

⁶ For example, D. P. Reed, *Residential Fibre Optic Networks*, Artech House, 1991.

⁷ OFTEL, *The Cost of Universal Service*, 1995.

maximum determined by decisions made in pricing for two separate markets, namely international private circuits and domestic calls. The problem this creates is well illustrated by cases where no charges are made for national services, as that zero charge is automatically read across into the setting of benchmark settlement rate. There is no reason to suppose that this enhances welfare or furthers other policy objectives.

Classification of Countries

Both the derivation of benchmarks according to one of the methodologies employed (averaging by country groups) and the duration of the transition period (see below) depends upon the classification of countries into groups, based upon GNP per capita, converted, I understand, at market rather than purchasing power parity (PPP) exchange rates. Any grouping of this kind is arbitrary, and it should be avoided if possible. The subsequent decision to combine data for lower-middle and upper-middle income countries for some purposes also risks undermining the process, as it increases the ratio of the lowest possible and the highest possible income level in the combined group to 1:12.

The justification for classifying countries in this way is not the conventional and widely accepted proposition that there are linkages (in both directions) between telecommunications development and GNP per capita. Instead, the justification is that there exists an inverse relationship between GNP per capita and the unit costs of the countries' telecommunications network. This is an entirely different and very debatable proposition. Costs depend upon the nature and density of the network, on the efficiency of the operators, on prices at which equipment is purchased, and on a wide variety of other considerations. Some, but not all, of these may have complicated linkages, direct or inverse with GNP per capita. However, I am not aware of studies which have proved such linkages, nor does the Notice cite any. This is a serious weakness.

Group Averages Versus Individual Country Data

The importance of the problems noted above clearly depends upon how the grouped data are used. Two alternative ways of setting the benchmark are offered for consideration - use of individual country estimates, or of group averages. Both methods have disadvantages. Use of individual country observations may lead to opportunistic distortions in tariff structures, and diminish incentives to reduce costs and tariffs from one period to the next. Use of group averages is better in the latter respect, because it introduces some element of comparative or yardstick competition, but it runs the risk of imposing a straitjacket on countries which, for the legitimate policy reasons noted above, may choose to recover common costs of pricing their services in particular ways. This is important because some of the country groups exhibit substantial variation in individual estimates of call termination costs. This applies notably to the low income group, the data set for which only contains 10 members with components costs ranging from 12¢ to 43¢ per minute. Ten is an inadequate number for

averaging to be appropriate. Nor can the resulting average sensibly be applied to a group of 66 countries.

This serious weakness might partly be mitigated through the use of the procedure described in para 48, which takes account of the standard deviation of the observations in each group. But we have no knowledge of the underlying distribution and there is no logical basis for choice of any particular range. Even this procedure may imply harsh treatment for individual countries.

4. The Length of the Transition Period

Differentiation by country group plays a role here too, and is subject to the objections noted above. The severity of the transition regime might also depend upon how often the proposed benchmarks are recalculated; frequent recalculation might tighten the target. However, as proposed, the transition periods are so short as effectively to preclude the possibility of substantial recalculations. The Notice provides little evidence of having given serious thought to the scale of the rebalancing which might be implied, especially by the tighter targets described in para 63, but in some countries it will be considerable. In the absence of such calculations, there are strong grounds for considering safeguards of the kind set out in para 67. To do otherwise might run the risk of serious disruptions within the sector.

5. Other Matters

Countries Committed to Competitive Reform

Paras 69 to 74 of the Notice seek comments on the appropriateness of allowing additional flexibility in the application of benchmarks in developing countries that have demonstrated a commitment to competition. This suggestion sits somewhat uneasily with the argument that competition has the effect of reducing settlement rates to incremental costs, and it is not obvious why, on the contrary, countries introducing competition should reach this state over a longer period. There would also be serious difficulties in determining what constituted a commitment to competition and whether a particular country was exhibiting such a commitment. Establishing objective criteria would be difficult, and the lack of such criteria might generate suspicion and mistrust of the US regulatory regime.

Responses to Anti-Competitive Behaviour

The report contemplates the imposition in some circumstances (when a carrier service has distorted market performance) of settlement rates at the bottom of the range; alternatively, the authorisation of the carrier to serve an affiliated market might be revoked.

Although the problems of anti-competitive behaviour referred to at para 75 may arise, the proposed remedy is subject to the same objections as have been noted above in connection with the estimation of the lower bounds. Using a single US cost estimate as a proxy for costs incurred in quite different circumstances is not adequate. In addition, the policy instruments available to the FCC under its existing International Settlements Policy should be adequate to deal with these problems.

Impact on US Collection Rates

The Notice states at para 91 that the purpose of the benchmarking exercise is to provide US consumers with just and reasonable prices for service. This depends upon reductions in settlement rate being fed into collection rates, rather than augmenting carriers' profits. Yet historical experience in the US shows that from 1989 to 1993 collection rates rose (slightly) while settlement rates fell perceptibly⁸.

6. Summary

The benchmarking approach proposed in the Notice is subject to a number of serious objections:

- ◆ It embodies what may turn out to be unreasonable restrictions on carriers' ability to attain legitimate policy objectives through the pricing policy.
- ◆ It relies upon the use of a US cost estimate or of retail price data influenced by a range of social and competitive factors, as a proxy for costs in countries likely to experience different conditions.
- ◆ It involves the grouping of countries according to GNP per capita in an arbitrary way.
- ◆ It may involve the averaging of costs incurred by countries in each group, setting common benchmarks which do not reflect conditions in individual countries.
- ◆ The proposed transition period may have a disruptive effect on the structure of prices, and hence on the operators in individual countries.

⁸ Merrill Lynch, *Asia Pacific Telecom Services*, 13 February 1996.

MARTIN CAVE - CURRICULUM VITAE

Office Address

Faculty of Social Sciences,
Brunel University,
Uxbridge,
Middlesex UB3 PH.

Telephone: 44-1895-203320
Private Fax: 44-1895-274697
Email: Martin.Cave@Brunel.ac.uk

Date of Birth

13.12.48

Current Academic Position

1987 to date Professor of Economics, Brunel University
1996 to date Vice-Principal, Brunel University

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

Journal Editorships

Co-Editor - *Information Economics and Policy*.

Member, Editorial Board -
Economics of Education
European Journal of Law and Economics
Telecommunications Policy

Member, Advisory Board - *Communications and Strategies*

RECENT AND CURRENT ADVISORY AND CONSULTANCY EXPERIENCE

Monopolies and Mergers Commission (from 1996) Ordinary Member.

French Ministry of Posts and Telecommunications (1995-1996) Member, Group d'Expertise - advisory committee on universal service and interconnection.

OFTEL (from 1990) Member, OFTEL's economic advisers panel.

OFGAS (from 1994) Member of OFGAS Panel of Economic Experts.

Office of Fair Trading (1990-1992 and from 1995) Broadcasting Advisor.

OECD Consultant on telecoms pricing (1996); costing universal service obligations (1996); network tariffs (1993); international simple resale (1993); interconnection charges (1992); tariffing and interconnection principles in the Czech Republic, Hungary, Poland and Ukraine. (1991)

PUBLICATIONS SINCE 1991

Planning Models and Their Use in the Centrally-Planned Economies, in Shri Bhagwan Dahiya (ed), *Theoretical Foundations of Development Planning*, Vedams Books International, New Delhi, 1991.

Recent Developments in the Regulation of Former Nationalised Industries, Government Economic Service Working Paper No. 115, Treasury Working Paper No. 60, HM Treasury, August 1991.

Remarks on the Duopoly Review Decision International Cable-Telco Tango: Who is Dancing with Whom and Why?, Centre for Strategic and International Studies, Washington DC, 1991, pp 10-12.

"The UK Duopoly Review", *Communications & Strategies*, No. 3, 1991, pp 157-163.

(With M. Shurmer), "Standardisation Issues for HDTV" in J-P Chamoux (ed), *Deregulating Regulators? Communication Policies for the 90's*, IOS Press, 1991, pp 17-34.

"Regulating Competition in Telecommunications: British Experience and its Lessons", *Economic Analysis and Policy*, Vol. 21, No.2, September 1991, pp 129-143.

(With Peter Williamson), "'Make or Break Strategy': The Great Channel 3 Licence Race", *Business Strategy Review*, Autumn 1991, pp 53-90.

"Regulating Competition in Telecommunications: British Experience and its Lessons", *Economic Analysis and Policy*, Journal of the Economic Society of Australia, (Queensland) Inc., September 1991, Vol. 21, No. 2.

(With S. Hanney), "Performing Down Under - What Can We Learn from Australian Approaches to Performance Indicators", *In Form*, Information Management in Education, 24 April 1992.

(With S. Hanney), "Performance Indicators in Higher Education: An International Survey", *International Encyclopaedia of Higher Education*, 1992.

(With J. Michie), "Analysing Competition in International Telephone Service", in J. Arnbak (ed), *European Communications Policy Research Conference 5*, IOS Press, 1992.

(With M. Wheale), "Higher Education: The Assessment", *Oxford Review of Economic Policy*, Oxford University Press, June 1992, pp 1-18.

(With R. Dodsworth and D. Thompson), "Regulatory Reform in Higher Education in the UK: Incentives for Efficiency and Product Quality", *Oxford Review of Economic Policy*, Oxford University Press, June 1992.

(With J. Evans and M. Edirisinghe), *The Influence of Ceramic Technologies on CO2 Outputs from Land-Based Transport Systems*, Brunel Discussion Paper, August 1992.

(With J. Michie), "Developing Competition in International Telephony", in F. Klaver et al (eds), *Telecommunication: New Signposts to Old Roads*, IOS Press, 1992, pp 7-18.

(With A. Bell), "Lessons from the UK Duopoly Review in F. Klaver et al (eds), *Telecommunication: New Signposts to Old Roads*, IOS Press, 1992, pp 83-88.

(With C. Pollitt et al), *Considering Quality: An Analytical Guide to the Literature on Quality and Standards in the Public Services*, Centre for the Evaluation of Public Policy and Practice, Brunel University, 1992.

"Competition and Managed Markets in UK Telecommunications", in *Incentive Regulation: Reviewing RPI-X and Promoting Competition*, Centre for the Study of Regulated Industries, 1992.

(With A. Brown, Y. Sharma, M. Shurmer and P. Carse), *High Definition, High Risks, High Stakes*, National Economic Research Associates/Brunel University, 1992.

(With A. Brown), "The Economics of Broadcast Regulation: A Survey with Application to Australia", *Economic Record*, 1992, pp 337-394.

(With R. Mills), *Cost Allocation in Regulated Industries*, CRI Regulatory Brief, 1993.

(Edited With S. Estrin), *Competition and Competition Policy: A Comparative Analysis of Central and Eastern Europe*, Pinter Publishers, 1993.

(With S. Estrin), Introduction and Conclusions, in S. Estrin and M. Cave, (eds), *Competition and Competition Policy: A Comparative Analysis of Central and Eastern Europe*, Pinter Publishers, 1993.

"The Role of the BBC: An Economic Evaluation", in S. Barnett (ed), *Funding the BBC's Future*, British Film Institute, 1993.

"La Regolamentazione della Concorrenza nelle Imprese di Pubblica Utilita nel Regno Unito", in *Acquisizioni e Fusioni Concorrenza*, Laboratorio di Politica Industriale, *Nomisma*, Guigno, 1993, No. 1.

Discussant of Sir James McKinnon, "Common Carrier Regulation", in M.E. Beesley (ed), *Major Issues in Regulation*, Institute of Economic Affairs and London Business School, 1993.

"Quasi-Competition and Tendering in Higher Education in the UK", *Competitive Tendering and Contracting Newsletter*, No. 4, University of Sydney, October 1993.

"An Economist's Perspective on Regulating Quality Standards and Levels of Service", in *Utilities and Their Customers - Whose Quality of Service is it?*, Centre for the Study of Regulated Industries and National Audit Office, 1993.

"UK Experience with Telecommunications Deregulation, With Special Application to the Local Loop", *Communications Research Forum Papers*, Bureau of Transport and Communications Economics, 1993.

"The Aims and Effectiveness of Broadcasting Deregulation in a Changing Environment: Slouching Towards Competition in the United Kingdom", Communications Research Forum Papers, Bureau of Transport and Communications Economics, 1993.

(With J. Martin), "The Costs and Benefits of Accounting Separation: The Australian and British Debates", *Telecommunications Policy*, Vol. 18, No. 1, pp 12-20, January/February 1994.

"Planning", in P. Arestis and M. Sawyer (eds), *Handbook of Radical Political Economy*, Edward Elgar Publishing Ltd., 1994.

(With Y. Sharma), "Foreign Entry and Competition for Local Telecommunications Services in the UK After the Duopoly Review", in E. Bohlin et al (eds), *The Race to European Eminence in Telecommunication*, Elsevier Science Publishers, 1994, pp 39-50.

(With D. Burningham, M. Buxton, S. Hanney, C. Pollitt, M. Scanlan, M. Shurmer), *The Valuation of Changes in Quality in the Public Services: Report Prepared for HM Treasury*, HMSO, 1994.

"Competition in Telecommunications: Lessons from the British Experience", *Communications and Strategy*, Special Issue on Competition, 1994, pp 61-78.

(With C. Doyle), "Access Pricing in Network Utilities in Theory and Practice", *Utilities Policy*, July 1994.

"Interconnection Issues in UK Telecommunications", *Utilities Policy*, July 1994, pp 212-222.

"Telecommunications Regulation 1993", in Tony Gilland and Peter Vass (eds), *Regulatory Review 1994*, pp 5-18.

"Interconnection, Separate Accounting and the Development of Competition in UK Telecommunications", M. E. Beesley (ed), *Regulating Utilities: The Way Forward*, Institute of Economic Affairs in Association with the London Business School, Readings 41, 1994, pp 57-72.

(With G. Johnes), "The Development of Competition Among Higher Education Institutions", in W. Bartlett, C. Propper, D. Wilson, J. Le Grand (eds), *Quasi-Markets in the Welfare State*, School for Advanced Urban Studies, University of Bristol, 1994.

(With A. Carey, R. Duncan, G. Houston, K. Langford), *Accounting for Regulation in UK Utilities*, Institute for Chartered Accountants in England and Wales, 1994.

"Access Pricing in Network Utilities", *Utility Finance*, Oxford Economic Research Associates, September 1994.

(With Pal Valentiny), "Regulating Utilities in Economies in Transition", in S. Estrin (ed), *Privatisation in Central and Eastern Europe*, Heinemann, 1994, pp 207-219.

"Why Students Need (Consumer) Protection", *Royal Economic Society Newsletter*, No. 87, October 1994.

(With Y. Sharma), "Competitive Developments in Local Telecommunications in the UK", in H. Williams and M. Borman (eds), *Telecommunication: Exploring Competition*, EURO CPR '93 Conference, IOS Press, 1994, pp 1-12.

(With C. Milne and M. Scanlan), *Meeting Universal Service Obligations in a Competitive Telecommunications Sector*, European Commission, 1994, pp 1-74.

(With G. Copley and S. Hanney), "Setting Quality Standards in the Public Sector: Some Principles and an Application", *Public Money and Management*, Vol. 15, No. 1, January-March 1995.

(With K. Langford), "Accounting for Regulation in UK Utilities: Implications for the Regulatory Contract", in *Effective Utility Regulation - The Accounting Requirements*, Centre for the Study of Regulated Industries, Proceedings 9, CIPFA, 1995, pp 85-102.

(With R. Dodsworth and D. Thompson), "Regulatory Reform in Higher Education in the UK: Incentives for Efficiency and Product Quality", in M. Bishop, J. Kay and C. Meyer (eds), *The Regulatory Challenge*, Oxford University Press, 1995.

(With P. Williamson), "The Reregulation of British Broadcasting", in M. Bishop, J. Kay and C. Mayer (eds), *The Regulatory Challenge*, Oxford University Press, 1995, pp 160-190.

"Franchising Universal Service Obligations", in N. Gray (ed), *USO in a Competitive Telecoms Environment*, Expert Symposium, Analysys Publications, 1995, pp 112-116.

"Economic Arguments About Access", in *Gas Pipeline Access Seminar*, Le Boeuf, Lamb, Greene & MacRae, Brussels, 1995.

"Traffic Management on the Superhighway: Reforming Communications Regulation", in R. Collins and J. Purnell (eds), *Managing the Information Society*, IPPR, 1995, pp 32-45.

(With R. Baldwin et al), *Regulation in Question: The Growing Agenda*, 1995.

(With M. Kogan and S. Hanney), "Performance Measurement in Higher Education", in P.M. Jackson (ed), *Measures for Success in the Public Sector*, Public Finance Foundation, CIPFA, 1995.

"The Economic Consequence of the Introduction and Regulation of International Resale of Telecommunications Services", in D. Lamberton (ed), *Beyond Competition: The Future of Telecommunications*, Elsevier Science, 1995, pp 227-246.

(With S. Hanney and M. Henkel), "Performance Measurement in Higher Education - Revisited", *Public Money and Management*, October-December 1995, pp 1-8.

(With M. Shurmer), "Business Strategy and Regulation of Multimedia in the UK", in *Communications and Strategies*, No. 19, 3rd Quarter, 1995.

"Public Service Broadcasting in the UK", *Journal of Media Economics*, 1995.

"The Development of the UK Telecommunications Industry Through Privatisation and Deregulation, in *Kaizi Bunseki*, (Economic Analysis), Economic Planning Agency, Tokyo, 1995.

(With Martin Weale), "The Development of Higher Education Policy in the United Kingdom", in T. Jenkinson (ed), *Readings in Micro Economic Policy*, 1995.

"The Economic Consequence of the Introduction and Regulation of International Resale of Telecommunications Services" in D. Lamberton (ed), *Beyond Competition: Telecommunications*, Elsevier Science, 1995.

"Costing Universal Service Obligations", in *Universal Service Obligations in a Competitive Telecommunications Environment* 38, OECD, 1995.

"L'estimation des Coûts des Obligations de Service Universel", in *Les Obligations de Service Universel dans un Environnement Concurrentiel de Telecommunications* 38, OECD, 1995.

(With M. Donnelly), "The Pricing of International Telecommunications Services by Monopoly Operators", *Information Economics and Policy*, 1996.

(With P. Crowther), "Competition Law Approaches to Regulating Access to Utilities: The Essential Facilities Doctrine", *Revista Internazionale di Scienze Sociali*, Catholic University of Milan, 1996.

"Privatisation and Deregulation in the UK Telecommunications Sector", *Proceedings of the ERI International Symposium*, Economic Research Institute, Economic Planning Agency, Government of Japan, 1996, pp 230-243.

(With R. Aaronson, Lord Borrie and D. Pitt-Watson), *The Future of UK Competition Policy*, Commission on Public Policy and British Business, IPPR, Working Paper, No. 4, 1996.

"Les Lecons de l'Experience au Royaume-Unit Concernant le Service Universel et l'Interconnexion", in *Documents de Travail Elabores pour le Groupe d'Expertise Economique sur l'Interconnecion et le Financement du Service Universel dans le Secteur des Telecommunications*, Minister Delegue a la Poste, aux Telecommunications et a l'Espace, Avril 1996.

"Meeting Universal Service Obligations in Competitive Telecommunications Markets: Lessons for the Postal Sector", in U. Stumpf and W. Elsenbast (eds), *Cost of Universal Service: Papers Presented at the 3rd Kongswinter Seminar*, WIK, 1996.

"Public Service Broadcasting in the United Kingdom", *Journal of Media Economics*, Vol. 9, No. 1, 1996.

(With Martin Weale), "Higher Education: Expansion and Reform", T. Jenkinson (ed), *Readings in Micro Economics*, Oxford University Press, 1996.

"Foreword" in Mandy Ryan, *Using Consumer Preferences in Health Care Decision Making: The Application of Conjoint Anaysis*, Office of Health Economics, 1996.

"Cost Analysis and Cost Modelling for Regulatory Purposes: UK Experience", in W. H. Melody (ed), *Telecom Reform: Principles, Policies and Regulatory Practices*, Den Prvate Ingeniorfond, Denmark, 1996.

(With M. Tavakoli), "Modelling Television Viewing Patterns", *Journal of Advertising Research* (forthcoming).

(With R. Baldwin), *Franchising as a Tool of Government*, CRI, 1996.

"Universal Service in Telecommunications", to appear in C. Doyle (ed), *The Reform of Telecoms Regulation in Europe*, to be published by Cambridge University Press (forthcoming).

(With S. Hanney, M. Henkel and M. Kogan), *Performance Indicators in Higher Education*, Jessica Kingsley, Third Edition, 1996 (forthcoming).

(With Peter Crowther), "Not the End Nor Even the Beginning of the End", *Telecom Brief*, Vol 1, No. 2, June 1996, pp 23-35.

(With C. Cowie), "Regulating Conditional Access in European Pay Broadcasting", in *Communications and Strategies*, No. 23, IDATE, 1996.

"The Impact on Higher Education of Funding Changes and Increasing Competition" in F. Coffield (ed), *Higher Education and Lifelong Learning*, Papers Presented at School for Policy Studies, Bristol University, Department of Education, University of Newcastle Upon Tyne, 1996.

"Finding Out What People Want from Public Services", in D. Corry (ed), *Public Expenditure: Effective Management and Control*, IPPR, 1996.

(With Peter Williamson), "Competition and Regulation in UK Telecommunications", *Oxford Review of Economic Policy*, Vol. 12, No. 4, Winter, 1996, pp 100-121.

(With Colin Blackman and Paul David), "The New International Telecommunications Environment: Competition, Regulation, Trade and Standards", *Telecommunications Policy*, Vol. 20, No. 10, December 1996.

(With Peter Crowther), "Determining the Level of Regulation in EU Telecommunications: A Preliminary Assessment", *Telecommunications Policy*, Vol. 20, No. 10, December 1996.

"Normalising Telecommunications Regulation in the UK", *Utility Finance*, December 1996, pp 16-17.

"Franchise Auctions in Network Infrastructure Industries", *Proceedings of OECD Conference on Competition and Regulation in Network Infrastructure Industries*, Budapest, 9-12 May 1995, OECD, 1996.

"Alternative Telecommunications Infrastructures: Their Competition Policy and Market Structure Implications", *OECD Conference on Competition and Regulation in Network Infrastructure Industries*, Budapest 9-12 May 1995, OECD, 1996.

"New Developments in Telecommunications Regulation" in D. Lamberton (ed), *The New Research Frontiers of Communications Policy*, North-Holland, 1997.

(With Manouche Tavakoli), "Modelling Television Viewing Patterns", *Journal of Advertising*, 1997.

In Preparation

(With R. Baldwin), *The Regulation Game*, to be published by Oxford University Press.