REGULATING ICT CONVERGENCE

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Abstract

The Broadcasting, Information Technology and Telecommunications sectors have in recent years been the subject of notable transformation, one important feature of which is their coming closer together in a number of ways — it is now commonplace to speak of a new hybrid sector, Information and Communications Technologies (ICTs). This convergence is of considerable interest to policy-makers in industry and government at the national and international level, as well as the academic community and, in particular, one of the key questions raised concerns how to regulate for such convergence. Focusing on the European Union (EU) context, this article argues that in recent years the telecommunications element of ICTs has been subject to change in the form of both liberalisation and re-regulation to the international level, which has been justified by numerous arguments, and indeed in some quarters vaunted as an appropriate model to be applied to ICTs as a whole. This article suggests that whilst the telecommunications policy model can provide some important pointers for the regulation of the ICT sector, it cannot provide a full and adequate response to what many see as one of the most important challenges facing policy-makers across the European Union. Specifically, certain specific features of broadcasting — most notably the nature of its public service remit — set it apart from telecommunications. Furthermore, the regulatory arrangements and structures developed at the EU level for telecommunications have only very recently been put in place and there is evidence that they are facing certain imple-mentation difficulties. Overall, it is argued that in the short to medium term, only limited regulatory change of the kind witnessed in telecommunications will occur in ICTs as a whole.

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Since the 1980s, the telecommunications sector in Europe has experienced nothing short of a wholesale transformation in terms of the technologies which underpin it, its commercial structure and the regulatory arrangements for its governance. Across the European Union, a pattern of liberalisation and re-regulation has occurred in all member states. A key feature of this evolution has been the development of a telecommunications policy package at the European Union level (Steinfield, Bauer and Caby 1994) which has involved an inevitable transfer of regulatory sovereignty towards Brussels. These twin features of liberalisation and significant supra-nationalisation of regulation have been justified by numerous arguments. In some quarters, notably the European Commission, they have been vaunted as an appropriate model to be applied not just to telecommunications, but to the Information and Communications Technologies (ICTs) as a whole. This paper argues that whilst the telecommunications policy model can provide some important pointers for the regulation of the ICT sector, it cannot provide a full and adequate response to what many see as one of the most important challenges facing policy-makers in government across the EU. This is the case in two key respects. Firstly, it is clear that there are a number of inherent differences between the constituent parts of information and communications technologies. In particular, certain specific features of the broadcasting element of ICTs (see Collins 1994; Humphreys 1996) may merit a different treatment from that which adherence to the new telecommunications policy model prescribes. Secondly, the regulatory arrangements and structures developed at the EU level for telecommunications have only very recently been put in place: it is as yet impossible to fully determine their efficacy. Thus, whilst they *may* turn out to be appropriate for the sector, there is evidence that they are facing the kind of "teething troubles" which suggests that any swift emulation of the model for ICTs as a whole may prove foolhardy, in the *short term*, at least.

ICT Convergence

In recent years, broadcasting, Information Technology (IT), and telecommunications — sectors which were traditionally separate — have come closer together in a number of respects. Indeed, the significance of this gradual and ongoing process is such that a new hybrid term - Information and Communications Technologies — has been coined. ICT convergence has been defined as the coming together of information distribution infrastructures; interactive information storage and processing capabilities; and widespread availability of consumer electronics products, publishing and IT content (KPMG 1996, 87), though there are less wide-ranging definitions. The ultimate aim of the convergence process is to make available to corporate and private consumers a comprehensive array of high-speed, sophisticated, interactive facilities which can be selectively chosen and paid for by electronic means.

As yet, however, convergence has only been partially realised and is a haphazard process, which is likely to continue as such. According to Adstead and McGarvey (1997), primary convergence can be defined as the coming together of various different parts of the consumer and business ICT value chains (see Figure 1). Secondary convergence is described as the complete fusion of IT, media and telecommunications to form a new convergent sector, whilst tertiary convergence reflects the joining of the retail, travel and financial services sectors with the parties which have created secondary convergence.

Table 1: Constituents of New ICT Convergence Value Chains

The Consumer Interactive Services Value Chain	
Content	video games, music, film, magazines and general information, such as education and news.
Services	customer care systems, on-line services and Internet access.
Access	all functions that allow the customer to connect to any interactive service.
The Business Interactive Services Value Chain	
Network	defines the infrastructure that links users to the access environment and includes such functions as data communication service provision.
Access	Access refers to end-user hardware and software (includes browser software)
Navigation	Internet navigation and content aggregation e.g. search engines, Webcast news services
Content	information, communication, entertainment and commerce/transaction
VANS:	Web consulting, systems integration and graphic design.

Adapted from Adstead and McGarvey 1997.

In this ferment of change, there is evidence of considerable commercial re-organisation among a diverse range of companies wishing to gain competitive advantage in an evolving scenario. Some, such as Anderson Consulting, have argued that the ICT convergence process will eventually witness the emergence of vertically integrated companies formed either through acquisition or the creation of virtual networks of companies (cited in Shillingford 1999a).

The Evolution of the EU Telecommunications Policy Regulatory Regime

Since the early 1980s, the EU has gradually begun to develop a set of measures, which has transformed the telecommunications sector. From its inception, the European Commission has played a crucial role in driving forward this policy through a number of important stages (Schneider and Werle 1990; Scheider, Dang-Nguyen and Werle 1994). Initially, arguments in favour of making what was a highly disparate and fragmented sector more cohesive were shaped in terms of industrial policy. This idea ran in the same vein as the perspectives of the EU Davignon Information Technology Roundtable made up of the heads of the most prominent Information Technology companies in Europe (see Sharp and Shearman 1987). The telecommunications sector was viewed as "the essential vector for information flows and new services which help to create industrial and commercial activities" (European Commission 1984, 3). However, Europe was seen as being under threat from its triadic partners, the USA and Japan (Ohmae 1985), who were, according to the European Commission, hungry to exploit the markets of Europe.

As the drive to create the Single European Market gained momentum through the 1980s, the telecommunications sector was put forward as a necessary condition for its

realisation. Telecommunications was viewed not only as an important industry in its own right but, through its ability to defy distance, as an enabler of commerce and a means to make Europe a metaphorically smaller place (see European Commission 1985). In 1987, the European Commission released a landmark Green Paper on measures that it considered necessary to be taken in order to achieve the Single European Market in telecommunications (European Commission 1987). The paper was primarily intended as a launch pad for future liberalisation initiatives but it also represented the steering of a path between those member states which were in favour of opening their telecommunications sectors to competition (or had already done so in the UK's case) and those who wished to maintain the nationally balkanised *status quo*. Thus, on one hand, liberalisation of telecommunications terminal equipment and value-added network services (VANS) was advocated, whilst on the other, there was a proposal to keep voice telephony as a so-called reserved service, should member states so wish. The aim of the latter measure was to maintain the fulfilment of public service goals, for the purpose of which the main provider of this service, the Postal Telegraph and Telephone company (PTT), was given the right to continue to hold an exclusive position "regarding provision and operation of network infrastructure" (European Commission 1987, 70).

The Green Paper was followed by the publication of two legally binding directives, aimed at carrying out its main liberalising proposals. These directives on terminal equipment (European Commission 1988) and Value Added Network Services (European Commission 1990) were politically controversial as the Commission attempted to pass them directly into EU law without having a vote in the Council of Ministers. It cited article 90 of the Treaty of Rome, which it claimed compelled it "to act to remove dominant competitive positions of public undertakings that could be deemed anti-competitive" (Humphreys and Simpson 1996, 111). The Commission was challenged in the European Court of Justice with regard to both directives, which upheld its position (Schmidt 1998). An important "compromise" directive was also passed on Open Network Provision (ONP). This was a key access issue, which was intrinsically linked to the liberalisation of value-added services. Provision of a framework for common technical standards would, in theory, allow operators from across the EU to provide telecommunications services in any other member state (Humphreys and Simpson 1996, 111). As a result of the agreement, a directive was passed (European Council of Ministers 1990) which allowed the implementation of ONP rules and the liberalisation of all services except public voice telephony and basic data transmission.

The next significant step in the re-regulation of European Union telecommunications was perhaps the most far-reaching and unexpected in its relatively short history. As a result of the 1992 Telecommunications Services Review (European Commission 1992), the European Council of Ministers passed a Resolution decreeing the liberalisation of all public voice telephony services across the EU by 1998 (EC Council of Ministers 1993). This was soon followed by the even more radical step of agreeing to the liberalisation of telecommunications infrastructure by the same date (EC Council of Ministers 1994). Thus, the two "sacred cows" of the public service aspect of telecommunications were to be altered. The events that occurred between 1992-94 unfolded in the context of a debate on the broader dimensions of the Information Society. In particular, in late 1993, the Council of Ministers requested the formation of a group of experts to examine how policy might be developed in this regard. The group, chaired

by the telecommunications and industry commissioner, Martin Bangemann, reported in June 1994. One of its key recommendations was the "opening up to competition infrastructures and services still in the monopoly area" (Bangemann Report 1994, 12). Bangemann has argued that "the European Commission has been actively pushing ahead with a comprehensive strategy for the Information Society, for which of course the telecommunications policy and the 1998 timetable constitute a central pillar" (Bangemann 1997a). The highly neo-liberal make up of the Bangemann Group (it contained mostly high-level representatives of the ICT industry in Europe) was reminiscent of the Davignon IT Roundtable of the 1980s. This group's ideas, though technologically and economically determinist in nature, deeply influenced thinking on most aspects of EU ICT policy, not least the convergence issue (see McGinn 1991)[1].

Clearly for all member states to have agreed to the complete liberalisation of telecommunications services and infrastructures, marks nothing short of an attitudinal transformation. This may be explained by the fact that, by the early 1990s, certain governments (notably the French) had begun to realise, perhaps reluctantly, that telecommunications has become one of a few examples of a truly global sector commercially. The entry price to be paid to become a player in this global game was liberalisation of the domestic market. For the smaller EU member states which were reticent about such a move, most notably the Mediterranean countries, an agreement was made as a part of the 1993 and 1994 Resolutions for them to have until 2003 to fully liberalise markets. Another important reason for the fairly radical shift in position was the changing perspective of the large ex-PTTs, now termed Telecommunications Operators (TOs). Companies such as France Telecom and Deutsche Telekom were in the process of transforming themselves from slumbering giants to active international predators. They calculated that the bounties of a liberalised European and global telecommunications market outweighed the possible risks of losing domestic market share from being subject to competition in voice telephony, where the majority of their revenue still lay.

The 1993 and 1994 Resolutions marked the beginning of a process of setting in place the conditions for a liberalised market. As a result, a number of directives have been passed officially liberalising voice telephony (European Commission 1996a), mobile communications (European Commission 1996b), satellite communications (European Commission 1994) and cable TV services (European Commission 1995). Two important directives were also passed, creating a system for telecommunications authorisations and licences (European Parliament and European Council of Ministers 1997a) and a regulatory mechanism for interconnection (European Parliament and European Council of Ministers 1997b).

Regulating for ICT Convergence at the European Level

The pattern of technological change and commercial reorganisation apparent in ICTs has called into question the regulatory arrangements governing its different constituent parts, many advocating a wholesale review of the situation (OECD 1997). In particular, the fragmentation in these arrangements has become an outstanding feature (Hills and Michalis 1997), both on an intra- and inter-country basis across the European Union. An immediate problem is that the degree of regulation in existence in broadcasting, IT and telecommunications has been somewhat different. The IT sector has historically been relatively unregulated, whereas broadcasting has operated

under tight regulation aimed at fulfilling a public service remit, underpinned by the desire to uphold moral values, cultural traditions and pluralism (see Siune and Treusztler 1992; Wheeler 1997). Telecommunications is an interesting case, since, as shown above, it has undergone significant migration from the kind of tight regulatory control evident in broadcasting, to the more liberalised commercial environment evident in IT and publishing. Thus, on the surface it might appear that the major stumbling block to uniformity across ICTs is the regulatory arrangements governing the broadcasting sector. This, though, would be a superficial conclusion to reach, yet it seems that it is a view held by key elements, both governmental and commercial, in ICT circles of late.

The emergence of ICT convergence policy at the European level bears several similarities to the recent evolution of telecommunications policy. As in the telecommunications case, the European Union has been a key forum for activity. Indeed, as in telecommunications, a key Green Paper was published on the subject. This paper addressed the broad sweep of developments in ICTs and culminated in the presentation of three possible options for the future regulatory organisation of the sector. Firstly, current regulatory structures for the various constituent parts could evolve separately. Secondly, a separate horizontal series of measures (spanning broadcasting, IT, and telecommunications principally) could be put in place to deal with new convergent ICT services, whilst maintaining a vertical separation between sectors in all other respects. Finally, and most radically, a new all-embracing horizontal regulatory model could be developed for both existing and new services (European Commission 1997b, 34-35). The presentation of such a set of options was similar to the tactic employed by the European Commission in the review of telecommunications services in 1992 and, like in early stages of telecommunications policy, the Green Paper on convergence stressed the industrial policy dimension in the form of challenges posed by Europe's global competitors, as well as the benefits to be potentially accrued from taking appropriate measures.

In the wake of the Green Paper, a consultation exercise was launched in which opinions on its proposals were invited from all parties with an interest in the sector's future shape. From here, the aim was to produce and execute a Convergence Action Plan. However, the consultation exercise revealed serious differences between respondents on the issues raised in the convergence Green Paper. There appeared to be a broad split between respondents from broadcasting, advocating the most evolutionary approach and certain players from IT, telecommunications and publishing. The latter were arguing for a fundamental re-evaluation of the regulations governing each part of ICTs, though even these players viewed any changes as long-term phenomena (European Commission 1998b, 11). Overall, it was clear that the majority of respondents were in favour of the least radical option in the Green Paper.

As a consequence of this divergence of opinion, the European Commission unexpectedly re-launched the consultation exercise. Further opinions were requested on three crucial areas: access to networks and digital gateways; the creation of an appropriate framework for investment in and development of the European ICT content industry; and the development of a balanced approach to regulation (European Commission, 1998b). As a result of this second phase, it appears that the Commission intends to proceed with the re-regulation of ICTs in four ways. Firstly, it will put forward proposals to introduce horizontal regulation of all ICT infrastructure and associated services as part of the 1999 Communications Regulatory Review. Secondly, with

regard to the controversial issue of content regulation, the situation will be more open with either adjustments to existing legislation being made (a vertical approach) or by the introduction of new measures (which *implies* that either a vertical or a horizontal approach could be taken). These two actions will be complemented by two of a more general nature. The Commission proposes to introduce a set of broad regulatory principles governing the ICTs and, finally, a set of "flanking actions in both content and infrastructure areas are foreseen" (European Commission 1999, 1).

Thus, it appears that, at this stage, future ICT convergence policy will proceed as some as yet unclear combination of Option 1 and Option 3 (or perhaps a modified version of Option 2) as presented in the Green Paper. This rather muddled conclusion is clearly reflective of the many thorny issues which lie at the heart of the convergence issue and strongly suggests that the "messy convergence" predicted by Mitchell (1997, 441) seems set to materialise. Thus, the dual approach evident in EU telecommunications policy of market liberalisation and the development of a body of legislation (of both a liberalising and a harmonising nature) at the European Union level, will not be repeated to the same extent, either in the short or the medium term.

Public Service Considerations in ICT convergence

Since the beginning of the 1990s the traditional conception of public service in telecommunications has been the subject of some considerable review. With the infusion of competition into telecommunications service provision in general, and the opening to competition of voice telephony in particular, the question of how universal service should evolve loomed large. There were three key dimensions to the debate. Firstly, the issue of which organisation should be responsible for the provision of the service was addressed. Here, it was argued that, with developments such as the liberalisation of telecommunications infrastructure, it would be no longer necessary for a single organisation to assume responsibility for this task (European Commission 1996, paragraph 8). Secondly, the issue of how universal service should be funded called into question the issue of which organisations should pay for the service. It was concluded that, given the increasingly competitive environment likely to emerge, financial responsibility, in terms of the net cost of providing the service, might be shared among a number of players (European Parliament and European Council of Ministers 1997b, article 5) [2]. Finally, the definition of universal service in telecommunications has been debated. Here, it has been suggested that, in the context of technological change, what is constituted as a basic public level of provision should evolve over time from simple voice telephony to some form of advanced ICT service (European Commission 1997a). The EU has even gone as far as to suggest that "it may be appropriate in due course to consider whether ISDN should be part of the universal service" (European Parliament and European Council of Ministers 1997b, paragraph 8). Ultimately, however, in line with the principle of subsidiarity, national governments have the right to determine whether or not a shared universal service financing scheme is required, although any national schemes are required to comply with EC law (European Commission 1996, 3).

The ICT convergence debate has brought clearly into focus the fact that the concept of public service is markedly different in telecommunications and broadcasting. One of the biggest concerns of certain elements in broadcasting, notably public sector broadcasters, is that the development of any new hybrid model of regulation for ICTs

would result in broadcasting being regulated according to the telecommunications policy model. Historically in broadcasting, the public service remit has been underpinned by the aim of protecting and fostering pluralism, cultural diversity and democratic principles, though recent events have caused many to believe that the current system is under threat. As Humphreys points out, the Green Paper was ambivalent about the future of public sector broadcasting. This was a product of it containing conflicting inputs from both Directorate-General XIII [Telecommunications, Information and Exploitation of Research] and Directorate-General X [Information, Communication, Culture, Audio-visual Media] of the Commission. But a subsequent discussion paper, issued by the Competition Policy Directorate-General of the Commission (DGIV), was not at all ambivalent. In focusing on the organisational delivery of the public service remit, it questioned the efficacy of having one entity as its provider, and allowing that entity to supplement its licence fee revenue with that from commercial advertising. It also introduced the idea that this issue had an EU competition policy dimension, cautioning member states of the need to legally clarify the position (Humphreys 1999, 13). According to Hills and Michalis, DGIV also "tried to apply the 'net cost' test developed for financing universal service in telecommunications." It argued that "state aid to dual-funded public service broadcasters would not be approved if, together with advertising revenues, it exceeded the 'net cost' of fulfilling their public service mission" (Hills and Michalis 1999, 17).

This clearly set alarm bells ringing among traditional public sector broadcasters, since the DGIV paper was produced after the Green Paper, and indeed, the end of the first consultation exercise, in which the opinions of those in favour of maintaining an evolutionary approach to convergence were clearly expressed. It also suggested very strongly that moves were a foot amongst the "liberalisers" of the European Commission (principally DGXIII and DGIV) to impose a version of the telecommunications model of public service on the broadcasting sector. Thus, it appears that uncertain times lie ahead for the public service remit, since the media market in general is increasingly becoming the subject of a marketised agenda in a global context (Steemers 1999). Overall though, it seems clear that despite moves to make the consideration of public service provision for ICTs subject to the telecommunications policy model, a vertical separation between what is presently constituted as broadcasting and telecommunications will remain (European Commission 1998b, 3) in the short and medium term. What happens thereafter is much harder to predict, though it may be that there is in place an inexorable movement towards altering the shape of public service broadcasting within a context of an increasingly convergent ICT sector. Such a move, however, would hold many dangers and would have to be considered with the utmost care to avoid diluting protection of the public interest. In any event, it seems that whilst some general, more horizontal, principles may be worked out at the EU level, the lion's share of responsibility for this crucial part of ICT provision will be left to the national state to determine and implement.

Economic Issues in ICT Convergence

The radical changes in the structure and regulation of the telecommunications sector in Europe since the mid-1980s have been very much influenced by the recognition of telecommunications as a global industry. In many instances, national governments of the EU have unleashed their former PTTs into what is a highly competitive interna-

tional market. The role of large multinational company users has also been significant in arguing for a more competitive telecommunications market and this important grouping was influential in ensuring that the liberalisation of telecommunications sectors across the EU progressed apace since the mid-1980s (see Simpson 1992). A similar scenario seems increasingly to present itself in ICTs as a whole. The IT sector in Europe has long been associated with large internationally of not globally dominant players (see Koutrakou 1995). Indeed, the 1980s and 1990s have witnessed an almost bewildering array of corporate reorganisations among IT and telecommunications companies on a worldwide basis (see Pitt and Levine 1999; Curwen 1997). Yet again, the increasing commercialisation of broadcasting has resulted in the emergence of competitively oriented media companies, some with global ambitions. A clear challenge has thus emerged to the traditional regulatory parameters that have governed various parts of ICTs. Governments at the global level, in the context of the World Trade Organisation (see Jackson 1998), have agreed upon trade liberalisation in both IT and telecommunications, though the stability and efficacy of these arrangements have yet to be proven. Similarly, competition policy authorities (for example DGIV of the European Commission) have had to consider carefully a number of important global level linkups, particularly in the telecommunications and audio-visual sectors (see Pauwels 1998).

The future evolution of market structure in ICTs is at present uncertain. However, it seems clear that there will be an increasingly important role for competition policy, backed by regulation, to ensure that the worst features of market dominance (even foreclosure) are avoided. The position for government at the national and international level is rather difficult. On one hand, there is strong pressure from those who argue that a converged ICT sector will result in an open, competitive and dynamic market structure where competition policy will have to be utilised to a minimum. Less optimistic (and less naive) writers have, with these considerations in mind, warned of the emergence of a global ICT oligopoly (Melody 1991) with a stranglehold on access to networks, customers and market information (Mansell 1997, 87-90). Others have suggested that a broad deregulatory, pro-market, neo-liberal agenda is emerging whose origins lie in recent US ICT policy. This has pandered to the wishes of large corporate business producer, service provider and user interests, thereby de-emphasising the social principles which were an intrinsic part of the historical development of the communications sector (see Schiller 1999). Thus, debates and policy on issues of access (already to *some* degree addressed in the telecommunications sector) — in terms of both ensuring fair competition, consumer choice and social equity — will form an important part of the future evolution of the broader converged ICT environment.

In this regard, the existence of an appropriate licensing system for ICT services will be important, although evidence suggests that achieving agreement could prove difficult. One important feature of the current debate is the present vertical separation of licence allocation not only between, but also within, various parts of ICTs. Companies from IT and publishing have traditionally operated in a commercial scenario where licensing requirements have been minimal, whereas the opposite has been the case in telecommunications and broadcasting. This dichotomy became apparent in the consultation exercise proceeding the Commission's Green Paper on convergence. In the Green Paper itself, a generally more flexible approach was advocated. For example, it was suggested that requiring a telecommunications operator interested in developing a presence in both the fixed-link and mobile communications market to have two licences might be a case of over-regulation. It was also argued that the broad-

casting licence allocation system was in need of review to accommodate the emergence of a new digital environment, to allow media companies to be licensed for a range of different services e.g. some combination of terrestrial and satellite provision (European Commission 1997b, 22).

The type of licensing system (if any) which emerges, as a result of the current deliberations on ICT convergence, is as yet uncertain. Looking towards the telecommunications policy model, as part of the follow-up process to the 1993 and 1994 liberalisation agreements, the EU passed a directive on licences and authorisations for telecommunications services (European Parliament and Council of Ministers 1997a). Very importantly, the directive makes the distinction between general authorisations and individual licences. The former allows an operator to provide any particular service without requiring it to obtain an explicit decision from the National Regulatory Authority before it exercises the rights stemming from the authorisation. The latter refers to the explicit permission to provide telecommunications networks and services, which carries with it specific undertakings on the company and gives it specific rights (European Parliament and European Council of Ministers 1997a, article 2). In this system, the National Regulatory Authority (NRA) plays a key role in the organisation and implementation of a national authorisation scheme. However, each NRA (and ultimately the national member state) can be held accountable to the over-arching requirements of the directive. Member states must ensure that both telecommunications services and networks can be provided either without the use of *any* authorisations or on the basis of general authorisations supplemented, where necessary, by the imposition of rights and obligations on the service provider[3]. Importantly, throughout, the least onerous system possible must be employed (European Parliament and European Council of Ministers 1997a, article 4).

Thus, it clearly appears that a light-touch regime has become very much the order of the day in telecommunications, which if translated into ICTs as a whole would have significant implications for broadcasting in particular. A vogue for the use of authorisations, as opposed to licences, would appear to conflict with traditional regulatory controls in this sector. Taking media concentration rules as an example, restrictions have traditionally been placed on companies with a view to protecting pluralism and culture, as well as encouraging democracy. However, in recent years an increasingly vocal business lobby has called for the relaxation of such rules. Looking specifically at the EU, Humphreys (1999, 11) clearly shows that, on one hand, the EU's attempts to devise and implement a directive on media concentration controls have repeatedly stalled. On the other, the convergence policy debate has moved ahead assuming this important issue is being dealt with as part of other EU activity . The danger here, of course, is that the emergence of a horizontal approach to the regulation of networks and services in terms of licence allocation will ignore the crucial issue of media concentration. However, it remains to be seen whether such a system will in fact materialise, though the recent Commission Communication on convergence would seem to indicate that a proposal of this nature may emanate from it in the near future.

The Transposition and Implementation of EU Directives

A key element in assessing the success or otherwise of any new EU level ICT convergence regulatory framework will be how faithfully any directives passed at the European level are transposed into national law. According to the Commission, effec-

tive transposition will result in the incorporation of all of the obligations of a directive which are required to achieve its objectives into a member state's legal system. This would allow, *inter alia,* new entrant companies to understand their rights and the responsibilities of the national regulatory authority to uphold them (European Commission 1998c). However in general, the directive, since it must be *transposed* into national laws, has been recognised as a legal instrument which is open to different interpretations (Lodge 1991) potentially resulting in a lack of uniformity on an EU-wide basis (Cane 1998). Secondly, the successful *implementation* of directives will be a crucial yardstick in assessing the effectiveness of any policy on convergence. Here, it is incumbent on the member states to ensure that the transposed measures are correctly applied. The Commission undertakes a number of functions. These include: monitoring the effectiveness of the transposition; monitoring the extent to which new operators and services are appearing on the market; making itself available to receive information from players in the market about the state of its competitiveness; and ensuring that there is a sufficient degree of transparency throughout the market (European Commission 1997d). In the above regards, the experience of telecommunications liberalisation can provide some evidence of the difficulties that will be encountered in securing the efficacy of any EU ICT convergence regulation.

Such difficulties have been apparent from relatively early on in EU telecommunications policy. For example, by 1993, only France, the UK, Belgium and Germany had fully complied with the 1990 telecommunications services directive (Humphreys and Simpson 1996, 120). By 1997, the Commission noted difficulties with incomplete liberalisation of alternative infrastructure, delays in granting authorisations by national authorities, prohibitively high licensing fees and high, competition-inhibiting interconnection fees (European Commission 1997c, 4). In a recent survey of the state of liberalisation across the EU, the Commission noted that a number of serious problems exist in key areas. With regard to the National Regulatory Authorities there were concerns over "the sufficiency of the powers and resources available to them, the degree of separation from the body controlling the incumbent and the clarity of the division of powers between the different bodies to which NRA task have been devolved." The Commission also noted the existence of "onerous licensing conditions, lack of transparency in regard to conditions and procedures, the level of fees and the length of time required in certain cases to issue licences" (European Commission 1998d, 4). Further difficulties were highlighted in the areas of interconnection, universal service, accounting systems, numbering, frequency allocations and rights of way (European Commission 1998d, 4-5). Furthermore, there is evidence that the evolution of liberalisation is especially slow in general in Luxembourg, Portugal and Greece (Tucker 1998). Thus, one can envisage a manifoldly more complex and potentially problematic process in successfully putting in place any EU ICT convergence policy, especially given the need to cope with the specificities of broadcasting.

Prospects for a European Level Regulator in ICTs

In examining the likelihood of creating an over-arching European-level regulator in ICTs, recent events in the telecommunications sector can similarly provide some useful insights. Forrester, Norrall and Sutton (1996, 78-82) have presented a number of possible options for a European Telecommunications Authority. Firstly, they suggest that a wholly independent organisation might be created aside from the Euro-

pean Union. This might have a possible advantage of being free from political influence (though this is highly debatable) but a major disadvantage would arise from the fact that the European Commission would still remain responsible for competition policy issues, effectively resulting in a fragmented system of dual regulation. Furthermore, this option does not make it clear as to whom the regulatory authority would be ultimately accountable. In any event, as discussed below, it is unlikely to be pursued as an option in the near future.

A second model suggested, might involve the creation of an authority (in the form of a European agency) answerable to the EU. As an interim option, there might be a less powerful institute, which could formulate opinions on various aspects of the telecommunications sector and supply them to the Commission, as well as being requested to undertake such work by the Commission. This model would clearly place significant power in the latter's hands, though it is not made clear whether the Commission would then have the final regulatory "say" on any particular proposals, or whether this would be left to the member state. A rather different general European agency model has been put forward by Dehousse (1997). Applied to the ICT sector as a whole, its role would be the achievement of uniformity in convergence policy through acting as a network co-ordinator of national administrations, rather than performing the task of a "top-down" central regulatory agency. Other advocates (Majone 1997) argue that its central aim is the creation of harmonisation which can be achieved through this "regulation by networks model" (Dehousse 1997, 253). For the model to operate effectively, a number of criteria need to be in place. These include: agreement by all on the definition of a given problem and the solutions required; use of similar procedures by participants; availability of mutual information to allow common action and facilitate confidence; agreement on a common set of rules laying down the rights and duties of all members and; stability in the network through the creation of a structure to manage co-ordination between members.

The creation of a European ICT agency along these lines would certainly allow the power base to remain at the national level and would, perhaps, serve to allay the fears of national governments protective of their broadcasting sovereignty. Equally, it could possibly involve the European Commission in an important co-ordinative role without devolving too much power to it. However, given the complexity of the sector and the diversity of the EU, it might prove very difficult to operate successfully in practice. It would leave too much scope for abuse and misinformation at a number of levels and its lack of coercive legal power, most particularly, would render it a "lame duck" tool of policy.

A third model proposed by Forrester, Norall and Sutton involves the merger of the competition law and regulatory functions of the European Commission. This would require close co-operation between the relevant Commission Directorate-Generals (DGIV, DGXIII, DG III and DGX) (something not easily achievable), and, if successful, would have the advantage of providing an integrated approach to telecommunications regulation. It was suggested that regulatory expertise could come from the NRAs who would spend a minimum of six months secondment in Brussels, thereby affording exchange of information between the national and the EU level, as well as greater cohesion of regulation across the sector. This option would clearly represent a considerable enhancement of the Commission's political standing in telecommunications policy. Unsurprisingly, there is evidence that, within the Commission in particular,

this option has found favour at the highest level. Here, ex-Commissioner Bangemann in the context of ICT convergence, has mooted the possibility of putting in place a European Communications Act which would be an amalgam of legislation covering such issues as infrastructure, services, content and access. He has also (more tentatively) put forward the possibility of creating a single European regulatory authority (Bangemann 1997a).

However, from the results of the consultation process on the EU Green paper on convergence, it seems clear that such as structure is a long way off, if it is ever to be realised. Furthermore, there is clear evidence that both national governments and national level regulatory authorities with responsibility for various parts of ICTs will resist any attempt to dilute their powers. The UK government, for example, in its policy response to convergence argued for a cautious, evolutionary stance (UK Department of Trade and Industry 1998, 4). Similarly, the major regulatory organisations for ICTs have, as a result of the Green Paper, come closer together - the Office of Fair Trading (OFT), the Office of Telecommunications (OFTEL and the Independent Television Commission (ITC) have created a joint Standing Committee on Competition and Communications to co-ordinate their approach to overlapping areas of their work (UK Department of Trade and Industry 1998, 40) and have even begun to issue joint statements. Several different regulatory possibilities have been put forward ranging from the separate regulation of infrastructure and content to a single regulator for all ICTs (UK Department of Trade and Industry 1998, 39). However, here it has been suggested that, if it ever occurs, the advent of a single regulator for telecommunications and broadcasting is several years away (Shillingford 1999b). Advocates of radical change would do well to note that the UK government has been by far the most liberal of the EU member states in IT/telecommunications policy in recent years.

Conclusions

In many ways, therefore, the evolution of ICT convergence policy in Europe is reminiscent of that of telecommunications policy. In both cases an important locus of activity has been the EU level, where economic arguments have been used to justify a re-regulatory path underpinned by harmonisation and liberalisation in an increasingly global commercial scenario. However, the telecommunications model is only partially useful since, crucially, it has not been used to regulate the content of the service provided on grounds of protecting pluralism, culture, moral standards or democracy. Clearly therefore, in this important respect, telecommunications is not broadcasting and *vice versa*. Furthermore, in the areas where the telecommunications policy model may be applicable to a convergent ICT scenario, namely access, licensing and spectrum allocation, there is evidence of significant problems in the transposition and implementation of EU policy measures. The task of policy management is therefore large, both for the EU (through the European Commission and European Court of Justice) and for the member state.

In any event, it seems likely that any new regulatory structure for ICT convergence across Europe will only emerge in the medium term, at the earliest. In any future arrangements, there is no doubt that, as in the currently evolving telecommunications model (and indeed the traditional system), the role of national regulation will continue to be crucial. With this mind, it is imperative that government has a clear picture of what its responsibilities are to ensure that any system operates as effec-

tively as possible. As one of the more pro-active governments on the convergence issue, the UK's DTI has argued that, firstly, the regulatory process must *start* with government through the provision of a clear legislative framework for regulatory organisations to work within and, secondly, government must have an effective means to hold regulators to account for the decisions which they make i.e. it must also *end* with government (DTI 1998, 37, my emphasis). Grande (1994) has argued, in respect of telecommunications policy, that the state will have a crucial role in ensuring both economic and social equity in a more competitive environment. This similarly holds true for a convergent ICT sector, though the task is much more daunting.

The prospects for the emergence of a regulatory regime at the European level to cover issues of ICT convergence look mixed at present. Certainly, the EU seems to be the most likely location for any agreed structures in the first instance. However, as the politics of the recent Green Paper's publication illustrate, the Commission did nothing to reassure doubters of its organisational uniformity and efficiency (see Simpson 1999). It does seem though that, in the short-term, *proposals* for a set of horizontal regulatory arrangements for what the Commission describes as "infrastructure services" (European Commission 1999, 1) will emerge. Their acceptance by member states, however, is open to question and, as the telecommunications case has shown, successful implementation will present serious challenges. Regarding "content services" (European Commission 1999, 1), the situation is even harder to predict, where the fractious debate on the future of public service broadcasting, in particular, is likely to ensure little change will take place in the short to medium-term. Thereafter, a lot will hinge on the ability of the pro-competition elements of the European Commission (principally DGIV and DGXIII), as well as the new breed of commercial broadcasters, to influence the policy agenda. More important though, may be the position of public service broadcasters themselves. There are signs that certain of them, for example the BBC, are embracing a more commercialised environment, which if successful, may well edge them towards the belief that fulfilment of the public service remit might be shared. It is perhaps worth noting that in the telecommunications sector of the 1980s, PTTs were significant opponents of liberalisation, though in the 1990s most are enthusiastic supporters of it.

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Notes:

1. Bangemann has argued that "the combined forces of globalisation and the pervasiveness of information and communications technologies in our daily lives are driving us very rapidly towards the Information Society. On the way, we need to solve a host of new cultural, economic and political challenges which lie in their wake" (Bangemann 1997 b).

2. The EU has decreed that "contributions to the cost of universal service oblications, if any, may be based on a mechanism specifically established for the purpose and administered by a body independent of the beneficiaries, and/or make take the form of a supplementary charge added to the interconnection charge" (European Parliament and Council of Ministers 1997b, art 5, para 2).

3. According to article 7 of the directive, Member states may issue individual licences for the

following purposes only: "to give access to radio frequencies and public or private land; to impose obligations relating to the provision of publicly available telecommunications services; to impose specific obligations in accordance with Community competition rules, where the licensee has significant market power…in relation to the provision of public telecommunications networks and publicly available telecommunications services."

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