

NUMBER PORTABILITY, REGULATION AND THE LEVEL PLAYING FIELD: AN EMERGENT POLICY HETERODOXY?

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Number portability has rapidly ascended the regulatory agenda of contemporary telecommunications public policy. As a techno-regulatory device for facilitating competition, number portability is in good currency. The experiences of the United States, Britain and Europe suggest, however, that the implementation of portability remains essentially contestable. The analysis reveals the continuing presence of stakeholder interests in this instalment of the telecommunications de-regulatory game.

Keywords: level playing field, number portability, regulation, telecommunications policy

'In essence, the system shifts ownership of a telephone number from telephone company to customer' (Phyllis Hoffman, Stratus Computer)

INTRODUCTION

Number portability is an ascendant issue in the contemporary telecommunications public policy process. It is clearly an idea in the best possible currency. Number portability is at the centre of current debates in the telecommunications policy communities of a growing array of countries and is one of the keys to an understanding of the implications of truly open market access in the telecommunications sector. It can properly be considered to be an accelerator of radical telecommunications policy change. *Inter alia*, portability is at the centre of contemporary debate in Britain, the United States and continental Europe. In the United Kingdom, it has been the centrepiece of a reference to the Monopolies and Mergers Commission,¹ in the United States, it is immanent in the 1996 Telecommunications Act's Interconnection and Competitive Checklist provisions,² founded on the commitment to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening up all telecommunications markets to competition'.

In spite of such increasing prominence, however, number portability is a relatively novel phenomenon, still open for intellectual and practical exploration and surrounded by an important degree of 'contestability'.

Number portability is the generic term given to the process that allows custody of a telephone number to be transferred from a telephone company to an individual subscriber. In theory this allows a person to adopt a universal number for life that he/she can 'port' wherever they travel, thus eliminating the traditional tie between personal number and fixed geographical location. The focus of this paper is not however so much these so-called roaming numbers, which have few competitive implications, but Local Number Portability (LNP), that allows a subscriber to retain and transfer his/her designated number to a preferred alternative communications provider without having to change it each time a different telephone company is selected. As such, portability is only significant in a market environment where more than one provider operates, since portability allows the subscriber to alternate seamlessly amongst them. Indeed, market research conducted by Gallup on behalf of the American telecommunications giant MCI indicated that over three quarters of consumers felt that personal number retention would be a useful facility.³ However, to contact a user who retained a number but switched provider, a call has to be correctly (re)-routed, and firece disagreements have arisen as to the apportionment of the costs (if any) of such re-routing (call conveyancing). Whether this burden should be shared amongst all competing carriers, or the costs borne entirely by incumbent telcos or passed on to their subscribers is closely tied to the concept of fair competition. Equally, the issue of whether only those customers who actually opt to change telephone provider as opposed to those who continue to subscribe to their pre-existing provider should pay for the facility to port raises complex concerns about cross-subsidy. Critically, MCI's research revealed that 80%⁴ of consumers would regard any fee charged for porting as a pivotal disincentive towards changing carrier; portability at a price would hence tend to inhibit additional competition. The question of whether the benefits of enhanced competition outweigh some of the technical and financial costs for facilitating it such as LNP have brought the portability debate to prominence. It is the who pays controversy that has played out in US and the UK regulatory arenas that this paper will attempt to analyse and relate to the issue of competition on a level playing field.

DEFINITIONAL ISSUES

There is no one settled (etymological) definition of number portability; instead there are a series of stipulative definitions vying for attention. The protean nature of definitions is reflective of the newness and the evolving nature of the concept of portability. Equally, as will be argued in what follows, there is no one settled technological solution to the number portability problem. Furthermore, both these issues impact on the achievement of a settled economic evaluation making the adoption of a single cost-benefit analysis problematic at best. This last raises the issue of rigorous cost structures and may suggest that present costing regimes are dependent upon *ad hoc*, incremental and contestable adjudication taking the form of best guess political allocations. The decisional framework surrounding the portability issue in the United States (for example) appears to take the form of Lindblom's disjointed incrementalism rather than Simonian synoptic rationality.⁵

As stated, definitions of number portability vary. The following constitute the most common usages of the term in American parlance. First, service provider number portability/ carrier or carrier selection portability/local number portability (LNP). These are all terms for describing a system that enables 'a customer to continue to use the same telephone number when changing from one local exchange service provider to another while staying at the same location'.⁶ Geographical portability/location portability connotes the 'ability of a customer to continue to use the same number when moving from one location to another, whether or not the service is provided by a different local exchange service provider'.⁷

A key distinction can be drawn between interim and true number portability solutions. As the first suggests, it is a method currently available to effect limited forms of service provider portability employing pre-existing call forwarding and direct inward dialling technology. Full number portability, however, allows customers to port numbers without any limitations but requires the adoption of an AIN (advanced intelligent network) architecture.⁸ At time of writing (1996), trials of AIN solutions continue in several state jurisdictions which, not untypically adopt the role of policy laboratories in this and other policy areas.

PORTABILITY - THE UNITED STATES

As just implied, many of the policy actions in the field of portability have emanated from state bailiwicks. They may be clearly characterised as public policy activists in the telecommunications policy domain.⁹ Since the break-up of AT&T in 1984 (divestiture) on anti-trust grounds, the states have been subject to the attentions of the resulting 7 (now 5) Regional Bell Operating Companies (RBOCs) intent on liberating themselves from the Line of Business (LOB) restrictions immanent in the judicially imposed Modified Final Judgement (MFJ). Some of the states have been at the forefront of attempts to open up the (monopoly) local loop to competition as a harbinger of attempts to facilitate both local and long distance (interexchange) competitive access, and this partly explains the pressure to introduce portability. The significance of the states as proactive policy makers is recognisable in the 'non-decision making' (*sic*) of the Federal Communications Commission (FCC) which regulates long distance telecommunications matters in the US. As late as 1995, prominent FCC officials could declare that the number portability issue is 'not yet seen as meriting proactive federal preemption'¹⁰ of individual state policies. The agency well recognised the public interest benefit inherent in the portability issue, 'providing consumers with greater personal mobility and flexibility in the way that they use telecommunications services' and accordingly issued a consultative Notice of Proposed Rulemaking (NPR).¹¹ Recognising that it would inevitably be obliged to craft a national number portability policy due to the impact of the portability phenomenon on interstate telecommunications, the FCC did however concede that 'state regulators....have legitimate interests in the development of number portability and that they are developing valuable empirical evidence through technical trials and task forces'.

In fact, the number portability question is inherent in generic moves at the state level to replace traditional telecommunications regulatory paradigms with more

flexible forms of regulation. Portability is an issue deeply embedded in state discussions and proceedings on the issue of local competition and its many manifestations - particularly unbundling, the separation of a service into its constituent, and individually costed elements. The present authors have carried out research on portability within several Bellwether states including New York, Maryland, Pennsylvania, Illinois, Iowa, Michigan and Washington. The following represents a brief synopsis of key portability issues revealed in these investigations.

STATE DEVELOPMENTS

During the past two years, several states have recognised the primacy of portability as a means of encouraging competition in the provision of telecommunications services. One such state is ironically, New York (widely characterised for many years as a regulatory retentionist) which is now, arguably the most proactive state on the issue of portability.

The New York trial is instructive in drawing attention to key generic features of the number portability issue. Explicitly these included the question of whether so-called interim solutions such as call forwarding and DiD trunking were acceptable on a long term basis, what the costs associated with the various levels of number portability including interim portability are, the *cui bono* issue - who pays, and whether number portability concepts should encompass the residence market as well as business.

In March 1995, the state's Public Utility Commission (PUC, the authority that oversees state-wide energy and telecommunications issues), announced its intention to 'adopt an interim number portability plan (and) to direct parties to study the feasibility of a trial of true number portability and report back to the Commission with a plan for such a trial and information about its costs'. Portability was to be seen as a vital component of a far reaching attempt to broaden competition in line with its key ambition of establishing conditions making for competitive equity. A network of networks would bring the benefits of increased choice to consumers and that market would assure low rates and high quality service.

Four major issues would be pursued; universal service for all New Yorkers, a level playing field for competitors, the degree of regulation to be imposed on competitors and an examination of service quality and infrastructure. In a potentially landmark trial offering a new form of contract between the various parties, the incumbent was 'asked to sacrifice the profitability accruing to monopoly providers in return for relaxation of regulatory constraints and access to markets otherwise unattainable'.¹²

The key focus of the New York approach has been the inception of a portability trial mandated by the PUC in March 1995. This contains two broad elements: the provision of interim number portability by incumbent carriers and other providers and study of the feasibility of the adoption of true number portability. The New York trial was based on an approach earlier adopted by Rochester Telephone the essence of which was the use of the pre-existing remote call forwarding technique (RCF involves forwarding a call, more typically used when subscribers move house,

but pay for retention of the original number) - with pro-rata sharing of incremental costs (directly associated with the provision of the service) modified to include reciprocal portability among all carriers.

In the absence of an integrated industry-wide resolution of number portability issues, New York deemed it essential for the state to commence its own trial proceedings. The purpose of the trial has been to 'examine the viability of a long-term database solution to service provider portability in a multi-carrier environment'.¹³ Not only has the PUC now relinquished its staid regulatory image; so too has the RBOC operating within its domain, NYNEX. Upon request by the diminutive MFS Communications Inc. (a so-called competitive access provider or CAP), the PUC mandated NYNEX to provide access to its network. NYNEX, clearly hoping to curry favour with the FCC by using the device of opening local markets as a *quid pro quo* for gaining access to the long-distance market eventually acceded to the concept of co-carrier status for the rival MFS.

New market entrants like MFS and Teleport Communications Group (TCG) have scrutinised the actions and price tariffs of incumbent Local Exchange Companies (LECs) like NYNEX, revealing the essentially contestable and political nature of pricing, compensation and market entry decisions connected with the number portability phenomenon. Crucially, NYNEX has frequently been presented as setting its face against trialling AIN based number portability database technology as a means of continuing to charge monopoly rents for its RCF interim solution. The essence of the case put forward by MFS is that the Utility Commission must ensure that 'inter-carrier traffic exchange and compensation arrangements permit new entrants a fair opportunity to compete for all services'. Essentially, this ambition could be realised through the following:

a) Inter-carrier compensation for termination of local calls must be based on the goal of cost-based charges for switching and transport - new entrants must be able to impose reciprocal charges that are equal for traffic exchanged at a common meet point.

b) Incumbent LECs should only be permitted to recover their incremental costs, not contributory end user prices, for switching and transport of calls to provide number retention during the interim period until true local number portability exists - these costs to be apportioned among the incumbent and new entrants through a surcharge mechanism.

c) New entrants must be permitted to collect the same access charges on calls that they terminate via interim number retention arrangements as they can collect on calls terminating on their own network.

The market insurgent MFS was once again instrumental in pursuing the issues of number retention and portability in Maryland. Here the company argued that 'it was undisputed that a requirement that customers change their telephone number as a condition of subscribing to a new carrier's services would be an impediment to competition'.¹⁴ Responding to this point, Maryland PSC concluded that local number portability was 'an integral part of the local exchange competition playing field'. While a technical trial of portability was recommended, neither the long term tech-

nical solutions nor the full cost-benefit implications were to be investigated; only a more public future debate in an industry consortium in conjunction with the State regulator could be expected to address these issues.

The full potential of number portability as a device for prising open markets and introducing competition was interestingly revealed in proceedings in the mid West, in the operating area of Ameritech. Prior to the passage of the *1996 Telecommunications Act*, Ameritech by-passed the FCC and sought regulatory relief from the MFJ through the expedient of effecting an agreement with the Department of Justice to enter the interexchange market (IXC) in return for conceding competition in its local loop by means of a trial (Customer First Plan) in Chicago and Grand Rapids, Michigan. Under this plan, Ameritech guaranteed to ensure the unbundling of loop and ports for business and residential customers on terms approved by the PUCs in its states, the provision of dialling parity (allowing subscribers to select any available interexchange toll carrier to receive telecommunications traffic that is direct dialled without an access code from their local exchange) and the 'implementation of appropriate arrangements, including regulatory approvals, for true number portability in the trial area with arrangements for the allocation of costs that do not place an unreasonable (discriminatory) burden on other exchange carriers'.

Crucially, Ameritech was quick to argue that while number portability should be part of any competition package, it was not the *sine qua non* of such competition. Arguing that true number portability (through an intelligent network solution) was infeasible in terms of the extant technology, Ameritech offered instead a by-now-familiar interim solution. Critics of this proposal¹⁵ argued that Ameritech's proposals all 'rely on incumbent LEC involvement in call completion to the subscriber'. Accordingly, they do not provide portability from the perspective of the large majority of prospective competitive local exchange service provider customers. Technical and service deficiencies arising from this solution include call transmission degradation, premature exhaust of already limited area code numbers, additional call set-up time and subscriber confusion arising from receiving multiple carrier bills.

Washington State has long held the reputation for being at the forefront of telecommunications public policy developments. This is, without doubt, due to the fact that it has long borne the brunt of deregulatory assaults on the part of US West, for many years one of the most aggressive of the RBOCs and a company concentrating its fire less on Congress and federal agencies than on the state PUCs in its fourteen state operating area.

At the beginning of 1994, Washington Utilities and Transportation Committee (WUTC) drafted a report recommending 'price regulation with significant unbundling of the local exchange network' in an effort to induce rapid competition into the local exchange area. Facing a shortage of number resources, the problem of number exhaust (which according to critics will be exacerbated by the adoption of interim number portability solutions), Washington State is now the scene of a true number portability trial involving corporations such as U.S. Intelco - based in Olympia and offering billing and database service to telephone companies and

wireless providers, Electric Lightwave Inc - based in Vancouver, Washington and offering regional competitive access and local service provision and Stratus Computer - based in Marlboro, Mass. which provides continuous computing solutions to the telecommunications industry. Goals of the trial (which terminated in mid-1995) were to 'advance number portability, to develop a cost effective/cost efficient solution and to develop a solution implementable as a product in time to satisfy the market'.¹⁶ Like NYNEX and Ameritech, US West recognised that number portability was an idea whose time had come. It also recognised that adhering to the notion of portability are a number of problems still left largely unresolved. One of the most important of these issues is that of deciding which cost recovery mechanisms 'will permit carriers to recover the costs of number portability and whether these costs should be recovered from all users or exclusively from users of number portability.' The company further concluded that the industry is 'at least two years away from knowing what standards we can agree on....then we have to develop the technology....then we have to evaluate the cost....true number portability is a long ways off'.¹⁷

LESSONS FROM THE US EXPERIENCE

In summary, the United States is illustrative of key issues surrounding the number portability debate. First, the newly ascendant phenomenon is at the core of contemporary debates on competitive telecommunications. Since 1984 the US has witnessed the steady 'withering away of the regulatory idea' in telecommunications. While this has been a managed retreat (or over-managed retreat in the view of some critics) by Judge Greene, (the administrative DC judge who presided over the MFJ) there can be little doubt that the architecture of regulation has been significantly reconfigured. An obvious case in point is that of the steady attrition of the LOB restrictions. Number portability is a key contributor in this deconstructionist phase.

Nevertheless, the US experience indicates that number portability is an essentially problematical notion. Key elements of the portability debate remain open for controversy and debate. First, there is a general assumption (revealed in Bellwether state proceedings) that competition, by definition, improves quality, choice and price. Portability issues are deeply embedded in this pro-competitive assumption. Portability is now clearly part of a settled assumptive world of competition. Yet the issue of winners and losers in the portability game is by no means settled. In the short run, new entrants (competitive local exchange carriers and competitive access providers) will be the main beneficiaries. This is especially true if portability is viewed by regulatory bodies as a means of assisting market entry. Dominant carriers are likely to be net exporters of numbers in the short and perhaps medium run.

Secondly, critical debates about costs, their incidence and recovery, are in a rudimentary state within the United States. Surprisingly, in a domain densely populated with economists and public policy lawyers, cost issues remain largely unanalysed to date. The complexity of the cost issue raises the spectre of simplistic pricing solutions such as the assumption that every consumer is a potential cost

causer. Consideration of the various technical solutions on offer also gives rise to concerns. This is particularly true of so-called interim portability solutions which reveal important cost and functional problems. Radical critics of interim outcomes point out that the speed of technical change is outrunning contemporary cost-benefit analysis with the consequence that long run marginal costing may be inappropriate and that the philosophy of legacy costing in theory should be relinquished in favour of constant cost reapportionment. The reality of the difficulties of this may, however, account for the opportunistic and rough and ready approach to costing which currently appears to be *de rigueur* in the US.

Thirdly, cost issues appear to be as much a feature of political as economic debate. Tactical posturing on the part of incumbents and insurgents alike has been aimed at migrating costs to other cost causers and deflecting the incidence of such costs from themselves. The CLECs and CAPs are engaged in a portability game with the incumbent RBOCs with clear tactical and strategic implications. All participants in this game have invoked the notion of equity while seemingly only too willing to use the portability issue to tilt the level playing field to their advantage. Players use power and the mobilisation of bias in pursuit of corporate advantage. The deregulatory process surrounding number portability is infused with political/administrative as well as economic value. The road to true deregulation (a privatised marketplace with the departure of the regulator) is, in practical political terms, chimerical. While number portability is perceived as the *ex ante* constituent of regulatory meltdown (hence the title of this paper), the process will, at best, be attenuated. On the arguments of the public choice theorists, abdication of the regulator seems unlikely - he, too, is a stakeholder in the telecommunications deregulation game. The definition of telecommunications as a privatised public good is more realistic than the view of the marketplace as completely privatised and *pari passu* displaying no need for regulatory presence and leadership.

Some insight into the politicised nature of issues surrounding portability may be gained from brief overview of attempts to settle internecine disputes through the medium of corporatist devices such as industry fora. Attempts to resolve important portability issues (such as the number exhaust phenomenon) in this way have ensured at best that only lowest common denominator resolutions have been possible. Conflicting industry interests have led to sub-optimisation. Any future attempt by the FCC to preempt the portability issue in the interests of crafting a national solution to the problems of portability, thus preventing political anarchy within the telecommunications sector, will surely signal that reregulation is still a more accurate depiction of the contemporary telecommunications world than deregulation. Filings on the FCC's Notice of Proposed Rulemaking make clear the feelings of important industry players that the Commission should take a lead in developing a uniform national policy on local number portability.

EUROPEAN PORTABILITY DEVELOPMENTS

Although the American case signals caution suggesting as it does that neither interim nor true number portability connotes the final solution to the regulation/monopoly problem, portability has been grasped elsewhere as an important - key -

component in the ambitions of deregulationists to open up telecommunications markets to competition and choice.

As one group of consultants (Ovum) has recently stated, there is a worldwide trend towards number portability. In Europe, the centrality of telecommunications as a precondition for the effective creation and sustenance of a single market has been frequently reaffirmed. In 1993, the Commission's White Paper, *Growth, Competitiveness, Employment*¹⁸ acknowledged the importance of telecommunications in re-invigorating the entire European economy. More significantly, the dangers associated with failing to open access to telecommunications were confirmed by the 1994 Bangemann Report on Europe and the Global Information Society :

In current circumstances, there is a risk of each Member State adopting purely national legislation in response to the new problems and challenges posed by the information society. Urgent attention has to be given to the question of how we can avoid such an undermining of the internal market and ensure effective rules which protect pluralism and competition. Rules at the European level are going to be crucial, given the universality of the information society and its inherently transborder nature. The Union will have to lead the way in heading off deeper regulatory disparity.¹⁹

The Report emphasised the urgent need by stating: 'Interconnection of networks and interoperability of services and applications should be reviewed in order to increase its speed and responsiveness to markets.'

That response is evident in the implementation of the Union's Open Network Policy (ONP). Explicit in the Open Network Architecture Framework Directive (18)²⁰ is the need to create uniform usage conditions for infrastructure networks. In pursuance of this objective, the (proposed) ONP Voice Telephony Directive²¹ sets out the framework for interconnection agreements for voice telephony, including the principle that numbering plans will be controlled by the relevant national regulatory authority (NRA). The attempt to establish a harmonised framework for interconnection was reaffirmed in the Infrastructure Green Paper, Part II²² which enshrines interconnection and interoperability as part of its three main strands. The paper also envisages that any proposed Directive in this area will operate within the principles laid down in the ONP Framework Directive.

In this way, seamless communication throughout the community has focused attention on the issue of interconnection, 'allowing new market entrants access to existing end-users on a basis which will encourage increased investment and market growth in the telecommunications services sector, within a predictable and stable regulatory environment'. The result has been the adoption by the Council, in draft form, of the ONP Interconnection Draft Directive in July, 1995.²³ This seeks to establish a harmonised framework for interoperability and interconnection throughout the Union in terms of ONP, but strictly within the harmonisation principles of Article 100A of the Treaty. The draft suggests that a 'European Union Directive on interconnection within the ONP framework is considered to be the most effective way of laying down, in a harmonised manner, the principles for interconnection in Member States, at the same time defining the role of National Regulatory Authorities (NRAs) in this context, consistent with the principle of subsidiarity'. Equal access Interconnection, (of which portability is a central ingre-

dient), is seen by Brussels as a 'key element in the future competitive environment, allowing new market entrants access to existing end users on a basis which will encourage increased investment and market growth in the telecommunications services sector, within a predictable and stable regulatory environment'. A key role is assigned in the European context to NRAs (such as OFTEL in the United Kingdom). These will have a prime responsibility for ensuring that interconnection is unproblematical and provided 'in the best interest of European users'. The NRAs also will have a key responsibility for ensuring the development and installation of number portability. They will be required to ensure that number portability between service providers is available as soon as possible. Furthermore, interconnection charges must be 'transparent, unbundled, cost-orientated and (able to) promote economic efficiency and sustainable market entry'. Importantly, they 'must contain separately identified cost components reflecting initial installation and conveyance of traffic across the host network'.

Number portability is seen as an integral part of a doctrine of equal access to all telecommunications service providers, and requires to be developed within a pan European numbering framework. Its full development demands the development of a 'common Union position in international organisations and fora where numbering decisions are made'.²⁴ An effective series of number portability protocols is therefore central to such ambitions. Locating the debate about portability firmly within a series of important recommendations on interconnection, the directive proposes that number portability be made available between service providers as soon as possible. The proposed Directive is an essential component for a regulatory environment designed to guarantee the effective introduction of full competition in the provision of telecommunications services throughout the European community. The timetable envisaged for implementation of such competition would be 1998 in certain member states (like France, Belgium, Germany and Italy) with the remainder, such as Spain, Greece, Portugal and Ireland, falling into line by 2003.

The main problem with this framework is that it might be a case of too little too late if the Union is to avoid the deeper regulatory disparity to which the Bangemann Report drew attention. As explained below, events are moving apace in several Member States and are well advanced in the United Kingdom. By stressing throughout the ONP framework the key role of the NRAs in numbering issues, implementation of a standardised number portability policy might prove difficult. Furthermore, the Draft uses phraseology which suggests that it does not go beyond geographical portability. The main objective appears to be to enable numbers to be ported across Member State boundaries, rather than between competing carriers. That might be a beginning, but, it is suggested, is not enough for ensuring truly open interconnection and interoperability. The matter is undoubtedly sensitive, since intra-State portability is more important (in competition terms) than inter-State interoperability. The extent to which the Union can mandate intra-state interoperability through the ONP framework is therefore extremely limited.

It is also possible that either of the relevant Directorates-General of the Commission (DGIV, Competition and DGXIII, Telecommunications/Information Policy)

might also at some point become embroiled in debates over number portability - and the experience in the United States and the United Kingdom suggests that competition authorities clearly do recognise the attendant antitrust dimensions of (restricted) number portability. There is nothing within the Article 90 Directives²⁵ nor within the Telecommunications Antitrust Guidelines²⁶ specifically dealing with the matter, but that it will emerge as an issue cannot be in doubt.

The developing issue of number portability is not only being played out in Brussels. The debate on portability is now live in various national fora within the Member States. In Denmark, for example,²⁷ telecommunications policy debates are now recognising the salience of the issue of regulating relations between dominant and non-dominant companies with particular regard being paid to network access and interconnection. In particular, Danish debates are considering which measures 'will make it possible for all companies to meet the end users' requirement to be able to communicate with other telecommunications users irrespective of their company attachment'. Importantly, there is cognisance of the need for dominant companies to facilitate access to their networks for newcomers 'in their initial phase, when they have not yet gained any important market shares' and who should not be disadvantaged in terms of their ability to reach end-users. Equal access to numbering resources should be available to the dominant and non-dominant alike. Customers 'should be given the possibility of keeping their telephone number when changing to a competing company.' Interestingly, Danish debates recognise the political nature of the numbering issue. It is well recognised in the Danish context that systems of conflict resolution will in practice be required to settle disputes between telecommunications players on issues of interconnection and access. These might include the establishment of a Telecommunications Complaints Board or the possible referral of decisions by the National Telecommunications Agency to quasi-judicial review.

In October 1995, the French Ministry of Information Technology and Postal Services issued a public consultation document.²⁸ This was drawn up in respect of a resolution adopted by the European Council of Ministers in June 1995 mandating open network interconnection after 1998. The key provision of the 1995 decision was that 'any operator or service provider authorised to do business in this market will enjoy the right to access networks open to the public'. Consistent with this ambition, the Ministry document argues that consumers must be able to 'communicate with all other consumers connected to all other public networks, and they must also be able to choose from a number of operators for their calls, have information on the main services on offer and be able to compare the services available' (and by inference have access to portability). Interconnection and open network access are, therefore, at the forefront of concern. By the end of 1996, number allocation mechanisms must also be put in place to enable portability to be a realisable option.

PLAYING THE NUMBERS GAME: BRITISH STYLE

As in the United States, the number portability issue has swung into the ascendant in the United Kingdom and is now a critical element in the continuing deregulation

game. In Britain, as elsewhere, number portability is widely regarded as central to the unfolding telecommunications public policy process which was triggered by liberalisation and privatisation in the early and mid 1980s. Unlike the United States, the end of the regulatory phase of telecommunications was marked by the transference of British Telecommunications as an entire entity to the private sector rather than the denouement of divestiture as practised in America. Unlike AT&T, British Telecom thus retained the positional advantage of a vertically integrated end to end company (thus acquiring the attendant advantages of economies of scale). Other public telephone operators (PTOs) have only been able to offer telephony in the United Kingdom on the basis of interconnecting their networks with BT. With the ending of the BT/Mercury duopoly in 1991, increasing numbers of operators entered the market presaging the growth *pari passu* of the interconnection phenomenon. Under the terms of BT's operating licence²⁹ (Condition 13) disputes between the incumbent and alternative providers remained to be settled by the Director General of Telecommunications (DGT). Licence conditions pertaining to interconnection state that it must be non discriminatory and not be used by BT in an anticompetitive manner. Under the terms of the licence, BT is obliged to provide number portability. As early as July 1989, the DGT issued a consultative document³⁰ whose findings suggested that the implementation of number portability would bring economic benefits which would be universally enjoyed by consumers of telecommunications services in the United Kingdom. This philosophy was enshrined in the important government White Paper in early 1991,³¹ in which number portability was allotted a key role as a facilitator of network competition. In 1994, the DGT issued directions to BT to provide number portability in designated cable areas by means of a remote call forwarding solution. Subsequently, there followed a major dispute between BT and the cable company Videotron (whose holding company has been highly visible in developing debates over number portability within the Canadian context). This centred on charges for number portability facilities and effectively triggered a decision by the DGT to propose amending BT's licence to provide him with the residual power to determine the commercial terms of agreement if the parties could not agree. The subsequent failure of the DGT and BT to agree on this issue led to a reference to the Monopolies and Mergers Commission under section 13 of the 1984 *Telecommunications Act*.³² The resulting inquiry provided a focus for a voluminous rehearsal of issues surrounding the number portability issue.

In essence, the debates detailed in the inquiry centre on the issue of costs - particularly those relating to call conveyancing in an interim data decode portability solution. In this version, an additional 6 digit prefix is added automatically by the donor network (e.g. BT) to the normal dialled digits to permit calls to be made to ported numbers, which identify the exchange to which the number has been ported, which the recipient operator then decodes. For calls not originating on the same local exchange, number portability entails some call re-routing (characterised as tromboning). In BT's tromboning solution, 'the physical call path is established as far as the destination local exchange to which the called party was connected before porting his or her number, which then inserts the 6 digit prefix. But because BT interconnects with other licensed operators (OLOs) at trunk exchange level, the

call then has to be routed from the local exchange to its trunk exchange for hand-over to the recipient operator. For calls which have been routed in from the trunk exchange in the first place there is thus a doubling back or tromboning, creating an additional loop in the call path which continues for the duration of the call'.³³

To implement portability, BT claimed it faced administrative set-up costs, both system (modifying its network) and per line (adjusting its switches and customer records) as well as the 'additional conveyancing costs incurred as a consequence of the porting of a call between BT and other licensed operators (such as tromboning)'.³⁴ BT's position was to argue that it expected to recover from other operators the full cost of additional conveyancing on its network.

Predictably, BT's position on costings was treated with scepticism by its competitors born of their own commercial interests. They argued that the costing regime proposed by BT would hinder the universal development of number portability. Furthermore, it would be introduced only for those customers 'whose traffic volumes made the implementation costs worthwhile, to the detriment of consumer choice'.³⁵ Coupled with this was the concern that new entrants would be inhibited from entering the market: if 'operators could recover costs from each other....(this) would encourage inefficiency and stifle innovation'.³⁶ Entry assistance effectively demanded that undue burdens of cost should not be imposed on new operators.

In the view of the DGT, 'BT could be expected to have a profit incentive to resist or delay the introduction of portability ... or requiring rival operators to pay high charges for the provision of portability'. In his opinion,³⁷ BT should bear a substantial proportion of these conveyancing costs as it:

- (a) ultimately had the means to reduce them,
- (b) its incentive to do so would be weakened if it could pass them on,
- (c) BT's customers would gain most of the benefits of enhanced competition stimulated through the introduction of portability,
- (d) BT's recovery of all conveyance costs would emasculate competition to the ultimate disadvantage of all users including its own customers.

The MMC inquiry threw many of the issues surrounding portability into sharp relief. It illustrated the essentially contestable nature of debates surrounding the cost causer issue of who should bear the financial burdens associated with the phenomenon. As in the United States, it showed that the interests of the incumbent and new market entrants differ significantly. Competition has acted as the public interest standard against which to evaluate number portability schemes. Yet, while both BT and the new entrants are both committed to the concept of competition (BT readily conceded from an early date that portability was a necessary condition for the full implementation of competition) each have taken opposing views in relation to its implementation.

The inquiry acted as an important crucible for testing the relative power position of the players in the contemporary portability game. The decisions reached by the MMC appear to have benefitted new entrants (at least for the time being) with its

adherence to the major premise of competition and contestability. Its findings clearly favoured insurgents against the incumbent in its conclusion that BT should bear its own system set-up costs in full as these 'are an essential part of the investment which any operator needs to make in providing telecommunications services.' However, it also recommended that BT should be able to pass on both a proportion of its per line set up-costs, and during the interim tromboning phase (prior to the impending 1997 call drop-back solution), the estimated additional conveyancing costs should be shared equally between BT and other operators. The MMC estimated the distribution of the per line and additional conveyance costs would be equivalent to an apportionment of roughly two-thirds and one third respectively between BT and other operators para.³⁸

The decision to recommend that BT should bear two thirds of the cost of portability with the remainder borne by alternative operators was an effective endorsement of the DGT's view that BT's licence should be amended to allow and encourage the faster deployment of number portability (as a key facilitator of competition). Additionally, in the view of many commentators, whilst the MMC departed from the general principles of setting charges in line with costs, it agreed with the OFTEL position that the benefits accruing to the wider community went beyond those of the operating companies.³⁹ On this last, the conclusion is inescapable that BT has suffered a degree of power deflation as the MMC process has unfolded. Disputes over number portability in the British public policy process have reverberated in the power and influence system of the telecommunications policy community. In the British case the position of the regulator has hardly been diminished as the numbers game has developed. On the contrary it has been enhanced.

CONCLUSIONS

Number portability is in good currency in the telecommunications policy debate in the United States, Europe, Britain and elsewhere (e.g. Australia and Hong Kong). It is widely seen as one of the keys to a more contestable and competitive provisioning regime. The United States reveals the element of experimental genius which is provided in a polyarchal policy system in which sub-national systems such as the states can provide the laboratory conditions for trials of novel technological and regulatory/deregulatory solutions to complex and still unfolding problems. The speed of introduction of 'true number portability', for example, owes much to the attempts at industry concertation being played out in Washington State.

The British example reveals that the alternative institutional arrangements of a unitary state can clearly also deliver relatively speedy policy outcomes. The basic simplicity of the British regulatory approach (with a dominant watchdog in the shape of OFTEL) means that it can frequently match the pace of its larger well funded counterpart in the FCC - the latter at present lagging behind its state counterparts in the innovative aspects of policy formulation. British Telecom has been forced to concede ground to its opponents through a determined campaign by the DGT. The portability issue has crystallised (and perhaps clarified) the current power struggle between the DGT and the BT dominant coalition. Number portability is

the contemporary arena in which many of the distributional battles associated with all organisational change are being played out.

The concept of number portability appears particularly well suited to the current protean stage of telecommunications development. Further reconfiguration of telecommunications infrastructure and associated organisational systems seems inevitable and accelerative. With the removal of many of the restrictions on company activity in the United States for example, we are already witnessing mergers of the former RBOCs and the reforging of global alliances. The day of the convergence conglomerate offering one-stop shopping for all telecommunications services may well be a feature of tomorrow's telecommunications organisational landscape.⁴⁰ Number portability seems essential for holding such conglomerate company sovereignty at bay or at least allowing a measure of competition to prevent corporate overreach and the recrudescence of monopoly and cartel. The above brief account of the rise of the phenomenon indicates that resistance to change - in particular in the form of turf battles over cost allocations - is its frequent companion. Such distributional struggles as have been revealed in developments in the United States and Britain will probably be paralleled in Europe which, so far, appears to have embraced the concept of portability in a much more leisurely manner than in the former named countries but will surely be destined to cope with its political fallout.

It seems unlikely that number portability (offering as it does a seductive solution to the competition issue) will still the voices of regulation (or reregulation). In the wake of the 1996 *Telecommunications Act* for example, it is predicted that the FCC will be busier than ever filling in the regulatory details of the more competitive environment which has ensued. The British case suggests, too, that the role of the regulator is undiminished in the face of turbulence and change. Number portability seems destined to extend rather than displace the turf battles which have emerged in the past decade of the deregulatory experiment.

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