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Regulating Access to Digital Television

Technical Bottlenecks, Vertically-integrated Markets and New Forms of Media Concentration

COUNCIL OF EUROPE CONSEIL DE L'EUROPE

IRIS Special: Regulating Access to Digital Television
Technical Bottlenecks, Vertically-integrated Markets and New Forms of Media Concentration

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Regulating Access to Digital Television

Technical Bottlenecks, Vertically-integrated Markets and New Forms of Media Concentration

Published by the European Audiovisual Observatory

In 2001 we published an *IRIS Special* on the theme of *Television and Media Concentration*. At the time, the demand for information on this subject was already extremely high, and growing with every new insolvency application and every time a company in the sector was sold. The issue of media concentration in the television market has still not been fully discussed, let alone solved.

On the contrary, whenever the particular characteristics of digital television are discussed, numerous new variants on the concentration of media market power begin to emerge. They are mainly the result of controls over technical functions, such as application programming interfaces, electronic programme guides, portals, bundling or multiplexing, to name just a few.

Today, anyone who understands the relevant technology as well as the terminology can choose from numerous interesting models and combinations in order to gain advantages in the media market. Are these advantages legitimate, or even desirable, or do they infringe competition rules? More importantly, do they threaten diversity of opinion in the media?

These questions, which are related to the digital technology used in television, are very different from those connected with traditional media concentration. Primarily, it is a matter of deciding how modern technical devices used to control access to television should be treated. Can we, should we and do we want to regulate them anyway? Maybe they are already covered by current regulations?

Every single aspect of digital television is affected by the question of access control: the compilation and preparation of content to be transported; the transmission and reception of content (encrypted or not), including the necessary technical devices; content bundling; programme selection aids; and, finally, all the technical precautions that enable the viewer to actually receive content. The more of these elements that are offered by the same service provider, or in other words, the more the market structures are vertically integrated, the more serious the problem of access control becomes.

In order to get to the bottom of these issues, in September 2003 the European Audiovisual Observatory, in partnership with the Institute for Information Law (IViR) and with the support of the Institute of European Media Law (EMR), organised a workshop on the theme of *Vertical Limits – New Challenges for Media Regulation?* The results of this workshop, together with further information, are set out in this *IRIS Special*, which is divided into three parts plus an appended glossary.

The first section provides a brief overview, summarising the lectures and discussions held at the workshop.

The second part contains a written version of the various lectures, which either deal with the technical, legal and economic dimension of the topic or describe possible approaches to regulation. The articles discuss whether these issues are covered by the EC Access Directive, or whether they fall under media concentration law. However, other possible solutions are also conceivable and are discussed, including the application of European competition law or a *laisser-faire* approach such as that used in the USA. The arguments for and against these approaches and how things appear in practice are discussed in articles by various participants.

The third section contains background information on the aforementioned EC Directive and on the organisation of the workshop.

The appended *Digital Television Glossary* fulfils two functions. Firstly, it can be used whenever necessary as a reference work for a clearer understanding of the technology that lies behind these legal issues. Secondly, it can simply be read through in order to follow very clearly the individual aspects of digital television in chronological order and to understand the basic principles of access control.

The Observatory is very grateful to everyone who has participated in this extremely demanding project. We would particularly like to thank the workshop participants for their work on the publication before, during and after the event. The same applies to our two partner institutions, IViR and EMR, without whom this IRIS Special would not have been possible. The names of all the participants and organisers are listed at the end of the publication. We would also like to thank and commend all the translators and proofreaders, as well as our colleagues from the Observatory's Legal Information Department who were involved in this publication. The combination of legal and technical terminology contained in this *IRIS Special* is probably the most complex that the Observatory has ever asked them to deal with. We hope that our readers will benefit from the enormous amount of teamwork that has gone into this publication.

Wolfgang Closs
Executive Director

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Workshop Report: "Vertical Limits – New Challenges for Media Regulation?"

Summary of the Discussion

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Introduction

On 27 September 2003, the Institute for Information Law (IViR) and the European Audiovisual Observatory with the support of the Institute of European Media Law (EMR) held a round-table discussion in Amsterdam, entitled "Vertical Limits – New Challenges for Media Regulation?" The objective of the workshop was to address the impact of control over technical bottlenecks combined with vertical integration between the service and the transport level for the realisation of information policy goals for the service level, and to explore possibilities for shaping new policy approaches, in the context of a changing regulatory environment. Participants from many parts of Europe and from the United States thus examined the issue of technical bottleneck regulation from technical, legal, and economic perspectives. Points of departure were national/EC media, communications and competition law.

Traditional media regulation is driven by the goal of preventing the creation of information monopolies and dominant "media power", as this would interfere with pluralism, diversity and equal opportunities to communicate. For the same reason, controlling access to broadcasting markets has been, until now, the preserve of media regulators and National Regulatory Authorities (NRAs) for the broadcasting sector. Digital television introduces a number of new gateways or bottlenecks into the communication process *after* the programme is composed.[2] These are technical gateways (Conditional Access System (CA), Electronic Programme Guide (EPG), Application Programme Interface (API), multiplex, etc.) at the transport level or gateways at the service level (service platform, programme bouquets). Gateway controllers exercise control over access to information and information markets. Both the general availability of and the choice between information sources becomes a matter of access and slips away into private control.

Technical bottlenecks in digital television are often the result of the combination of (a) proprietary standards with (b) market dynamics (eg. network and tipping effects) and (c) the way services at the service level are marketed to consumers via new business models, such as demand-orientation and on the basis of some form of electronic access control.[3] Vertical integration links those aspects together. In response to the process of convergence, media markets witness many strategic alliances between different "major" players at very different levels in the distribution chain with the goal to acquire content rights, use/develop decoder and encryption techniques, control the transmission infrastructure, secure monopolies in operation of services, etc. Examples include media undertakings such as AOL and Time Warner or Vivendi, which is involved in pay-TV (Canal+), Internet, as well as in

1) This report was prepared with the collaboration of Nico van Eijk and Tarlach McGonagle of the Insitute for Information Law (IViR) of the University of Amsterdam.
2) The terms are used synonymously to describe a deficiency of some kind in the availability or functioning of an intermediate good or service.
3) For a more detailed overview, see *infra*, Helberger, Technical Bottlenecks in the Hands of Vertically Integrated Dominant Players, pp. 23-37.

content production, film rights, music, games and educational content, CA-technology and transmission infrastructure (telecom and cable activities). Both the control over different levels in the distribution chain and the leverage of market power from one level to another (for example, through bottleneck control) secure cost-efficient access to supply and distribution channels, often under more favourable conditions than the free market generates. Where the undertakings involved are sufficiently strong, this can also mean control of access for outsider-competitors to facilities and markets. The consequence is that a vertically-integrated controller of technical bottlenecks at the transport level can exercise considerable influence at the service level too. The real concern, however, is that vertically-integrated control over technical and service levels tends to create not only the possibilities, but also the incentives for abusive access decisions as regards competitors access to information markets.

Traditional media law in its present form is not particularly well prepared to deal with questions of third parties' control to market access - control that has so far been reserved to media regulators. The consequence is that the existing media regime probably fails to deal with the influence of technical bottleneck control on the service market or to realise both individual information interests and media policy objectives, namely pluralism, diversity and the existence of equal opportunities to communicate. The European regulator, however, recently adopted a new Communications Framework that includes rules governing control over technical bottlenecks in digital television. So far, their scope is restricted to CA (which is one of many bottlenecks in digital television), although the Access Directive also authorises Member States to extend regulation to cover bottlenecks other than CA, such as the EPG and the API. The Access Directive also focuses primarily on the technical aspects of bottleneck control, while ignoring the economic (vertical integration) and functional links with the service level and the relevance of content-related and media policy aspects for an access framework. Other fields of law - such as general competition law and media concentration law - might be (a better?) choice than communications law for tackling bottleneck problems.

The goal of the workshop was to examine the extent to which the Access Directive will tackle bottleneck issues in digital television and whether there is a need to address other bottlenecks that do not fall within the scope of the directive, including at the service level (e.g. certain programme platforms, Subscriber Management System, Digital Rights Management Systems (DRMS)). The appropriate framework for achieving this would then have to be determined: by extending the Access Directive or by exploring whether there are more optimal regulatory alternatives than communications law to deal with modern bottleneck problems at either national or EC level. After a general introduction to the technical aspects of digital television (presented from the point of view of the consumer), two further presentations introduced the general legal[4] and economic[5] context of the present approach towards bottleneck regulation in Europe. Subsequently, three speakers discussed possible regulatory initiatives, namely an extension of the Access Directive[6] to address other bottlenecks than the CA, the application of media concentration or competition law,[7] while the last speaker introduced the US approach to dealing with technical bottlenecks in digital television.[8] The technical terms used in this report are explained in detail in the Digital Television Glossary.

Presentation No. 1

The first presentation dealt with the most relevant technical aspects of digital television from the perspective of the consumer. It was emphasised that regulatory attention should turn to the consumer. In this respect, it is the aspect of access to good quality television programming offered at low or no costs and the aspect of diversity that are of crucial interest. Diversity would refer in this context not only to a multitude of offerings from different content service providers, but also to the aspect of diversity in terms of access to technical platforms. The speaker pointed out that digital switch-over and, in particular, investment in digital technologies by consumers on the one hand and by service providers and infrastructure providers (e.g. cable operators) on the other hand is still not very advanced in many countries. One of the reasons mentioned was the existing level of uncertainty as regards standards for set-top boxes and smart cards on the one hand, and the API on the other hand. Presently, the European digital television market is dominated by eight to eleven different proprietary encryption and associated set-top box standards. Other reasons mentioned were the particular market

4) See further, *infra*, Helberger, Technical Bottlenecks in the Hands of Vertically Integrated Dominant Players - Problem or Driver Behind the Knowledge-based economy?, pp. 23-37.
5) See further, *infra*, van Geffen/Theeuwes, An Economic Approach to Mandatory Access to Bottleneck Facilities, pp. 39-43.
6) See further, *infra*, Schulz, Extending the Access Obligation to EPGs and Service Platforms?, pp. 47-58.
7) See further, *infra*, Gibbons, Control over Technical Bottlenecks – A Case for Media Ownership Law?, pp. 59-67.
8) See further, *infra*, Speta, Vertical Regulation in Digital Television: Explaining Why the United States Has No Access Directive, pp. 69-78.

situation in some countries (dominance of one particular transmission platform like satellite or cable) and the lack of adequate business models that would entice consumers to invest in digital equipment. The speaker also emphasised the prospects that new digital techniques might bring for a more consumer-oriented broadcasting offer. He urged that this development be supported by, *inter alia*, the introduction of basic encryption, interoperability solutions and, ultimately, must-carry solutions.

During the discussion that followed, the interoperability question was tackled. Many arguments were exchanged about the risks and benefits of mandating a particular standard such as the MHP standard for set-top boxes.[9] The workshop participants agreed, however, that the lack of one common standard for the API was a reason why consumers are still hesitant about investing in digital television equipment. It was emphasised that the present lack of adequate interoperability solutions was also an obstacle to market development, e.g. the transition of cable operators to digital transmission modes, because the lack of a common API standard renders it more difficult to offer the services of different service providers that use different service application standards. In this context, the alternative of mandating a common interface, in particular, was favoured. Another question raised was whether the presence of vertically-integrated market structures might be disadvantageous for the development of independent manufacturers of digital consumer equipment or other components (e.g. conditional access system) or service applications. The presence of one or few major vertically integrated operators could create considerable obstacles to market entry, e.g. by establishing one proprietary conditional access standard.

Also of great interest was the current move from analogue to digital television (digital switch-over). It was explained that digital switch-over is encouraged by the European Commission. It is desired that regulators, public authorities, and broadcasters consider the switch-over.[10] However, for the moment, most EU Member States are remaining cautious about analogue turn-off and no firm dates have been fixed. There is a general interest in reaching or accessing every part of the population and leaving behind the analogue system of the 1960s and 1970s. But this comes with the realisation that digitisation introduces new intermediaries (such as the controllers of conditional access standards, of multiplexes, of digital distribution platforms, etc.) that will have a considerable impact on broadcasting and communications markets.

In the UK example, despite the concern about (temporarily) losing the benefits of a broadly accessible and wide-reaching analogue free-to-air television, there is a migration to digital television. Presently, the strategy is not to try to cover every region digitally, but to continue to maintain analogue cable networks or satellite access as well. It is believed that total digital coverage would prove too costly. Digital television does not enjoy 100% coverage in Germany either. The situation for, in particular, digital terrestrial television – DVB-T is rendered more difficult because only 6% to 7% of the population makes use of terrestrial television. This dilemma is not the case in all other countries, but it is an important consideration in many. Reference was also made to the situation in France: the French government has recognised universal access to television services as a very important issue. Therefore the digital system in France is comprised of 50 free channels and 50 pay channels. Also here, the problem must be faced of how to ensure during the transition period that those parts of the population which are (still) not able to receive digital television will nevertheless be provided with access to broadcasting services. The prevailing feeling is that it is not possible to suddenly switch off analogue television. The French government will issue a report to decide how to cover the 20% of the population that will not be covered at the beginning of the digital television switch-over. It is a problem to figure out how to cover this part of the country through satellites and how to put such an expensive structure into place. This problem is also a reason why the digital switch-over will still take some time in France. Although a quick and efficient solution is needed, this will be very difficult to devise, it was warned.

Other public policy issues play a role too. So far, analogue distribution is seen as a necessity in many countries, like the UK, because it is also a means for governments to retain control over a widely and freely available means of transmission. If there is an analogue to digital conversion, this could imply that transmission platforms with a wide reach might disappear.[11] Provided, for example, that access to digital broadcasting was – as a rule - subjected to electronic access control, this would leave countries without the infrastructure or the ability to inform audiences without restrictions, pay issues,

9) For an extensive discussion, see also *infra*, Helberger, Technical Bottlenecks in the Hands of Vertically Integrated Dominant Players - Problem as Driver Behind the Knowledge-based economy?, pp. 23-37.

10) See also the recent Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the transition from analogue to digital broadcasting (from digital 'switchover' to analogue 'switch-off'), Brussels 17 September .2003, COM(2003)541 final.

11) Editor's note: this refers to the argument of fragmentation of digital television markets in different proprietary conditional access, API standards or other standards yet to arrive.

or interference of some sort. Governments have an interest in ensuring that some kind of freely accessible programming will be retained. It was said that this was apparent in the UK situation as regards digital television. One concrete example of the problem in the UK was that coverage of the football leagues became unavailable in Scotland simply because the programming was sold to a pay television operator. The conflict becomes particularly apparent when it comes to public broadcasting and its accessibility via digital, privately- and access-controlled platforms. In this context, the importance of public broadcasting was addressed, as well as the need to maintain public broadcasting as a freely available service. This, however, would also trigger new questions such as whether everyone would still have to pay a broadcasting fee.[12]

In this respect, it was pointed out that a regulatory gap might exist. In the analogue world, the issue of availability of public broadcasting is governed by media law, but there is a question of how that will change now that digitalisation is taking place, and the technical infrastructure and consumer equipment that is needed to distribute digital television is controlled by private gateway controllers – a situation that is not directly covered by existing media laws. Modern media law must primarily focus on protecting the citizen.

Another aspect that was tackled during the discussion was the issue of consumer acceptance of new digital services, such as pay-TV. One participant made a point in favour of new pay-TV services, stating that at present "free"-TV was also not really "free", instead, consumers are forced to watch commercials. In this respect, pay television might provide consumers with a fairer choice, he posited, because they can opt for not watching commercials. He was of the view that insofar as there remains a lack of awareness of the potential advantages of digital television in general, and pay-TV in particular, governments could improve this situation by educational campaigns. According to another suggestion for increasing consumer acceptance of digital television solutions, governments should find ways to stimulate the widespread distribution of digital reception equipment. The national governments could subsidise consumer equipment, such as set-top boxes, for those who cannot afford them. As an alternative, governments could distribute smart cards. This would stimulate the proliferation of the reception equipment that is needed to receive digital (access-controlled) services. There is a project in Berlin to this effect. One participant suggested that this might also be an interesting model for the UK. Another suggestion was made that media-specific consumer protection law might help to increase consumer confidence and acceptance of digital services. This might be a response to the fact that digital broadcasting provides new ways of marketing by selling directly to the consumer, *i.e.*, access to information is made subject to an individual negotiation process, namely an individual contractual relationship. The consumer becomes the key player in this relationship, while traditional media law does not cover the individual consumer-service provider relationship.[13]

One participant touched on the issue of the legal framework applicable to technical bottleneck problems that are associated with digital services, e.g. access to the conditional access system, the EPG, etc.[14] His question concerned in particular the extent to which access-controlled services such as pay-TV would fall under the recent European approach to bottleneck regulation. One could also argue that with access-controlled services, the main focus lies on selling encryption keys to clients so that they may get access to encrypted broadcasting content. In other words, this strategy involves not selling content, but rather selling keys to access the content. This would be an information society service of sorts, and would no longer fall under the definition of "broadcasting", with the consequence that Article 6 of the Access Directive would not apply. A participant explained that this situation exists at least to some extent in Italy. The service provider sells keys, provides the services and is involved in customer relations and information society services. The network provider supplies the infrastructure. The content provider sells content, not keys. Content providers would be subject to the media rules, and infrastructure providers would fall under communications law.

Presentation No. 2

The second presentation was entitled "Technical bottlenecks in the hands of vertically-integrated dominant players – problem or driver behind the knowledge-based economy?" The speaker argued that vertical limits would bring new challenges for media regulation, and discussed whether the new Access Directive was equipped to deal with emergent bottleneck problems in digital, vertically-integrated

12) Editor's note: in addition to other fees, such as the fees for digital subscription services.
13) Editor's note: so far, broadcasting was perceived primarily as a point-to-multipoint service with the consequence that an individual consumers-service provider relation was non-existent.
14) See also the discussion after the other presentations.

broadcasting markets. Large, vertically-integrated market operators which control access to the technical as well as the marketing platform behind the decoder are able to dictate terms and conditions of market access for competitors. The incentives to abuse such control in order to favour own or associated services are particularly present in vertically-integrated structures. This could negatively affect economic and journalistic competition. The consumer may suffer in the downstream market as a result. Consumer choice is manipulated through lack of competition but also lack of information/transparency and technical/contractual obstacles that prevent switching between competing platforms. The consequence might very well be less choice and less diversity.

One problem is that the Access Directive does not clarify a number of important issues, such as the definition of "reasonable" conditions of access, and whether the notion of "reasonable" also extends to conditions that are associated with content-related aspects (e.g. exclusion of a particular broadcaster from access because the programme would not fit into the editorial arrangement of the platform behind the decoder). This problem relates to the principle of strict separation of regulation for the transport and the service (content) level. As a consequence, the present regime of access regulation does not cover access to bottlenecks associated with the content level, but only bottlenecks at the transport level. However, to ignore the economic and functional unity between both levels could render the present approach to bottleneck regulation ineffective and not suitable for promoting either policy interests in effective competition or information policy interests in pluralism and diversity. In this context, it is also important to note that regulatory goals for both levels vary. At the transport level, the concern is first and foremost for effective economic competition and consumer welfare. At the service level, concerns include more content-related aspects, notably freedom of expression, accessibility and availability of information, pluralism and diversity (in other words, a "survival of the fittest versus survival of the valuable" conflict may be present). Also, the principal distinction between transport and service levels is increasingly difficult to maintain because both levels are increasingly intertwined, as is best demonstrated by the example of the EPG or DRMS. In both cases, it is not sure whether they are elements of the transmission infrastructure or of the service provided via this infrastructure itself. Probably, they are both. The speaker concluded that the Access Directive is not a sufficient safeguard to ensure the openness and competitiveness of digital broadcasting markets, because it ignores the functional unity between technical and marketing platform behind the decoder. Successful bottleneck regulation cannot stop at the decoder, but must tackle the effects of electronic access control for availability and accessibility of information by consumers. Another question is whether this should be done at the level of the EC or at national level. The presentation concluded by pointing out that there are possible options for how to tackle newly emerging bottleneck problems. Apart from an extension of the provisions of the Access Directive to additionally cover new bottleneck situations, this could in particular involve the application of general competition law (for example Articles 81 and 82 of the EC Treaty) and national media ownership law.[15]

In the subsequent discussion, one participant stated that for the European Commission, the goals of Article 6 are not so complicated. Article 6 is a legacy that carries over previous regulation on access from 1997, not more and not less. In any case, the Access Directive was not meant to consider general interest and media law issues. Instead, the European Commission wished to introduce a fair, reasonable, non-discriminatory (FRND) concept of access to conditional access systems (as the technical basis for many modern digital broadcasting services) and transmission networks (such as satellite or cable networks), where access providers are remunerated for letting third parties access their facilities (as opposed to the "must-carry" approach to be found in Article 31 of the Universal Service Directive).[16]

Much of the following discussion was focused on how extensive the regulation should be in the area of EPGs (electronic programming guides). One line of enquiry concerned the extent to which the Directives authorises Member States to regulate EPGs: does the Directive apply to the content-related aspects of EPGs, or only to the technical aspects? Is it necessary to include EPGs in the Directive?[17] The conceptual complication in this regard is that the content of an EPG is basically a media problem, not a problem pertaining to the transport level, and would therefore come within the competence of the Member States, not that of the European Commission.

Another point of interest was the interpretation of the notions of the Access Directive, notably the notion of "fair, reasonable and non-discriminatory conditions". Although the objectives of a non-discriminatory approach are apparent, there remain a multitude of questions about its implementation

15) For an in-depth discussion, see also the other papers in this publication.
16) Editor's note: the notion of fair, reasonable and non-discriminatory conditions also implies that the access provider can charge a (FRND) amount for access.
17) Editor's note: instead of regulating them, e.g. exclusively on the basis of national media law or competition law.

in practice. For instance, does the FRND principle leave room to also consider the freedom of speech interests of the undertaking controlling the bottleneck facility (e.g. a conditional access operator or operator of a cable or satellite transmission network)? To what extent can one party be obliged to disseminate the ideas of someone else, particularly where this would conflict with the former's own editorial concept? This consideration was also one of the reasons why some participants felt reluctant about imposing something like "must-carry" obligations with regard to EPGs. For instance, a provider might wish to refuse to contract with a religious channel. Should a company be able to do this? There was consensus about the very delicate nature of the issue. The legality of this is not made clear by the regulations, which are limited in the area of EPGs. One contributor suggested that although providers can refuse to supply access to an EPG, they must justify this under general principles of legislation and must defend their own autonomy in providing or refusing to provide information. In other words, the non-discrimination principle also becomes relevant in this connection. This is not to say that the EPG providers should not be able to refuse to supply without a valid justification. An EPG provider must prove that providing a certain programme would infringe on the general law or on its own ethical codes, particularly where litigation might be feared. The mix of economic and ideological aspects at stake also poses a problem for national regulatory authorities for the communications sector which are supposed to enforce the present framework. Regulators cannot simply say that they do not approve of the way in which a provider edits EPGs. This is because the EPG provider has constitutional rights of its own that need to be respected. Another question is whether national regulatory authorities for the communications sector are also authorised to take such content-related aspects into account.

This example also illustrates how, on the one hand, pluralism and competition can be countervailing interests and, on the other hand, the present approach, which is based on the principle of distinction between transport and service level, fails to reconcile both aspects in question. One participant suggested that the problem could be solved at the enforcement level: effective supervisory authority should combine supervision over content and transport markets.

The point was also made that an absolute right to have access to any EPG may not yet be technically possible or practical. One reason is the lack of adequate interoperability solutions (for the API, *i.e.*, the middleware on the basis of which applications such as the EPG function). It was also stated that there should ideally be a market for competing EPG services so that consumers could simply switch between different navigators. This would probably also solve the problem of dominance of one particular EPG operator. But the lack of adequate interoperability solutions particularly as regards the API poses a serious obstacle to the realisation of this objective.

A final remark on this issue concerned the content-related aspects of switching customised EPGs.[18] One (additional) problem with customised EPGs might be that even where switching is possible in principle, customers might not be interested in doing so because of the inevitable loss of "customised" information.

Presentation No. 3

The third presenter discussed the economic background to access regulation, focusing notably on the economic considerations of bottleneck operators. He proffered that economic arguments are sometimes somewhat abstract from real life because they are motivated by achieving economic welfare. The speaker pointed out the factors which, from an economic point of view, make a network a bottleneck: the existence or non-existence of compatible, complementary components; substantial investment; sunk costs and irreversible investment as well as economies of scale and scope. One focus of the presentation was on access pricing as a possible approach to tackle bottleneck issues. He argued that, optimally, the access price should cover the fixed costs. Moreover, the higher the economic threat for the operator's own business that would arise from giving access to a competitor, the higher the price for access must be in order to make the provision of access still reasonable/attractive. In other words, compensating access providers for their opportunity cost is desirable because it stimulates access. A bottleneck owner would not be able to cover the fixed costs of setting up the bottleneck if it merely charged marginal cost. He also pointed out that the actual price of access could also depend on whether a demand is inelastic or not. An inelastic demand would usually lead to a higher access

18) Editor's note: customised EPGs are EPGs that allow the consumer to programme the EPG according to one's own preferences and interests, instead of pre-programmed viewing advice that is issued by the operator of the EPG.

price (Ramsey pricing).[19] It is also important to realise that fixing (high) access prices can be used as means to fight third parties' market entries, *i.e.* a strategic decision. This could be a problem particularly in vertically-integrated industries where own economic interests in the upstream/ downstream level could provide an incentive for the bottleneck controller to restrict entry (access refusal for strategic reasons). The speaker then made a suggestion on how to stimulate competition and market conditions in which access to facilities is open to competitors. This could be an opportunity costs model, in which the price for access was chosen in such a way as to compensate the bottleneck controller for his opportunity costs and to provide some additional incentives to grant access. To define and enforce such a price can, however, be very difficult. This might be an argument in favour of looking for more simple solutions, such as structural divestiture.

After this presentation, one participant submitted that this point of view seems to give bottleneck operators a lot of tools to justify their pricing systems and remarked that it would be interesting to put actual figures to the theory. It emerged that there is little information available on what those figures would be: there is discussion over joint cost and common cost and it is difficult to come up with an efficient Ramsey price. If consumer demand is inelastic and there is a dominant player, then the bottleneck controller will charge a higher price. Nevertheless, it was argued that economic principles remain interesting in that they will offer practical and efficient solutions that can be regulated and compared later.

Another participant made the point that regulatory impact analysis and cost-benefit analysis is what the European Commission really seems to be interested in at the moment. The speaker responded that this has not really been done yet either.

One participant pointed out that the Chicago School in the United States says that the bottleneck owner does not truly control entry. A bottleneck owner could charge a higher price, but this does not necessarily have to be more advantageous or profitable. Instead, it is consumer demand that truly controls the economic profit of bottleneck operators. The presenter responded by saying that in Europe, a bottleneck owner uses a series of calculations and considerations about strategic objectives in making decisions about granting entry. The bottleneck controller considers whether the new service is likely to be a substitute for the operator's own services and what the likely effect on competition will be. If a bottleneck owner is providing a service, and if the provider of a substitute service/product wants to enter, the bottleneck controller must calculate what he gains or loses by allowing the competitor to enter the market. There are many variables in the calculation that would motivate a bottleneck owner to prevent others from entering the market. On the other hand, societal policy objectives may require a different assessment. Here it is in particular a question of whether enough new entrants and products are allowed to enter the market. Are consumers offered high-quality services at cheap prices? Information policy considerations such as pluralism and diversity can play a role too. The fact is that regulators may want more entrants than bottleneck owners - with their own private business calculations - are willing to allow. This is definitely a conflict that has to be solved when it comes to regulation.

Another participant argued that one possible drawback of the opportunity cost model was that in this model it was finally the consumer who was the one to pay the price for pluralism. The question is whether a situation is desirable in which the consumer is burdened with the costs for maintaining a pluralistic media landscape, or whether it is rather a matter of the positive protection duty of States to guarantee the existence of pluralism and diversity otherwise. Furthermore, would the solution of opportunity cost pricing really increase pluralism? Notably, Ramsey pricing can have a discriminatory effect with regard to services (content) that are very much in demand. For example, a football game will be transmitted at much higher rates than an opera performance because of inelastic demand. This is something that has been confirmed in the Italian experience.

The discussion also revealed concern for investment costs and that any regulatory initiatives should avoid impeding innovation. The costs to incumbents for the build-up of infrastructure could be considerable; especially in the shift from public to private economy (liberalisation), it was warned. The

19) Editor's note: Ramsey-Pricing techniques are commonly used to assign fixed and common costs in large networks such as electrical utilities, telecommunications, etc. Ramsey pricing allows to distinguish between situations according to the users' "willingness to pay" in assigning costs so that those groups that are willing and able to pay more for the service are assigned a larger share of common costs than user groups who will not pay additional cost and instead would reduce their consumption of the good. Users whose demand for service is more (or less) sensitive to cost changes (elastic/inelastic demand) can be allocated a proportionally smaller (or larger) amount of common and fixed costs. For example, a football game will probably be transmitted at much higher rates than an opera performance because of inelastic demand.

presenter argued that most countries have had special arrangements to tackle liberalisation. Regulators may not prevent bottleneck controllers from re-financing their investments. Otherwise, they could not operate in an economically viable way.

"Possible Solutions" Presentations

At this point in the conference, there were three presentations on possible solutions.

Presentation No. 4

This presentation addressed the suitability of extending the access obligation to EPGs and service platforms. The speaker argued that the key problem was that the law has to keep pace with the rapid development of new technologies and business models to ensure public policy goals. The first wave of regulation addressed mainly two services: the CA and the API. Distribution of digital broadcasting, however, would involve a whole range of additional services. In this context, examples of particular interest were the EPG, bundling services and portals. These facilities could also become bottleneck facilities - under certain circumstances. So far, regulatory instruments to tackle bottleneck issues have been general competition law (in particular the decisions of the European Commission under EC merger regulation and the essential facilities regime under Article 81 EC[20]) and the Access Directive. However, the Access Directive would only apply to conditional access, with an option to extend the access obligations to APIs and EPGs. At this stage, regulators would have to choose from different options, the first being the choice between a general competition law approach and a specific media law approach. A specific media law approach to tackle new bottleneck problems could be, for example, to make use of the authorisation under the Access Directive to also extend bottleneck regulation to EPGs. However, recourse to media ownership regulation or content regulation might be an equally viable alternative. As far as a general competition law approach is concerned, options available were in the first place merger control, safeguards against abuse of market power and the essential facility doctrine.

Two country-examples were then presented. First, Germany was given as an example of an approach where the legislator has opted for an extension of access obligations to EPGs and bundles. In addition, media ownership regulation (cross ownership regulation) is possibly a further way to tackle bottleneck problems. However, as the speaker noted, there was no systematic link between media ownership law and access regulation. France, on the other hand, went a different way and decided in favour of a general extension of broadcasting regulation, *i.e.*, to apply specific media regulation to supervise the distribution of programmes. Here, the regulation of bottleneck facilities is closely related to the regulation of broadcasting. Secondly, general competition law plays an important role.

Criteria for the right regulatory choice would have to take into account the interdependence between general competition and specific media law; choices within general competition law (e.g. whether to apply the essential facility doctrine or not) and the choice between ownership/content regulation and access regulation in media law. The speaker suggested that this decision be taken separately for each potential bottleneck (EPG, bundles, etc.). In the case of EPGs, preventive access obligations might be reasonable, the same is true for the technical aspects of bundling (*i.e.*, multiplexing).[21] Having said this, the speaker argued against an extension of access obligations in the context of the Access Directive, but instead favoured leaving scope for national law-makers' regulatory choice to achieve communication-related goals. For the marketing-related aspect of bundling, media specific ownership regulation and must-carry rules might be the better option. As far as portals are concerned, general competition law was thought to be sufficient for the time being.

Presentation No. 5

The following presentation was entitled "Control over Technical Bottlenecks – a Case for Media Ownership Law?" The speaker explained that in the UK, competition and content regulation are considered essential. He also advanced the opinion that vertical integration is a side-issue from the point of view of media regulation and pluralism. The phenomenon of vertical integration is not new to media markets: the typical company would produce the programmes and then deliver them across the transmission network that it owns. The critical point of control, however, was the broadcaster as

20) See further T. Gibbons' paper, *infra*.
21) See further the Digital Television Glossary.

editor. For that reason, ownership regulation in the UK also affects the broadcaster - as the party with responsibility for the content that ultimately reaches the viewer/listener.

From the media pluralism perspective, it is the programme output that determines the range of content available. However, as the speaker also argued, new media practices have the effect of highlighting the critical points of control over media content. This is also why media ownership regulation is only of limited suitability for dealing with modern bottleneck problems: because it does not analyse the reason why diversity is compromised at the point of output. One possible conclusion from this was that media ownership rules would become increasingly inappropriate for many media markets. Instead, their place may be taken by access obligations.

However, access obligations alone are not sufficient to ensure pluralism. Granting access to communications networks, associated facilities and services does not necessarily or automatically result in a plural and diverse offer. The presentational aspects of EPGs are likely to have an even greater impact on the control over the content/media outlet. One may also wonder about the extent to which Article 6 of the Access Directive corresponds to market realities. For example, in the UK, most broadcasters on the digital satellite platform would reach their viewers by being included in a BSkyB pay-TV package. Consequently, they would not need any conditional access services. The same is true for broadcasters on cable systems that would reach consumers through the infrastructure of the cable operator. Another reason why Article 6 is not sufficient to guarantee media pluralism is that it would not extend to other critical bottlenecks, e.g. bundling techniques. The speaker identified the bundling of programme packages as the most critical bottleneck problem as regards pluralism, as this is where the actual decision is made that is significant for pluralism and diversity. The speaker then suggested different approaches to tackle this problem, for example content regulation to directly influence a pluralistic media offer. This might be an option in particular with regard to public service broadcasting. Other options would be to focus on delivery to the audience (common carrier obligations), or to target programme production and supply. In the UK, for instance, the regulator has introduced restrictions on premium channel bundling. Another question is whether regulatory intervention should be based on competition principles or more sector specific principles, such as to make decisions conditional upon the criterion of audience share that can be found in media ownership law. An alternative might be to transport public interest considerations into general competition law.[22] Also, one could adopt some form of structural constraint to programme supply, the objective being that each member of the audience would have access to a minimum number of independent bundles. What number this should be is not at least a political decision. The speaker suggested that at least three market players might be an acceptable number to ensure a sufficient level of pluralism. Where the number of sources is below three, additional behavioural obligations on the existing players to foster diversity of sources might be necessary. Finally, the desirability of structural solutions would very much depend on the actual market structure.

Presentation No. 6

The last presentation addressed the situation in the United States, and possible solutions found there. In the US, the regulations on media ownership law are presently under revision, while a more systematic approach to bottleneck problems in digital television, such as Article 6 of the Access Directive, is currently missing. It was interesting to note that in the US, the concept of broadcasting as covering television, cable and satellite services is not known – only traditional terrestrial broadcasting in the sense of advertising-supported, free-to-air services are considered as "broadcasting". Furthermore, a distinction is made between wireless and cable services. Direct broadcasting satellite services that are sold on a subscription basis are considered to be non-broadcasting services. Cable and direct wireless broadcasting services reach by far the largest parts of the population, and in most geographical markets, both platforms compete. The digital switch-over is also an issue in the US. The speaker pointed out that media markets in the US tend to show a very high level of vertical integration. He also explained that the US has used a number of regulatory measures to address vertical integration in media markets, including both structural and behavioural approaches, the most dominant concern being that platform operators (not broadcasters in the US sense) could use their control over the platform to discriminate against unaffiliated programmes and against other platforms. The results were, *inter alia*, horizontal (geographical reach) and vertical (number of channels allowed) limits on cable ownership, must carry rules and behavioural rules as regards programmers and programme suppliers. It was explained that the US does not have any comprehensive regulatory framework that addresses EPGs, APIs or other aspects of interactive

22) For a more extensive discussion of the different policy options, see the T. Gibbons' paper, *infra*.

television. However, the US has opened the equipment market to competition, *i.e.*, to assure that set-top boxes and other consumer equipment is available from manufacturers, vendors, etc., that are not affiliated with multichannel service providers. For example, multichannel service providers are obliged to provide information about standards and specifications that allow unaffiliated manufacturers to provide consumer equipment associated with interactive television. There are also rules in place to separate conditional access functions from other functions of the set-top box, *i.e.*, there is a prohibition on selling devices that integrate conditional access with navigation devices or other functions. It cannot be excluded, though, that the Federal Communication Commission (FCC) will in future issue more elaborate provisions on interactive television services – provided strong evidence emerges that there is a bottleneck situation that would have the potential for anti-competitive behaviour. Furthermore, in the US, First Amendment protection is very strong. This also means that any regulatory interference in terms of access regulation, especially in the case of *ex ante* regulation, would have to pass a severe test: whether important governmental objectives weigh heavier than the First Amendment interests of the operators concerned.

Discussion on Solutions

It was noted that regulatory goals (partly) differ at the EC and national levels. The level chosen for regulation ultimately depends on the objectives concerned. Conflict situations can also arise where the lack of regulation/harmonisation, or more likely, exhaustive regulation at EC level overrides national law, a situation that was mentioned as existing in Italy.

Consideration was also given to the number of players that would constitute true competition. One participant argued that there must be at least six players for there to be real competition, contrary to the 30% rule (see *supra*). Opinions varied on this issue, particularly when comparing the UK and the US.

The point was made that in the US and the UK, media law regulation is becoming increasingly relaxed. The UK has retained the rule that a major newspaper proprietor cannot own what is now called a public service channel (like Channel 3), and vice versa. There are also some rules about ownership of digital radio, broadcasting multiplexes and content. Apart from these and one or two local rules (about a local newspaper proprietor having a stake in a local television station), everything else is gone. More complicated rules about accumulation of interests no longer exist. Rules about foreign ownership have also gone. The argument of the UK government is that potent regulation is not needed because there is strong content regulation, certainly in respect of public service and other offerings. There is a standard for what must be aired, and that is enough. The focus in media ownership regulation is thus on free-to-air programming and national free-to-air services.

Another speaker told the group that somewhat more legislation is retained in the United States, although there is no *ex ante* regulation. Reference was made to a recent US Senate Bill that was proposed to overturn the FCC's most recent relaxation of regulation involving cross-ownership and vertical and horizontal rules. The outcome of this should be interesting. The new US ownership rules will allow a single cable company to cover up to at least 60% of all of the population of the United States, which means there could be only two cable companies in the United States. For a long time, there have been both horizontal and vertical rules in cable broadcasting, which many people deemed to be quite important. Most American regulators think that the rules with respect to broadcast television are not that important because cable dominates the market. However, the US Court of Appeals for the District of Columbia has thrown out the vertical and horizontal ownership rules. The Court stressed the need to only interfere where actual, not potential, problems are present in a market. Also and importantly, special consideration must be given to the First Amendment of the American Constitution. Every market player is a "speaker" and thus protected. This is an additional factor that restricts legislators when interfering with the media.

One participant responded that she felt the previous speakers were saying that media ownership law is of no use to tackle bottleneck situations in modern information markets because different media sectors are emerging as a consequence of convergence.[23] She suggested that media ownership law should no longer distinguish between different media sectors, but between different distribution levels instead. If there is a company that bundles programmes; that holds the most important content rights, and that possibly owns the most important transmission platform, this could be addressed by amended media ownership rules that also take situations of vertical integration into account. One argument in favour of such an approach was that joint control over the technical and the marketing

23) Editor's note: while media ownership legislation still distinguished between different, mostly horizontal media markets.

platform or the EPG or other services/facilities could result in a similar level of dominant economic and journalistic influence as the control over different broadcasting stations. One of the speakers responded that the main issue at stake was the kind of programming that is being made available to the end-user, *i.e.* who controls the programme output? This problem would not fall under ownership regulation. It was submitted that from the end-user perspective, it is only necessary to make sure that control is sufficiently dissipated. Another contributor opposed this and held that media ownership law should be the place to confront this problem. For example, restricting the provider from holding all of the interesting programming rights in football might be the best way to address the issue. This train of thought was continued with the example that the German model is attempting to integrate new digital services into a market-share concept. For example, if a company has 25% of the viewer market share, and then buys an EPG service, the regulators also take this factor into account. The difficulty is to find a method to measuring the communicative power an EPG creates. It is not a number equal to the market share of a television programme, whereas there is not yet a common currency to measure this influence. For this reason, there is not yet a practical way to integrate the problem of vertical integration with the technical level into a media ownership concept. It was mentioned that the regulators in France have had a very elaborate system of both vertical and horizontal cross-ownership rules, primarily based on a percentage point system. Additionally, broadcasting regulation in this country has been extended to include three new services, including EPGs, bundling and portals. Also of relevance is that *Canal Technologie* was recently sold off as this might be an illustration that "vertical" integration is not automatically the most economically viable route for proceeding.

The discussion switched gears when participants began discussing the dilemma the European Commission faces in trying to regulate media pluralism. The European Commission has an obligation to take into account media pluralism, but only has limited competence to deal with the issue. The EU realises access is necessary for media pluralism, but cannot adopt further-reaching regulation on content-related matters, thereby leaving this as a matter for Member States. Important questions turned on the relationship between national law and EC law and whether a more concrete EU position should be taken as regards media regulation. Other participants were of the opinion that it should remain within the competence of Member States to regulate matters of media law.

Attention was also drawn to the need to closely analyse the actual market conditions and the extent to which market mechanisms themselves can lead to satisfactory solutions. Against the backdrop of non-discrimination, media ownership and the policy goal of identified pluralism, consideration was given to what is guaranteed if there are several players in the market. Non-discrimination rules concentrate on access, and media ownership rules focus on journalistic competition. It was submitted by one participant that discriminatory pricing in a monopolistic market could actually create more pluralism. It was also argued that two competitors trying to maximise profits could actually reduce pluralism by providing the same programming in an attempt to make profits. A monopoly could conceivably create more pluralism in such a case. In conclusion, this participant warned that all variables must be considered in regulation when trying to reach desirable goals. The right approach may not always be obvious. Another speaker agreed that once there is enough competition, one does not have to worry about pluralism. If conditions exist whereby platforms can easily enter the market, then that should be enough. Regulators are focusing on conditions for creating platform competition in the US. If they become convinced over time that a natural monopoly exists, then regulators might interfere, not earlier.

A response to this was that it is hard to compare the US to Europe. In Spain and Italy, for instance, there is no competition between different transmission means (satellite, cable, or terrestrial). There is a single platform operator in each country despite efforts by the European Commission to foster several platforms. The difference in the US is that there is competition between cable and satellite. One reason digital terrestrial television is sought in European countries is to introduce an additional platform to stimulate competition. It was posited that the battle may not be lost if competition between the transmission means occurs.

Finally, the point was made that there are two viable approaches to dealing with bundling or bottlenecks: the competition law approach and the media law approach. These approaches can be reciprocal safety nets, but when rules conflict, one or the other must be chosen. If competition law is to be followed, it would be a choice between essential facilities and general merger rules. When goals are only partly achieved by competition regulation, there may be a further need for specific media regulation. Access to bottlenecks must be regulated if this need exists. However, this leaves the question of whether the Access Directive is the appropriate tool to remedy bottleneck problems in modern information markets or whether there are other, more effective initiatives. It must also be determined whether there is a need for a more pro-active approach to questions of interoperability and standardisation.

Articles by Workshop Participants

The following articles were written by participants in the workshop. Originally drafted only as part of preparations for the workshop, they were revised and released for publication by the authors after the event.

In doing so, the authors enabled us to tackle the complex and important issue of regulation of access to digital television in a more comprehensive and detailed manner than would have been possible in the workshop report alone. We are therefore extremely grateful to all the authors.

All the participants were selected on the basis of their own expertise in the subject area covered by the workshop rather than their membership of a particular institution. Therefore, the articles exclusively represent the knowledge and the opinions of the authors themselves. They are not official documents or statements by their respective employers, the European Audiovisual Observatory or the Council of Europe.

The inclusion of the following articles in this *IRIS Special* inevitably means that only certain topics or geographical areas are covered. We would like to have been more exhaustive in terms of content and geography. However, we were restricted by the late withdrawal of certain invited participants and by the round table format of the workshop, which limited the number of participants.

The articles are ordered in a way which corresponds most closely to the structure of the workshop (see also the agenda at the end of this publication). The first part deals with the technical, legal and economic aspects of the subject. The second section looks at three different approaches to the regulation of technical bottlenecks and vertically integrated markets. Finally, the third part describes different viewpoints from which these approaches to regulation may be considered.

Outlining the Issues

Accessing Digital Television: Technical Requirements and Their Implications for Viewers, Consumers, End Users and Citizens

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Introduction

Dear Chairman,
Distinguished colleagues,

My presentation today is intended to cover the most relevant technical aspects of digital television. It remains everybody's personal view to consider the organisers' wisdom in entrusting a lawyer with this task. The state of our[1] knowledge of technical issues, however, should have become apparent from the Digital Television Glossary that has been prepared and distributed prior to this workshop. Therefore I would like to concentrate on some basic aspects of digital TV technology that seem to be of significant importance for our further discussion.

Because we will hear expert presentations on the political, economic and legal implications of the "bottleneck problem", my short introduction will address the technological impact from another point of view: that of the individual. For the most part, the individual is assigned a role of a more or less passive nature, sometimes referred to as "the viewer" (by media legislation), "the consumer" (by competition legislation), or, increasingly, as "the (end-)user" (by communications legislation). In a few but important instances it will be his or her position as "a citizen" that will be addressed (by constitutional law). In my opinion, it is sufficient to quote these different notions in order to introduce the underlying concepts that are not only involved in, but more importantly, govern the different objectives pursued by the relevant legislation. For all those involved – public policy-makers, broadcasters, content service providers – it is the individual that is given most concern.

I think it is common ground that the various approaches in media legislation in its broader sense are accepted both as necessary and complementary – but is this still the "state of the art"? While for the time being the electronic communications' regulatory framework will remain a combination of (sector-specific) infrastructure regulation and (general) competition law, arguments are put forward for considering whether or not we should also envisage such a movement from sector-specific regulation to competition law in other fields:

> "And I also see something perhaps even more important than an achievement in a single sector of the economy. I see a consistent regulatory framework, solidly grounded on competition analysis principles, becoming the model for regulation of any sector of the economy still in need of regulatory intervention. I see the term 'sector-specific regulation' becoming obsolete: because the same set of

1) Many thanks to the co-author, Michael Knopp, who helped greatly in preparing the Digital Television Glossary, especially, but not solely, because he did not become discouraged by the "alien" domain of technology.

tools, the same competition-based philosophy and the same concerns may soon govern regulatory intervention in all sectors where some form of economic regulation can still be useful." [2]

Does this call into question the role of media/information/communication legislation? What would be the Member States' views on this? Let's imagine the establishment of a legal regime at Community level telling national *broadcasting* regulatory authorities how to define relevant (mass) media markets and on which conditions to apply *ex ante* regulation? Probably, the viewer would not care at all, some might argue, as long as he is given sufficient choice. Choice – a concept understood by some as good quality offered at a reasonable price, and by others as diversity of offers.

Diversity, which does not necessarily equal pluralism of topics and views, is often regarded as the common denominator of competition and media regulation. It implies a multitude of offerings and therefore, from the viewpoint of the individual, a number of different content service providers. It may be useful also to look at diversity in terms of access to technical platforms, and, finally, at different kinds of content, *i.e.* public service television, commercial free-to-air TV and pay-TV.

How Does the Viewer Obtain Access to Digital TV ? (by Cable, Terrestrially, by Catellite, Other Means?)

Throughout Europe, there are significant differences in the relative proportion of the three main means of conveyance, especially in the analogue environment. As for digital TV, the pick-up for DVB-T is still limited in the majority of countries, sometimes due to a dominance of satellite (TV) platforms and/or a lack of success of the business models implemented. In others, the cable networks are or will become the main drivers for digital TV penetration.

Speaking of "vertical limits": from the viewer's perspective, already at this point,[3] an important issue needs to be taken into account. A real choice between different platforms does not exist in all cases. Access to cable networks would imply general availability in the relevant region and connection (underground), and the same holds true for the reception of terrestrially transmitted signals or the possibility of installing a satellite dish. As regards the latter, for example, it would have to be considered whether the satellite (platform) is an 'essential facility' and, secondly, whether according to competition law or the Access Directive, broadcasters would be entitled to claim access.

Once a satellite dish has been installed, the viewer, for technical reasons (orbit positions of satellites), will receive signals from a maximum of two different platforms. Broadcasters, therefore, will have an incentive for being present on the main platform(s) in line with their interest in the highest possible technical reach. This becomes evident if you just imagine what kind of marketing activities would be needed to convince viewers of shifting the installation to another competing platform, if there is one available at all. Even if there were a competing platform, it would most likely not be the individual broadcaster's offer that would be decisive for the consumer's choice but rather the overall range of offers including non-content related services being delivered over that platform.

Under What Conditions? (FTA, iDTV, STB, CI, Smartcard)

Not only does the availability and respective market positions of distribution platforms differ widely in Europe, but Europe also experiences huge differences concerning the practice of encryption. This particular aspect leads us to a discussion of the technical preconditions a viewer must satisfy not only to receive signals but also to actually view content material.

As we all know, there is another "vertical limit" playing a role here: in an ordinary living room situation, ceiling height will not allow for the construction of a tower of different set-top-boxes. In general, people will choose between three basic models of STBs, Free-to-air- or "Zapping"-boxes, boxes with embedded CAS, and, thirdly, boxes having a CI. Certainly, there is also iDTV, but from the viewpoint of the consumer, this is not really an option. Additionally, the mere integration of some of the STB's main features into a TV set does not per se matter in deciding which model to adopt.

As already mentioned, encryption is a relevant issue. While sometimes encryption is required by licensing conditions for the use of copyright and related rights, in other cases, in particular with regard

2) Commissioner M. Monti, "Competition and regulation in the new framework", speech delivered on the occasion of the "Public Workshop on the 'Electronic Communications Consultation Mechanism' Provided for by Art. 7 of the Framework Directive 2002/21/EC", Brussels, 15 July 2003, available at:
http://europa.eu.int/comm/competition/speeches/text/sp2003_015_en.pdf, p. 6.

3) See below for the aspects related to set-top-boxes.

to pay-TV it is important to ensure that only viewers who are entitled can access this service. But even commercially funded free-TV makes use of encryption, for example, where it uses distribution over satellite in order to feed programmes into cable networks. Here, encryption does not impose restrictions on the technical availability of the programme in its target market because decryption will be carried out by the cable operator. From a German perspective it has been interesting to note that in other EU Member States there are only very few public service broadcasters whose satellite distributed services are available in unencrypted format.

Despite recent and significant consolidation,[4] some figures indicate that in Western Europe 8 to 11 different encryption services are being used. The choice for multicrypt or simulcrypt comes into play here, especially when there are STBs available with an embedded CA. Besides, it will be crucial to consider the impact of the increase of STBs that are either only capable of receiving unencrypted services (*e.g.* by FreeView) or that do not use a CI. Furthermore, a considerable number of viewers will lack the incentive to invest in several CAMs or to buy smartcards from different operators unless they can see some 'profit' with regard to the content offered. Just a brief remark in this context: besides the debate about the switch-on costs of (rather than switch-over to) DVB-T in some regions of Germany, fixing the precise date for the switch seems to depend on what kind of European or international sports events are forthcoming.

There are a few other aspects that I would like to point out, namely in respect of APIs, and, also, in more general terms, relating to interoperability. For many years, various arguments have been made about the risks and benefits of mandating a particular standard. Two examples are usually cited here, namely 2nd generation mobile telephony and D2MAC. Notwithstanding the result of reviewing the Framework Directive with regard to MHP, it seems quite clear that consumers will hesitate to invest in digital TV technology while things remain unsettled. Secondly, business models of digital TV drivers like cable network operators or pay-TV platform providers are apparently not based on interoperable standards. There might be some exceptions to this rule, in particular as regards the Benelux and some of the Scandinavian countries.

Smartcards: Just for the purpose of illustrating the complexity of the issue, and because smartcards also feature prominently within the overall architecture of CAS, it is worthwhile recalling that they are mainly connected to the provision of pay-TV. As with credit cards, it would in my opinion be reasonable to define the policy objective that all CIs should be capable of dealing with all kind of cards. However, you will recall that, when presenting the different kinds of STBs, I spoke of them as models. The whole interplay between smartcard, CAM, CI, soft-, middle- and hardware of STBs is subject to numerous alterations in design. In addition, smartcards may be used to pursue additional goals besides CA-control (copyright or youth protection). Hence, in favour of the approach followed by the Access Directive, I would say that there is room for addressing bottlenecks by function. Whether or not the remedies envisaged, and those still to be determined by NRAs, are flexible and effective enough, must be decided later.

Conclusion

Sitting in front of your TV screen, and, thereby basing your judgment on the very screen you use, the switch from analogue to digital does not make such a difference. In terms of delivering content to the individual home, some new aspects must be taken into account, for example, with regard to technical services such as multiplexing, the fact that such services were unknown in the traditional setting. From a broadcaster's perspective, these services lead to reduced control over the way the content is delivered to the home. This might be viewed either as a chance for or as a risk of outsourcing.

In terms of the viewer's interest in good quality television programmes offered at low or no cost, the introduction of basic encryption, stimulated by both content licensing conditions and the availability of STBs with interoperable CIs and CAMs, could contribute to filling the gap between programme purchasing costs and reduced advertising or subscription income. Just like in other sectors, or with NVoD and PPV, it would allow for addressing the individual viewer and collecting revenue from him. This could also bring about incentives for purchasing STBs, thus allowing for the establishment of a more open horizontal market.

4) NDS Group, part of News Corp., recently acquired MediaHighways. It had previously been part of Canal+ Technologies. MediaHighways, originally having been owned by Vivendi and then bought by Thomson, is not only active in encryption, but also the group of products it offers may be seen as an integrated CA-Systems provision.

In terms of competition law, the possibility of addressing the viewer individually would imply a (direct) commercial relationship between broadcasters and viewers. With all the implications that this possibility entails, it is something the EC has constantly refrained from establishing. Should this form the basis for a different approach for media concentration regulation, it would have to be scrutinised in regard to the public policy objectives concerning the concept of pluralism.

One last word on the offer the viewer is receiving: If we look at Art. 31 of the Universal Service Directive, it seems crucial to determine what kind of programmes should be given must-carry status. In another context, *Wolfgang Schulz* has indicated that maintaining criteria based on technological conditions for the purpose of defining broadcasting might increasingly be challenged by the economic as well as the technical developments in the media sector. If distribution point-to-multipoint were made a prerequisite for broadcasting, would any must-carry-regime then be able to contribute to diversity in offerings and, probably, better chances for pluralism?

Technical Bottlenecks in the Hands of Vertically Integrated Dominant Players: a Problem – or the Driver Behind the Knowledge-based Economy?

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Introduction

Information policy is often driven by the desire to prevent the creation of information monopolies and dominant media power, as this would distort plurality, diversity and equal opportunities to communicate. This has led, depending on the medium in question, to varying general and specific concepts of market control for broadcasting, press and Information Society (IS) services markets. The overarching goal is manifold: on the one hand, the aim is to ensure competition in the marketplace and to facilitate competition between the services offered at the service level, with the long-term objective of "making the European Union the world's most competitive knowledge-based economy".[2] On the other hand, the aim is to realise objectives in the field of information politics, namely to create an environment in which citizens can realise freedom of expression interests and have access to sufficiently plural information markets. Last but not least, the service level is an arena in which governments can realise their own political interests and aims.

Meanwhile, the realisation of these principles is under attack from another side, namely the controllers of technical facilities at the transport level. Operators of technical facilities for the transport level are stepping away from their traditional service function. With the increasing innovation and sophistication of distribution and marketing strategies, the form and the offer of information services depend on a growing number of diverse technical facilities and competing standards. Such technical facilities can become bottlenecks to market entry, giving their controllers a wide choice of possibilities to impede both potential and actual competitors. Questions of access to technical bottlenecks are playing an increasingly important role not only for market entry to transport markets, but also for entry to service markets, such as broadcasting and IS services markets. For the service level, this means that the general availability and choice between information sources is becoming a matter of access, and control over contents and/or technical bottlenecks is slipping into private hands. This is not, in principle, a new phenomenon, bearing in mind for example the discussions about control over cable networks. However, what can be observed now is not only an increase in the number of potential technical bottlenecks, and the way that technical facilities and the standards incorporated are used to secure market shares; there is also an increasing level of vertical integration: a few major operators such as Murdoch, Vivendi, Bertelsmann, France Télécom, etc. control several steps in the distribution chain (content production – aggregation – electronic distribution – consumer access – subscriber management). The consequence is that joint control over assets at both the transport and the service level is more likely to dominate the situation in media markets and the conditions under which access to service markets is granted to both consumers and

1) Website: http: www.ivir.nl .
2) European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, on Barriers to widespread access to new services and applications of the information society through open platforms in digital television and third generation mobile communications, Brussels, 9 July 2003, COM(2003)410 final, p. 6.

competitors. The real concern, however, is that vertically integrated control over technical and service levels creates not only the possibilities but also the incentives for abusive access decisions.

The focus of this discussion paper is the question as to what extent is existing media and communications law, notably the new European Access Directive,[3] equipped to deal with a situation in which control over technical bottlenecks increasingly determines the structure of information markets. The question is examined by using digital broadcasting markets and, more particularly, pay-TV markets as an example. Of all media, the regulation of broadcasting markets was and still is the one most strongly exposed and characterised by an ongoing or perceived collision between commercial interests and market mechanisms on the one hand, and public policy considerations on the other. Here also the conflicting interests of European harmonisation efforts and national autonomy in regulating matters of cultural, social and democratic importance are particularly relevant. Pay-TV markets are interesting, as in this sector the provision of services is based on a sophisticated interplay between a whole range of technical and non-technical bottlenecks that operate closely with one another. At the centre of the analysis is the recently adopted European approach to bottleneck regulation – the Access Directive – particularly the provisions that deal with bottlenecks to digital television (Articles 6 and 5 (1) b).

After presenting a brief outline of the problem, I will discuss the new regulatory approach of the revised European Framework for communications law in the light of vertical integration between the transport and the service level and the different regulatory objectives that apply to the two levels. One objective of the analysis is to discuss critically whether the present rules on access to technical bottlenecks in digital broadcasting are sufficient and adequate to deal with the bottleneck problem, or whether there is a need for additional initiatives. More specifically, I will examine whether the new Access Directive is generally capable of dealing with new, emergent technical bottlenecks in digital television, and whether it is capable of realising the objectives for this sector in the fields of economics and information politics. The conclusion is that we should not be complacent. This is followed by a number of suggestions for alternative measures. The aim of this paper is to stimulate discussion on this matter rather than to provide a complete overview of the situation.[4]

The Problem

In recent years, the development of the digital television market in general, and of the pay-TV market in particular, has been driven by four main lines of development, namely:

1. An increase in the number of inter-media and cross-market concentrations;
2. An increase in the number of vertical integrations of up- and downstream markets;
3. A change in the way digital products are distributed, the bundling of contents, and services in the form of service platforms and programme packages;[5]
4. New bottlenecks and market foreclosure.

Re 1: Increase in the Number of Inter-media and Cross-market Concentrations

Most national markets for access-controlled services and conditional access (CA), particularly pay-TV markets, are in the hands of a small number of highly diversified, strong and internationally- or regionally-operating enterprises that are, furthermore, to a large extent interwoven. In most cases, national markets are dominated by one, or at the most three or four major players.[6] In the beginning, digital TV involved primarily established national and generally private players in national broadcasting markets. Now, also non-broadcasters (e.g. Internet and cable providers) are coming on the scene.

For Internet-oriented services, it is more difficult to make specific statements, especially because of the medium's global reach. Generally speaking, however, an increase in the number of inter-media concentrations and the influence of already established players from the offline world can be observed here also.

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3) Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), OJ L 108, 24 April 2002, p. 7 (Access Directive).
4) See N. Helberger, Controlling Access to Information, Doctoral thesis, to be published.
5) As to the latter aspect, Neumann gives a concise overview; Neumann, Ingo, Pay-TV in *Deutschland, Markteintritts-und Wettbewerbsbedingungen für neue Anbieter*, Deutscher Universitätsverlag, Wiesbaden 1998, pp. 211-234.
6) For a more detailed insight, see Yearbook 2003, the European Audiovisual Observatory, Strasbourg, 2003.

Convergence makes it attractive for enterprises to extend their presence over several, sometimes complementary, markets and to market contents via several technical platforms and/or media (set-top box/TV, mobile handset, Internet portal/PC). The actors at the service level are now not only broadcasters but also non-broadcasters, such as providers of IS services, publishing houses, mobile phone and cable operators, game producers and film studios, to name but a few. The economic advantage of these strategic alliances is obvious: they complement the economic powers of single operators and allow them to share the risks of market entry and to benefit from the exchange of resources and joint profit maximisation as well as the strong production and demand-side economies of scale present in information products.

Re 2: Increase in the Number of Vertical Integrations of Up- and Downstream Markets

In response to the process of convergence, media markets witness many strategic alliances between different major players at very different levels in the distribution chain. The aim of these alliances is to, for example:

- acquire content rights,
- use and/or develop decoder and encryption techniques,
- control the transmission infrastructure,
- secure monopolies in operation of services.

In other words, alliances are not restricted to the horizontal level but involve players from different levels of the distribution chain (content production – packaging/bundling/aggregation – electronic distribution – access control and consumer management).[7]

Re 3: Change in the Way Information Services Are Distributed, the Bundling of Contents, and Services in the Form of Service Platforms and Programme Packages

The trends described above are also a result of the change in the overall distribution strategy for information services, namely a trend towards concentrating programme and service offers in bundles that are marketed via a small number of digital service platforms, allowing for selective distribution strategies. Facing the prospect of an uncontrollable flood of services and contents, it seems logical that "information packagers" or "aggregators" are seeking to win consumers by offering them all the information they need in one package. One consequence of the bundled marketing of information products is the introduction of an additional level in the distribution chain: the operation of independent service platforms (often also called the "aggregation level"). Closely associated with this is a whole range of new technical facilities – CA systems, electronic programme guides (EPGs), subscriber management systems, billing systems, set-top box memories, etc. – all of which can become bottlenecks to market entry.

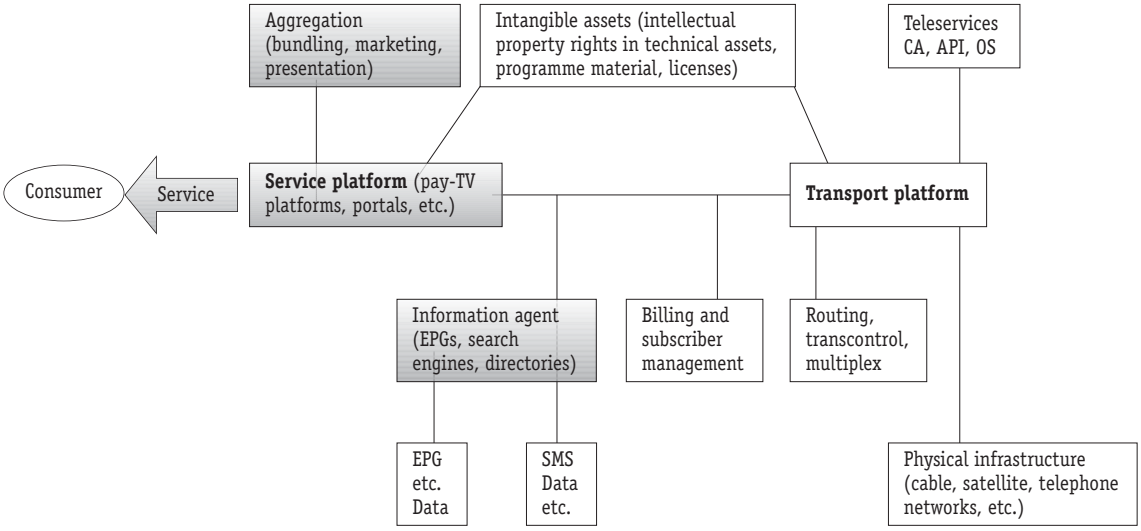
Another consequence of the bundled marketing of information products to individual consumers is that information access, and the modalities thereof are subjected to an individual consumer-service provider relationship. That this is so is not least the result of the use of electronic access control and other personalisation techniques that allow the service provider to address and contract with individual consumers. Service contracts between consumer and service provider shape the relationship between both parties. Such service or subscription contracts can be, *inter alia*, an effective means to intensify the link between consumer (subscriber) and service provider: where consumers are bound by long-term subscription contracts (for pay-TV: usually 12-24 months), this might be a reason to prevent them from switching to competing providers before the contractual term has ended. Another form of contractual "lock-ins" can be bundling agreements that oblige consumers to subscribe to a whole package of services (even if the consumer is only interested in receiving one particular channel) or agreements that make access to one particular service (e.g. Premium service) conditional upon subscription to another (e.g. a bundle of so called Basic services). Thus a well-considered service differentiation and bundling strategy allows the possibility of quasi pre-empting the market ("package the product space") and concentrating control over both service access and access to the consumer base in the hands of a few major service providers.

7) Significant mergers in the US have already illustrated this trend. To give just a few examples, the mergers of Walt Disney and ABC, Sony and Tristar Columbia, Time Warner and Turner Broadcasting, AOL and Time Warner were intended to bring different levels of the distribution chain under joint control. Similar trends are apparent in the European markets, such as Deutsche Telekom (cable network) and Betaresearch (CA) or AOL (ISP). Another example is the Vivendi company, which is involved in pay-TV (Canal+), Internet (e.g. Vizzavi Europe, MP3.com, Emusic) and game publishing (Vivendi Universal publishing), as well as in content production (Universal Studios, Universal Publishing), rights libraries in film, music, games and educational contents, CA technology (Canal+ Technologies) and transmission infrastructure (telecom and cable activities). The business strategy of Vivendi is to position the company across the entire value chain to generate integration benefits (Cegetel is a subsidiary of Vivendi, and provides Internet and communications services, Canal+ offers pay-TV, etc.).

Re 4: New bottlenecks and Market Foreclosure

The developments described above, although very likely the result of sound economic thinking and principally protected by freedom of competition, raise a number of problems for overall competition, namely problems of bottleneck control and market foreclosure. These problems are central to the present analysis.

The more economic power a controller of certain facilities has, the better its chances to exercise strategic control over access to resources. This can be control over technical facilities such as the CA or – probably even more importantly – control over interfaces (application programme interface (API), operating system (OS)), standards or particular software applications (EPGs, electronic payment systems, media players, etc.), the service platform behind the decoder or popular content rights (e.g. World Cup Soccer).[8]



[Diagram 1] - Model facilities in information markets (coloured fields indicate varying degrees of journalistic control and/or input). The provision of electronic information services – be they broadcasting, IS or similar services – is based on a complex interplay between different services and facilities. In principle, each part of such a service can become a potential bottleneck, depending on the circumstances of the actual case and the market structure. As the diagram illustrates, technical bottlenecks are not the only bottlenecks operating in information markets. The diagram also indicates a principal distinction between the service platform and the transport platform, which is also the basis for European, national media and communications regulation. As the diagram also shows, some facilities or services are not easily classified as facilities or services associated with the transport or the service platform. This also means that it is not only the technical specifications of a facility but also the way it is journalistically designed that determines the bottleneck character (e.g. the way contents are searched for and selected by the information agent), due to a certain convergence between content and technique.

The economic power of a provider correlates with the popularity of its service (network effects). Where a large network of users has formed around a particular service platform, there is a greater chance that service providers and consumers will bring their services and receiving equipment, respectively, into line with the technical standards of the dominant platform.[9] Access to or compatibility with that platform or parts thereof can be critical for the success of any competing service. This will be demonstrated by using access-controlled pay-TV platforms as an example. Newcomers to this market usually depend on access to existing facilities, because the provision of

8) See the comments of the EC on the AOL/Time Warner Case, paragraphs 55 – 56, European Commission, decision of 11 October 2000 declaring a concentration to be compatible with the common market and the EEA Agreement (Case No. COMP/M.1845 – AOL/Time Warner), OJ L 268, 9 October 2001, p. 28.

9) Poel, Martijn & Hawkins, Richard, The evolution of access bottlenecks in Europe: Re-locating the regulatory issues, Communications & Strategies, Vol. 44, 4th quarter 2001, p. 93.

access-controlled services necessarily requires access to a viable CA system, a service platform, an EPG, programme contents, technical facilities, etc. If newcomers are not prosperous enough to be able to bring their own resources with them, they must seek access to existing resources, possibly under less favourable conditions than those the established players have arranged for themselves (last-entry disadvantage). Also, the establishment of alternative facilities can be impeded by a number of obstacles to entry.

Arguably, it is principally in the interests of the market players themselves to promote openness and diversity (plurality).[10] The technical platform (CA environment) and the service platform for access-controlled services participate in the mechanisms of economy of scale and network effects that strongly determine the economies of many information services.[11] Each additional provider or subscriber to a digital service platform increases the general attractiveness of the platform (be it the technical or the service platform) and thus the demand, and improves the optimal exploitation of resources – provided the positive effects of the expansion of the digital TV service platform outweigh the possible negative effects of new market entries on the existing market position (this applies particularly to the marketing of programme bundles). Ideally, economics-focussed thinking is an incentive to keep facilities and platforms open. This can be different in a situation where one or just a few market participants have acquired an amount of economic influence that in itself already promotes the economic success of the service, namely where no viable alternatives to the existing service exist or where the existing market players have a sufficiently comprehensive stock of their own resources (CA, programme rights, distribution networks). Here, the electronic control over access to information together with ownership in attractive programme rights generates a powerful competitive advantage, as it allows the exclusive exploitation of programme rights and the exclusion of competitors from market access. Thus, the effect of electronic access control on competition is largely determined by the structure and dynamic of the markets for access-controlled services and CA, namely the market for access control systems (infrastructure level) and that for access-controlled services (service level). In such a situation, the exclusive control over bottleneck facilities or, increasingly important, the standard embodied, provides a wide range of possibilities for impeding potential and actual competitors, particularly where such control is exercised by powerful, vertically or horizontally integrated operators.

Vertical integration between, for example, the CA level and the service level creates the opportunity to lever market power from service markets into markets for access-controlled services and CA: cross-subsidies from subscription revenues (which are used to lower the market price for the set-top box), control over a popular service platform (which will have positive effects on the distribution of the underlying technical infrastructure), a strong position in the markets for programme software (which will strengthen the overall negotiation position of an access-controlled platform), etc. make it more difficult for competitors to launch an alternative technical system. Vertical integration between the two levels also allows the network to become more efficient and secures cost-efficient access to the CA level, often under more favourable conditions than those generated by the free market. Naturally, vertically organised enterprises will favour their own associated enterprises at other levels of the distribution chain and provide them with optimised terms and conditions for access to resources and facilities. This also opens up the possibility – and provides the incentives – to discriminate against outsiders by means of price discrimination or otherwise less favourable contracting conditions for access to the CA system.[12] On the other hand, the result might very well be lower prices for consumers (and thus increased social benefit), a higher output and more incentives to invest and to innovate in the infrastructure sector.[13] In particular in sectors that depend upon standards, powerful vertically integrated operators could establish a *de facto* solution for the standards question and thus enhance continuity and stability.

The possibilities for influencing both economic and ideological competition are obvious. They range from plain refusal of access, through unfavourable conditions, lack of compatibility and software support, to abuse of their stronger negotiating position when it comes to the purchase of programming rights etc. As explained, most notably the control over technical bottlenecks affects the state of competition not only at the transport level but also at the service level, if access to that particular

10) See also Poel & Hawkins, *ibid*, p. 84.
11) Neumann, *ibid*, p. 24; Shapiro (2000), Carl, Competition policy in the Information Economy, Foundations of Competition Policy Analysis, Routledge, London/New York, 2000, p. 5.
12) An additional factor that makes the evaluation of vertical market power more difficult is the lack of transparency in vertically integrated undertakings, which makes it difficult to decide whether particular behaviour is part of a legitimate, successful marketing strategy or constitutes undesirable anti-competitive behaviour (cross-subsidising, predatory pricing, etc.).
13) See also Tirole, Theory of Industrial Organisation, MIT 1998, p. 187, and Lemley, Mark & McGowan, David, Legal implications of Network Economic Effects, California Law Review, Vol. 86:479, 1998, p. 481, 496.

facility is needed in order to provide services at the service level. For example, the controller of a dominant CA system can also influence the choice of broadcasting and non-broadcasting services that are finally offered to consumers. More sophisticated technical facilities (e.g. EPGs and search engines) can even exercise direct editorial control, because the way they are programmed determines the selection of information that is presented to consumers – a function previously reserved for the producers of, for example, broadcasting programmes. In other words, control over technical bottlenecks influences not only economic competition but also competition in the field of opinions and ideas.

Regulators of technical bottlenecks are in a difficult position: they want to promote new techniques and facilities that are promising drivers for the future media industry (e.g. CA devices, electronic billing procedures, etc.), while at the same time they must prevent abusive use of such facilities if this threatens the openness, diversity and pluralism of media markets. National regulators[14] in particular should consider the possible effects of technical bottleneck control on not only the transport but also the service level and the realisation of regulatory objectives for both levels. To complicate the situation, as will be shown, the regulatory objectives for the two levels can differ or even be contrary to each other.

Access to Technical Bottlenecks: the New European Regulatory Approach

The recently adopted Access Directive seeks to establish a uniform, harmonised approach to the treatment of technical bottleneck issues (an overview is presented in the Background Paper, pp. 115–121). The aim is to control the behaviour of bottleneck controllers and to create the conditions necessary for sustainable competition at both the transport and the service level. As the EC has explicitly stressed, competition rules alone may not be sufficient to ensure cultural diversity and media pluralism in the area of digital television. This is why Directive 95/47/EC provided an initial regulatory framework for the regulation of access to CA systems, which was considered one of the major obstacles to competition in nascent digital broadcasting markets. The obligation to provide conditional access on fair, reasonable and non-discriminatory terms has as its goal to ensure that a wide variety of programming and services is available. As the EC observed, technological and market developments make it necessary to review these obligations on a regular basis in order to determine whether there is any justification for extending such obligations to new gateways (such as EPGs and APIs), to the extent that is necessary to ensure accessibility for end-users to specified digital broadcasting services.[15]

Digital television will be an important test case for the new Directive, as it will reveal whether the latter is indeed adequately equipped to deal with modern, converging information markets. Digital television markets are very dynamic, both in terms of technological innovation and convergence, and in terms of market developments, since new business models and services are constantly being developed on the basis of new technologies. Moreover, digital television markets are at the interface of communications law and media law; as very different regulatory principles and objectives can apply to the two sets of regulations. Conflicts of interest will become more apparent, and it will become more difficult to maintain the distinction between transport and service levels.

In the following, I will discuss selected aspects of the new concept that might become critical if the new concept of access regulation is to keep up with developments in new media markets. My primary focus will be on those provisions of the Directive that concern technical bottlenecks in digital broadcasting markets. It would be beyond the scope of this paper to provide a complete analysis of the new framework.[16] Instead, some points of interest will be presented, with the aim of stimulating discussion.

Principle of Strict Separation between the Content and the Transport Level

The Access Directive is based on the principle of making a formal distinction between the transport and the service level.[17] Consequently, the new framework does not cover aspects that are related to

14) Note that the EC has only limited competencies to intervene in matters of social, cultural or democratic importance. Such initiatives are still reserved for the Member States.
15) Access Directive, Recital 10.
16) See instead Helberger, Natali, Access to technical bottlenecks facilities: The new European approach, Communications & Strategies, Issue 46, 2nd quarter 2002, p. 33. Dommering, Egbert, *Een nieuw maatpak voor netwerkmarkten Institutionele vormgeving van netwerken*, Informatie & Informatiebeleid (i&i) 2002-4, p. 24.
17) Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ L 108, 24 April 2002, p. 33 (Framework Directive), Recital 5.

the content of signals and services delivered over electronic communications networks. This means that the Directive does not deal with questions concerning access to content bottlenecks (scarce programme resources, exclusive rights), the preferential treatment of certain types of content when this is in the public interest (e.g. access of public broadcasters) or access to the service platform *behind* the technical platform (programme aggregation, a particular programme bundle or package).

However, it is very questionable whether it will be possible to maintain this distinction. This may be demonstrated by the example of the EPG. It is probably true that EPGs (like any other electronic information agent)[18] also play a purely facilitating transport function by leading consumers to the content they wish to access. This function, however, is subordinate to the EPG's real task, namely to provide content, that is, information about information services. Having said this, Recital 2 of the Access Directive states that "(s)ervices providing content [...] are not covered by the common regulatory framework for electronic communications networks and services". Is the EPG, then, a content service or an associated facility? Or is it simply no longer possible to distinguish strictly between access in the technical sense and the way contents are presented?

The EPG is not the only ambiguous case. How about web browsers, programme lists and search engines that fulfil very similar functions? Are they associated facilities (in the sense of the new framework) or IS services? How should one qualify subscriber management systems, billing systems, digital rights management systems and single programme bundles? Are they elements of the technical platform – and therefore subject to communications law – or are they associated with the service platform behind the decoder, with the consequence that different regulatory principles apply?

A more practical reason why the distinction between the transport and the service level is increasingly difficult to maintain is the economic convergence of the two levels. In all sectors, infrastructure operators seek to position themselves in both content and service markets. The provision of content or IS services is a means to attract subscribers and to strengthen relations with the end-user. Vice versa, content providers – such as broadcasters and record companies – have come to understand that competition in service markets is no longer a matter only of the contents offered, but also of the technology and standards used. It is one big "world of networks, where interfaces, compatibility, standards and bottlenecks take on great significance".[19]

The problem that arises is obvious: against the background of vertical integration and the functional and economic convergence of the service and the transport level, can a regulatory approach that focuses exclusively on the transport level lead to satisfactory results in the overall market development, for example for digital broadcasting services? For instance, where competitors use the CA system of an established pay-TV operator, the latter has ample opportunities to influence market conditions also for the service level behind the decoder (bundling, obligation to use a particular standard, providing third parties with access to consumer and marketing data, etc.). So far it is very unclear to what extent the notion of "fair, reasonable and non-discriminatory" conditions under, for example, Article 6 of the Access Directive must also be interpreted in the light of conditions which apply to the service level (e.g. preferential treatment of public broadcasters, guaranteeing a diverse and pluralistic service offer, etc.). Is there a need for national regulators to extend Articles 5 and 6 to cover other facilities, including facilities or services at the service level, if this is necessary in order to remove obstacles to competition at this level?[20] And to what extent can or should Member States complement the so far strictly economic and technical rules with more content-related or "presentational" aspects?[21] All these questions should play a considerable role when Member States implement the new communications framework.

Different Regulatory Objectives for the Transport and the Service Level

The situation is complicated by the fact that different regulatory objectives apply to the transport level and the service level. While for the transport level economic principles are paramount, the service level is subjected to additional goals relating to information politics, such as the quality and structure of the contents offered. Successful economic regulation is almost inevitably characterised by a survival of the fittest approach. In contrast, information policy is determined by the aim to guarantee the survival of, from the point of view of information politics, desirable providers (e.g. public broadcasters)

18) For the purpose of this paper, "information agent" is defined as a software application whose task it is to inform consumers about available choices and guide them to the information service of their choice (examples are programme lists, EPGs, search engines, web browsers, directory services, etc.).
19) Shapiro (2000), *ibid*, p. 19.
20) For example, Germany extended access obligation to cover aggregation and bundling services (Article 53(3) 6th Interstate Treaty).
21) Article 6 (4) Access Directive.

even if, or perhaps just because, they would very likely not survive the free play of market powers/offer and demand. The notion of pluralism for the service level introduces an additional quality element that qualifies the form of competition considered desirable for this level. Moreover, information policy often pursues very different (if not contradictory) results and/or goals from those pursued by competition policy. For example, internal growth or vertical concentrations can be the result of a functioning competitive selection process or of sound economic thinking, without necessarily leading to anti-competitive behaviour. Consequently, general competition law does not sanction per se internal growth or vertical concentrations. On the other hand, the presence of a dominant digital pay-TV platform or an enterprise's control over several steps in the distribution chain can, even where no abuse of this position takes place, conflict with the goals of a pluralistic and varied offer of competing contents and opinions, and therefore might be banned under media law.

Restricted Scope of Access Regulation

The new Access Directive distinguishes between CA facilities, the EPG and the API for digital broadcasting services and other technical facilities in the communications sector.[22] CA and navigation devices for Information Society services do not fall under Articles 6 and 5(1)b of the Access Directive. Neither do they fall, for the time being, under Articles 8-13 of the Access Directive, because so far the Commission has not provided for a definition of respective markets. The question is, is the problem of electronic access control, navigation devices and proprietary middleware unique to the broadcasting sector? The arrival of advanced set-top boxes probably will spell the end of this distinction. Access control is no longer restricted to the transmission of broadcasting contents but can equally be used to carry non-broadcasting services, point-to-point services routed via communications networks, and enhanced telecommunications services. Going even further, CA techniques (and APIs and EPGs) are and will continue to be applied by, for example, mobile telecommunications providers as well as by cable operators, and as such will become part of the communications network.[23] Nor would the EPG, the API and the CA necessarily be the only bottlenecks in digital television. Access to the SMS, the smartcard functions, the memory of the set-top box or the set-top box navigator could create similar gateway situations.

The following consideration is also relevant in this context: as a consequence of the principle of strict separation between transport and service level, the Access Directive probably does not extend to potential bottleneck services and/or facilities that are commonly associated with the service level, such as programme bundles, the service (marketing) platform, billing, transmission rights, programme data. Having said this, access to the decoder is only one step in the distribution chain. Access to services and facilities behind the decoder at the service level can similarly be crucial for market access and for effectively reaching the consumer base.

Possible Effects of Access Obligations

There is yet another aspect that needs consideration: remedies that have been successfully applied to traditional bottlenecks are not necessarily the most optimal or effective way to deal with new, structural bottlenecks, such as CA. An important consideration is whether the actual effect of access obligations still complies with the regulatory objectives for a given sector. Access obligations seek to impose discipline on the market behaviour of the facility controller. Where a facility is a natural monopoly, duplication of this facility is probably not a viable option. Consequently, access to the existing facility might be the only feasible way to stimulate competition among services that depend upon access to this particular facility. On the other hand, in the case of CA systems, APIs, information agents, etc., competition between different systems is in principle possible and, arguably, desirable. Access obligations do not necessarily stimulate that competition. Instead, they can have the exact opposite effect, that is, they can further reinforce the dominant position of the first operator, particularly where the strength of a facility is based on control over a particular standard, such as in the case of CA: the more information service providers are encouraged to use one particular CA platform (e.g. because they have the right of access), the more the strategic and economic importance of that particular facility or standard will increase.[24] This is because of network effects and the need to generate

22) Critical of this distinction, Helberger, *ibid.*

23) As Oftel also correctly pointed out, the concept behind electronic access control is similar to that behind other techniques inherent in telecommunications networks, such as the process of switching, Oftel, The regulation of conditional access for digital television services, 1997, p. 3. See also EC, Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions - eEurope 2005: An Information Society for all - An Action Plan to be presented in view of the Seville European Council, 21/22 June 2002, COM/2002/0263 final, claiming that interactive digital television and third generation (3G) mobile systems can be both substitutes and complements.

24) Control over bottlenecks in CA markets is probably a question of controlling a particular proprietary standard rather than a particular hardware facility (as opposed to e.g. telecommunications or cable networks).

economies of scale on the demand side. The larger the number of services carried via a particular technical platform, the more attractive the platform will be in the eyes of consumers and, ultimately, of other service providers. Eventually, this will stifle the demand for alternative systems or standards. Only those providers of alternative CA systems who expect to generate within a relatively short time a similar level of popularity and scale will consider entering the market. Consequently, access to the first CA platform will become even more important for market entry, with the result that its controller will have even more influence over market developments. The stronger a particular standard becomes, the more likely it is that the market will tip towards this standard, which will result eventually in a monopoly position. This was, for example, the reason Netscape finally lost the battle with Microsoft Internet Explorer; the latter became the more popular and, eventually, the dominant standard.

The aforementioned circle perhaps was not a problem in the first phase of ONP (Open Network Provisions): here the dominant position of the incumbent was in practice accepted as a given fact. In CA or similar markets, it could very well be a problem, depending on the actual regulatory objective for this/these market(s).

Certainly, there are valid reasons why national regulators may want to promote monopoly positions, or at least not want to prevent them. One reason is stability and the existence of one reliable and permanent standard. This means predictability for consumers and industry players alike. Arguably, this is one aim of Article 6 of the Access Directive, namely to protect consumers from "decoder towers" and the need to choose between different, incompatible standards. It is also arguable that the existence of one particular standard, or of a technical platform that is open to competitors, could substantially reduce the need for investments (including hidden costs) and thus promote market entry by more parties. To allow a temporary monopoly position in a new market might, moreover, be one way to stimulate innovation and the development of a new market. This is particularly true where successful market entry requires accelerating large economies of scale in order to operate profitably. Ideally, technological development will finally overtake the incumbent and lead to the development of a new, better standard or service. The concept of patent law protection, for example, is based on this strategy: a temporary monopoly in exclusive exploitation is granted in order to stimulate investment in R&D. This is also why the EC is reluctant to define markets for high technology markets still in their infancy. Finally, a monopoly market may be easier to regulate and supervise than a market that is fragmented into numerous smaller market players.

There are equally valid reasons not to promote a monopoly position. Obviously, there are concerns as to the competitiveness and diversity in a market. Sometimes, the arguments for and against monopoly positions are simply opposite sides of the same coin. Although temporary monopolies can promote investment and innovation, this strategy also risks freezing a certain technical standard or service, even if it is not the most optimal or favourable for the consumer. How likely is it that the market itself will, in the end, be able to generate the best service (in terms of technical innovation and consumer friendliness). And, finally: who are the drivers behind innovation and improvement – the major established players or the highly motivated newcomers? It could also be asked whether, in practice, it is possible to effectively supervise an incumbent. This is particularly difficult in new, developing markets that are characterised by a general lack of experience and a lack of transparency. Such factors as the level of vertical integration between the transport and the service level and the organisational separation of the supervision of these two levels make control even more difficult.

Vertical Integration

The issue of vertical integration brings another aspect into play; the arguments brought forward for or against access obligations up to now have been economic arguments and associated primarily with the transport level. Arguments relating to information politics can give the discussion a different direction.[25] The popularity of a proprietary CA system and the economic and journalistic influence the controller can exercise on the service level are closely related aspects: only those who have subscribed to that particular platform can receive the associated information services. The service platform, the EPG, the way programmes are bundled and the way the service is billed are tools to monopolise the most precious resource in the competition for "eyeballs and forefingers", namely the consumer base.[26] The stronger the market position of the controller and the less he is exposed to competition, the greater the potential to influence the competition for ideas and opinions. In such a situation, access obligations might reinforce not only the economic but also the journalistic dominance of respectively

25) Schulz, Wolfgang & Seufert, Wolfgang & Holznagel, Bernd, *Digitales Fernsehen, Regulierungskonzepte und –perspektiven*, Leske + Budrich, Opladen, 1999, p. 95, 128.
26) Moglen, Eben, The Invisible Barbecue, 1997, Section C, available at http://emoglen.law.columbia.edu/my_pubs/barbecue.html

a particular service provider and controller of a particular technical platform. Where the underlying technical platform is incompatible with competing services, consumers who have subscribed to the first platform will not be able to receive competing offers, unless they are willing and financially able to subscribe to a second platform. As explained previously, access obligations can have the effect of freezing a particular standard; the consequences for not only economic competition but also the free exchange of ideas and opinions are obvious. *De facto*, this might lead to a situation where practically all digital information services are offered by just one provider. Against the background of regulatory objectives for the service level (*i.e.* diversity of source, plurality, democratic discourse, equal oppertunities to communicate), this might be an undesirable outcome.

To conclude, one may doubt, therefore, whether with the Access Directive, the last word in the matter of access regulation in vertically integrated media markets has been spoken.[27] It is certainly not the only possible approach to some of the bottleneck problems.

Alternative Approaches

Where bottlenecks are the result of technological and market developments (as they are in the case of CA),[28] initiatives that focus not so much on a particular facility as on the creation of open conditions for market and technological development might be a better way to deal with the bottleneck problem. I will now suggest and discuss two possible initiatives in more depth, namely: 1) improving interoperability and open standards, and 2) changing the structure of markets, thereby abolishing incentives for exclusionary behaviour. Alone or combined, these initiatives could lead to more open structures.

Mandating Interoperability Solutions

It has been explained that bottleneck control can be a result of control over a dominant standard rather than over a particular facility. The dominance of CA systems is one example. In the case of CA facilities (but not only here), it is often not so much the control over the CA facility itself as the control over a proprietary standard together with the lack of adequate interoperability solutions that can impede the economic activities of competitors.[29] In other words, it can be proprietary control over a dominant standard that provides enterprises with sufficient market power to effectively exclude third parties from access to a CA platform or to the service platform behind it and to determine the conditions for economic and journalistic competition.[30] In such a situation, standardisation or adequate interoperability solutions might provide an answer to the problem (so far, the EC has tackled the interoperability problem rather cautiously; see the Background Paper).

There are different ways of imposing the various interoperability solutions: mandating one particular standard (e.g. the HD-MAC standard), stimulating the adoption of open standards (e.g. open source soft- and middleware), mandating a common interface (e.g. MHP for the API) or ordering enterprises to make their services or facilities compatible with each other (interconnection of public telephone networks).[31] Publicly promoting open standards for operating systems (Linux), for example, is also a way to stimulate interoperability. It would be beyond the scope of this paper to discuss them in detail. Instead, my focus will be on the likely value of such an approach to solving the bottleneck problem.

For the given context, the pros and cons of interoperability solutions can be discussed controversially.[32] Arguably, mandating interoperability for the transport level could remove one major obstacle to more competition at both the transport and the service level. Interoperability at the facility level could result in more competition in the facility and the service market. The underlying technical platform would serve primarily as an instrument to sell broadcasting and IS services to the consumer. For consumers, this could very well lead to lower prices, more choice, broad availability of services across different platforms, diversity, etc. The GSM standard has shown that mandating one common standard can substantially increase both consumer benefits and acceptability. Other examples of successful standardisation are the digital compression standard DVB-MPEG 2 and the standards for

27) As Article 6 (4) Access Directive suggests, this is probably not even its intention.
28) Poel & Hawkins, *ibid*, p. 92.
29) See also Shapiro (1999), Carl, Exclusivity in network industries, Geo. Mason L. Rev., Vol. 7/3, 1999, p. 3.
30) See in this context also the EC, decision AOL/Time Warner, ibid., paragraphs 55 - 65.
31) See also the discussion in Schulz, Wolfgang & Kühlers, Doris, *Konzepte der Zugangsregulierung für digitales Fernsehen*, Schriftenreihe der Landesmedienanstalten, Vistas, Berlin, 2000, p. 57-60 and 86-88.
32) A concise overview of the different economic arguments is given in Geffen, Sjoerd Van, Nooij, Michiel de & Theeuwes, Jules, *Marktwerking & ICT – Is de Mededingingswet ICT bestendig?*, SEO-report No. 624, Amsterdam, Stichting voor Economisch Onderzoek (SEO), May 2002, pp. 55-64.

digital transmission (DVB-T), which paved the way for the proliferation of digital television. A negative example is the DH-MAC debacle: neither the industry nor the consumer would accept a standard that was officially mandated but soon perceived to be outdated and inferior. Thus, mandated interoperability solutions could have the opposite effect: they could freeze standards which, although technically suboptimal, are the result of a consensus or a political decision. A public mandate for one specific interoperability solution risks not only promoting an inferior standard: it may even be incompatible with the EC Treaty, which was the Spanish experience with the multicrypt standard.[33]

Earlier experiences with telecommunications regulation have shown that, in practice, it can be very difficult to enforce interoperability. This became evident with the interconnection of telecommunications networks, which was done to achieve interoperability in the fixed telephony market. Enforcement procedures can be both complicated and cost-intensive. In particular, where interconnection or interoperability solutions depend on prior negotiations and cooperation between market parties, the number of possible practical problems, disputes and uncertainties is virtually unlimited and varies from case to case. Disputes over the prices for interconnection, for example, are a constantly recurring topic. Also the lack of transparency and problems concerning the burden of proof render the enforcement of interoperability difficult. In addition, arbitration, evaluation and judgment of individual agreements by NRAs or national judges can be expensive and, what is probably an even greater disadvantage, very time-consuming.

From the point of view of information politics, interoperability solutions can promote important goals for the service level, such as choice, diversity of sources, equal opportunities to communicate and broad access to a diverse and pluralistic information offer at reasonable prices. The presence of non-interoperable proprietary standards can lead to entrance obstacles and consumer lock-ins at the service level, and therefore be contrary to the regulatory objectives for this level. From the point of view of information policy, consumer interests would be better served if consumers had access to a broad range of information services, rather than to the most innovative and sophisticated techniques.

Structural Solutions

It was stated that one major characteristic of the markets for access-controlled information services is the high level of vertical integration between the CA infrastructure, the service platform and individual interests in the provision of access-controlled services. There might be valid economic and strategic advantages that justify vertical concentration. Policy makers might find that the particular advantages deriving from vertical integration (efficiencies, economic power, economies of scale, network effects) enhance the overall social and economic benefit. On the other hand, such integration creates the possibilities and the incentives for anti-competitive behaviour at both the transport and the service level (depending on the presence of significant market power).

Behavioural rules do not eliminate the incentives for anti-competitive behaviour.[34] The requirement to behave in a certain way (e.g. access obligations, obligation to negotiate interoperability agreements) will not alter the interest in engaging in the prohibited conduct. Instead, it leaves an enterprise free to find loopholes in regulations, which then have to be amended by regulators, etc.. This is one reason why in the Microsoft case a more market-based approach was discussed as an alternative to behavioural rules. Here, a horizontal divestiture – namely the splitting of Microsoft's operation into operating system and applications – was suggested.[35] Also at the European level, the merger decisions of the EC in pay-TV and Internet cases have shown a tendency to pre-empt the creation of anti-competitive structures.[36]

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33) European Court of Justice, C-390/99, 22 January 2002, Canal Satellite Digital SL/Administracion General des Estado. For a discussion, see Llorens-Maluquer, Carles, European Responses to Bottlenecks in Digital pay-TV: Impacts on pluralism and competition policy, Cardozo Arts and Entertainment Law Journal, Vol. XVI, n.2-3, 1998, pp. 557, 579-584.

34) See Leveque, Francois, The controversial choice of remedies to cope with the anti-competitive behavior of Microsoft, Berkeley Olin Program in Law & Economics, Working Paper Series, University of California, Berkeley, 2000, paper 34, pp. 4-8, who argues that the key economic distinction amongst antitrust remedies is between economic remedies based on incentives and "command-and-control" remedies rather than between behavioural and structural remedies.

35) Leveque, *ibid*, p. 8, complaining that during the Microsoft trial, the opportunity was missed to discuss more extensively alternative market-based remedies, specifically those designed to cope with anti-competitive behaviour in software and information industries.

36) E.g. European Commission, decision of 27 May 1998 relating to a proceeding pursuant to Council Regulation (EEC) No. 4064/89 (Case No. IV/M.1207 – Deutsche Telekom Betaresearch), 27 February 1999, OJ L 53, p. 31; decision of 19 July 1995 declaring a concentration to be incompatible with the common market and the functioning of the EEA Agreement (Case No. IV/M.490 – Nordic Satellite Distribution), 2 March 1996, OJ L 53, p. 20; decision of 27 May 1998 relating to a proceeding pursuant to Council Regulation (EEC) No. 4064/89 (Case No. IV/M.469 – MSG Media Service), 31 December 1994, OJ L 364, p. 1; also: decision of 15 September 1999 relating to a procedure under Article 81 of the EC Treaty (Case IV/36.539 – British Interactive Broadcasting/Open), 6 December 1999, OJ L 312, p. 1; to name but a few.

A structural approach designed to separate the technical and the service platform, or important components thereof (e.g. the EPG from control over the service platform, control over a pay-TV service platform from the underlying CA technology), could eliminate the incentives for anti-competitive access decisions and might have a number of positive aspects for competition at both the CA and the service level. Aspects discussed concerned, most importantly, the elimination of incentives to engage in anti-competitive behaviour, more transparent market structures, stimulation of innovation and investment in the service market, and the facilitation of enforcement.

For various reasons, the political resistance to formalised structural separation is high, particularly in Europe. Obviously, there are strong economic arguments against structural separation, such as the loss of efficiency gains, the inability to compete globally and the danger of discouraging investment. At present, the major pay-TV platforms control the hardware, the middleware, the technical specifications for the applications that are compatible with the technical platform, etc. It was argued that if the service platform was separated from the technical platform, or the EPG or otherwise, this could lead to price increase (double margin effect), security concerns and lack of incentives to invest in the technical CA platform. Political considerations play a role too. Naturally, national politicians wish to promote their nation's economic growth and innovation in the new information markets, and large, vertically integrated enterprises are important allies in achieving these goals: they are powerful drivers that increase employment and tax revenue. Obliging a major national media concern to dispose of its joint control over a service platform, technical platform, large content libraries and transmission infrastructure might give smaller operators a chance; it might also mean giving up an important lead position in prospering information markets throughout Europe or perhaps even globally.

Again, arguments associated with the service rather than the transport level may be important and perhaps even decisive. Media regulators eye with suspicion the influence that control over a technical platform can have for the service level. This is why national media regulators prohibit vertical integration between, for example, cable and satellite networks in relation to programming or between the security CA function and decoder.[37] From the point of view of information policy, the aspect of structural separation is interesting, as it might help to prevent control over technical bottlenecks being abused in order to create exclusive, private information monopolies at the service level. Horizontal divestiture between the CA and the service platform could, most importantly, prevent leverage of market power from the transport to the service level, and thereby reduce the chances that the free market for ideas and opinions will be dominated by technical standards and facilities. More practical arguments in favour of horizontal divestiture are concerned with facilitating the work of the different NRAs by adding more transparency.

Thus, it might be worthwhile to give closer consideration to the possibilities of tackling bottleneck problems not only with behavioural rules (access obligations, mandated interoperability) but also with an approach more oriented towards the market structure. In other words, one possible solution is to separate control over a number of steps in the distribution chain, such as the technical CA platform and the service platform, or the service platform and the information agent, etc. The legislative realisation of such an approach could take different forms, as described below.

Ex post

Where a market player abuses its market power to the detriment of existing competition, it is the task of competition authorities to order *ex post* termination of the infringing behaviour. Having said this, one major drawback of general competition law is the often rather restricted scope of the possibilities for NRAs to restore competitive conditions, notably their inability to impose structural measures. This is why the EC itself observed that: "Structural remedies can be necessary in order to bring an infringement effectively to an end. This may in particular be the case with regard to cooperation agreements and abuses of a dominant position, where divestiture of certain assets may be necessary".[38] According to Article 7 of the new Council Regulation on the implementation of the rules on competition laid down in Articles 81 and 82 ECT,[39] the EC is now expressly entitled to adopt

37) As in the US, see Section 76.1204 (a) of the Code of Federal Regulations (F.C.C. 98-116), Implementation of Section 304 of the Telecommunications Act of 1996: (1) A multichannel video programming distributor that utilizes navigation devices to perform conditional access functions shall make available equipment that incorporates only the conditional access functions of such devices. Commencing on January 1, 2005, no multichannel video programming distributor subject to this section shall place in service new navigation devices for sale, lease, or use that perform both conditional access and other functions in a single integrated device.

38) EC, Proposal for a Council regulation on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty and amending Regulations (EEC) No 1017/68, (EEC) No 2988/74, (EEC) No 4056/86 and (EEC) No 3975/87, Brussels, 27 September 2000 COM(2000) 582 final, Article 7 and Explanatory Memorandum.

39) Council Regulation (EC) No. 1/2003, of 16 December 2002, on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty, 4 January 2003, OJ L 1/1.

structural measures.[40] Consequently, in the future structural divestiture as an instrument of competition law enforcement might play a bigger role in Europe also.[41]

Ex ante

While *ex post* structural remedies might be a way to effectively remedy anti-competitive behaviour, this approach too has its disadvantages. Examples are the lack of guidance and legal certainty for the parties involved, and the uncertainties that are inherent in competition procedures as well as the time problem. Also, the decision to divest a successful enterprise is not easily taken, and in practice it can be very difficult for practical and political reasons to dismantle anti-competitive structures once they have been established. These problems could be averted by preventing the creation of anti-competitive structures *ex ante*.

EC and/or national merger policy is a way to prevent anti-competitive structures *ex ante*. Merger control is *ex ante* control of the market structure and so far it has been an important instrument of EC competition policy in regard to information markets. However, experience has shown that merger control has its limitations. Effective merger control of anti-competitive practices can extend only as far as competition authorities are willing to exercise this control. Merger decisions will seldom be free from market political and strategic considerations.[42] Apart from their dependence on political arguments, merger decisions involve a considerable level of legal uncertainty for the parties concerned. Merger decisions require a hypothetical *ex ante* assessment of future market developments. This is difficult to do particularly in regard to new and dynamic markets. Vertical integration renders *ex ante* market assessment even more difficult, as market developments depend even more on the behaviour of market players, which is difficult to predict.[43]

There are also more fundamental, ideological concerns regarding the viability of merger control as an instrument to safeguard the openness of information markets. Merger decisions usually do not leave much room for considerations other than the economic functioning of the marketplace. As former EC Competition Commissioner van Miert stated, "We cannot use competition rules to govern democratic issues".[44] At the national level, interference by competition authorities for non-economic reasons could even lead to serious conflicts of competencies.[45]

This is why many Member States maintain national sector-specific structural market control over media markets, notably broadcasting and press markets. National media ownership laws usually provide for the possibility to a) respond to internal growth and to b) impose some form of structural remedy to reduce the effects of such growth on journalistic competition, for example by withdrawing or refusing to grant licences or additional licences, in order to break up holdings (e.g. Germany)[46] or to split them up (e.g. Italy).[47] The relation between general merger and media ownership control varies from country to country: in some, the two are applied in a complementary manner, while in others media ownership law is *lex specialis*.[48] Member States, however, agree about one fundamental difference between the two concepts: merger control is aimed primarily at the functioning of the economic market place, whereas media ownership rules are intended to prevent concentrations where such are considered to be detrimental to public interest objectives, such as diversity and the prevention of information monopolies and imbalances in journalistic influence. Accordingly, media ownership law could be better suited to take additionally into account the information politics component of openness and availability of a diverse information offer.

Having said this, media ownership law is generally horizontally oriented. Vertical integration, notably integration between service and infrastructure level, is an aspect that so far has played only a minor role. Some Member States leave it open whether vertical integration with the infrastructure

40) See also Recital 12 of the above-mentioned Council Regulation: "Structural remedies should only be imposed either where there is no equally effective behavioural remedy or where any equally effective behavioural remedy would be more burdensome for the undertaking concerned than the structural remedy. Changes to the structure of an undertaking as it existed before the infringement was committed would only be proportionate where there is a substantial risk of a lasting or repeated infringement that derives from the very structure of the undertaking."
41) Structural divestiture is already more common in US law (under s.2 Sherman Act and s.7 Clayton Act).
42) See Article 2 and 2(1)b of the Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings, 30 December 1989, OJ L 395, 1.
43) Herdzina, Klaus, *Wettbewerbspolitik*, Lucius & Lucius, 5. Auflage, Stuttgart, 1999, p. 230.
44) See also Recital 10 Access Directive.
45) For example in Germany, where competition is regulated by the Federal state, and media policy is still reserved for the *Länder*.
46) Article 26(4) German Interstate Broadcasting Treaty.
47) Article 2(7) Italian Communications Act No. 249/97.
48) For an overview, see European Audiovisual Observatory, Television and Media Concentration, Regulatory Models on the National and the European Level, *IRIS Special*, European Audiovisual Observatory, Strasbourg, 2001.

is an aspect that can play a role.[49] Some Member States refer to general competition law, while others refer to the rules on access regulation under communications law (*i.e.* obligation to provide access to CA systems, or must carry). This has led some authors to proclaim that there has been a gradual change from ownership control to access regulation.[50]

Finally, an alternative, stricter approach is to introduce formal rules that command *ex ante* structural deregulation for crucial elements in the distribution chain, for example for the operation of the CA and the service platform, or the service platform and the EPGs. Experiences with formal structural separation already exist in, for example, the US.[51] This may be a viable option in situations where it is foreseeable that joint, vertical control over the different steps in the distribution chain for access-controlled information will result in undesirable economic or journalistic influence. A formal approach would avoid difficult questions of assessment of future market development and/or the level of audience or market share that might still be considered admissible. Also, a concept of strict formal separation between certain activities would probably be the most efficient way to ensure lastingly open structures and to prevent political interest (other than the need to keep information markets open) from influencing the decision of NRAs.

Access to the Consumer Base

A possible shortcoming of the aforementioned solutions (merger control, and media ownership law, formal rules) is that all concepts focus in the first place on the supply side. The objective of combined control over technical and service platform is targeted at the demand side – to monopolise the most precious resource in modern information markets: access to the consumer base. With the increasing sophistication and individualisation of the way in which information services are distributed to consumers, regulatory strategies also must adapt. Structural market control is no guarantee of the functioning of competition if consumers are for other reasons unable to switch freely between service providers. For example, subscribers to a mobile communications service often have a long-term contract with their provider. This makes it less attractive to switch to a competitor as long as the former contract is still valid. To give just one example, mobile phone operators can make it cumbersome to transfer a telephone number to another operator (numerous forms, long waiting periods, etc.), and thereby make switching more complicated. Similarly, subscribers to pay-TV platforms are usually required to sign a long-term contract, which can prevent them from switching to another operator. If they lease a set-top box from their first pay-TV provider, contractual terms may oblige them to return the box when they cancel the subscription. Bundling strategies (e.g. obligation to subscribe to a large bouquet of services) are another means to bind consumers to one particular service offer. In digital television and on the Internet, the lack of transparency (the "walled garden" problem) can be a further reason why consumers stay with one operator.

Structural divestiture at the supply side might facilitate entrance conditions for competing operators and remove incentives for anti-competitive behaviour. Effective competition, in addition, requires market conditions in which consumers are free to switch between different providers. In order to stimulate economic and journalistic competition, initiatives are needed so that contractual or technical lock-ins do not prevent consumers from actually switching between different service providers.

Conclusion

Under the new communications framework, access regulation has been far too easily accepted as the one and only solution to the bottleneck problem. It is unclear whether the existing framework – particularly Articles 6 and 5(1)b of the Access Directive – is effective to ensure the openness of digital broadcasting markets. One important argument why it might not be effective is that the Access Directive ignores the functional link between the transport level (that is to say facility and services of the transport level) and the service level. Following the principle of strict formal separation between the two levels, the Access Directive ignores the existence of bottlenecks that are associated with the service level, such as access to the service (marketing) platform behind the decoder, a particular programme bundle or common billing system. Electronic access control is neither the only bottleneck

49) Article 26(1) German Interstate Braodcasting Treaty. Kommission zur Ermittlung des Konzentrationsbedarfs (KEK), Zulassungsantrag der PREMIERE Medien GmbH & Co. KG für digitale Pay-TV Programme, KEK 026, 3 February 1999, p. 23-24 and 29-30.

50) Loon, Ad van, in: Television and Media Concentration, Regulatory Models on the National and the European Level, *IRIS Special*, European Audiovisual Observatory, Strasbourg, 2001, p. 69.

51) S. 76.1204 (a) of the US Code of Federal Regulations (F.C.C. 98-116), *ibid*.

in digital television, nor are bottleneck problems reserved to the transport level. A second consequence of the formal distinction between transport and service level is that it is unclear to what extent the Access Directive also leaves room to evaluate content-related aspects when monitoring bottleneck control. Can National Regulatory Authorities interpret the notion of fair, reasonable and non-discriminatory conditions of access in the light of content-related terms and conditions also? In addition, it was shown that in practice the distinction between transport and service level will be increasingly difficult to maintain, because the two levels are in a considerable number of cases also economically linked (vertical integration) and because with the increasing sophistication and content-orientation of transmission facilities and/or services it becomes increasingly difficult to determine which facilities belong to which level (for example: EPGs). One conclusion to be drawn is that effective bottleneck regulation must extend to both, the transport and the service level, and regulators should be prepared to treat them as a functional unity.

Moreover, the control over technical bottlenecks can allow the exercise of not only economic but also journalistic power at the service level (beyond their mere refusal of access to the CA). This is particularly true in situations in which, as will usually be the case, control over the technical and the service (marketing) platform are also economically linked (vertical integration). It is also against this background that there is reason to doubt the efficiency of access obligations to solve bottleneck problems in information markets. The possible effects of access obligations might run counter to the realisation of, inter alia, information policy interests designed to prevent undesirable concentrations in information markets. Other, more general, reasons to question the adequacy of access obligations have to do with the difficulties involved in producing definitions in dynamic and fast changing markets and identifying potential bottlenecks in technological circumstances. Moreover, the present, technology-dependent approach in Articles 5 and 6 ignores the fact that electronic access control and consumer guidance are no longer problems that are reserved to digital broadcasting, and that digital broadcasting markets are also characterised by convergence tendencies.

Against this background one may wonder whether market-based initiatives – namely initiatives that focus on the particular market structure and the incentives of market players – would be a preferable alternative to behavioural ('command and control') measures, such as Article 6 of the Access Directive? As far as the demand side is concerned, it is worth considering merger control or media ownership laws as possible ways to create lasting open structures in the interests of not only economics but also information politics. For the supply side, there is a need to pay more attention to the contractual relationship between the individual consumer and the service provider. The way that this relationship is structured is an additional factor that is decisive for effective competition in modern information markets. Effective bottleneck regulation also requires the monitoring of the relationship between individual consumers and service providers, and the way information services are bundled and marketed.

An Economic Approach to Mandatory Access to Bottleneck Facilities[1]

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Economic Policy Versus Media Policy: Social Welfare Versus Paternalism

Economic policy – including competition policy – is concerned with social welfare, while media (and communications) policy is concerned with other, typically paternalistic goals. One typical goal of communications and media policy is to enable every voice in the "marketplace of opinions" to be heard by everybody who wants to hear it. This goal is grounded in the public interest in having an accessible and richly varied flow of ideas, expressions and opinions. This media-political goal of "journalistic competition" can sometimes be served well by economic (competition) policy. However, these different goals of media policy and economic policy may also conflict. Economic policy and media policy should therefore be analyzed distinctly.

Economic policy requires a sufficient number of suppliers to achieve enough choice alternatives for the consumer, but it is not always required or even advisable policy to mandate access to (upstream) facilities for third parties (competitors), even if they can not be (easily) duplicated, just to increase the number of firms on the (downstream) market. Whether such a policy is advisable depends on the effects such a policy would have on social welfare. It must be reminded here that competition law and policy should not concern itself with the interests of competitors as such, but with the process of competition. What counts in the end are the results for *consumers*.[2] If consumers are better served when access is not mandated, then access should not be mandated from an *economic* viewpoint based on social welfare.

From an economic efficiency point of view, a small number of alternative suppliers might be sufficient on the condition that they show competitive conduct which benefits the consumer. A

1) Further to the references mentioned hereinafter, *see* Armstrong, Mark, Chris Doyle & John Vickers, "The Access Pricing Problem: A Synthesis", Journal of Industrial Economics, Vol. 44, No. 2 (June, 1996), pp. 131-150; Economides, Nicholas, "The Incentive for Vertical Integration", Discussion Paper EC-94-5, Stern School of Business, N.Y.U., http://www.stern.nyu.edu/networks/94-05.pdf ; "The Economics of Networks", Industrial Organization vol. 14, no. 6 (October 1996), p. 673-699, http://raven.stern.nyu.edu/networks/94-24.pdf ; Economides, Nicholas, "Competition Policy In Network Industries: An Introduction", in: Jansen, D., (ed.), The new economy: Just how new is it, University of Chicago Press (2003), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=386626 ; http://www.stern.nyu.edu/networks/Competition_Policy.pdf ; NEI (2002), "*OPTA's Consultatiedocument 'Visie op de Postmarkt' nader beschouwd*", report for PTT Post, April, Rotterdam; OPTA, *Consultatiedocument* (Consultation paper) "*Visie op de Postmarkt*" ('Vision of the Postal Market') (8 January 2002), http://www.opta.nl/download/Codo%20postmarkt%20staatscourant.pdf

2) *Cf*. the remarks by EC Commissioner for Competition Policy Mario Monti on the "consumer welfare model" of competition law: "The ultimate goal of the competition rules is simple: *to ensure that consumers benefit from new and improved products and lower prices*." Monti, Mario, "Competition and information technologies", speech at *Barriers in Cyberspace*, Kangaroo Group, Brussels (September 18, 2000), (speech/00/315) (emphasis in original text; changed from bold to italic typeface). See also Monti, Mario, "European competition policy and the citizen", speech at European Competition Day, Lisbon (9 June 2000), (speech/00/207) , p. 2: "After all we say that the consumer is king!"

possible problem with only few players in a sector could be that it is easier for them to establish concerted actions (such as a price-fixing cartel). The important aspect to monitor in an industry is competitive conduct, not merely the number of competitors. However, if economic efficiency would only allow for a small number of suppliers, the *media-politic* goal of open access to the "marketplace of opinions" still remains. Nevertheless, while economic analysis can easily accept that political choices result in goals other than social welfare, such other goals should arguably still be pursued, if possible, in a manner which disrupts social welfare to the least extent.

Access Regulation

One should be careful to distinguish between different types of access to network facilities:
- one-way versus two-way access, *i.e.* access in one-way versus two-way networks;[3]
- vertical, horizontal, and parallel access.[4]

"Essential facility"-type of access situations are situations where vertical one-way access is requested. This is the case, for example, where providers of broadcasting programs request access to the distribution infrastructure, including a 'conditional access' system with an Electronic Program Guide (EPG) and Application Program Interfaces (API's).

Once it is established that a bottleneck facility is a monopoly,[5] access regulation comes into view. The main economic principle of access regulation is that the access price should also (*i.e.* apart from marginal cost) reflect the opportunity cost for the bottleneck owner of allowing another party on his network. For the short term, the opportunity cost reflects the profits forgone by the bottleneck owner, so that he becomes indifferent between allowing a third party to use the bottleneck facility or using it himself. For the long term, the opportunity cost reflects the costs of maintenance and investment in renewing the bottleneck facility and the introduction of technological innovations.

The "first best" solution would be "Ramsey-pricing",[6] which is a specific type of price discrimination, with prices inversely proportional to the elasticity of demand of individual consumers. This means that those consumers who would react strongly to a price increase (by consuming less of the product in question) pay a lower price than consumers who do not react as strongly to a price increase.[7] To be able to perform Ramsey-pricing, one needs detailed information on the elasticity of demand of individual consumers (for every product / service involved). However, it is typically not feasible to obtain this information. Therefore it may be necessary to look for "second best" alternatives.

One of the possible "second best" alternatives that is often discussed in the economic literature and in regulatory proceedings is the so-called Efficient Component Pricing Rule ("ECPR"; also called the "parity pricing rule" or "Baumol-Willig pricing rule").[8]

This entails the payment of an access charge for the bottleneck input which equals the direct costs of supplying the facility plus the opportunity cost thereof. As a result, only equally or more efficient firms can enter the market. According to the proponents of the ECPR rule, it was designed to be used in a *regulated* context, *i.e.* where (retail) output prices are regulated at marginal cost, or for markets

3) *Cf.* Economides, Nicholas & Lawrence J. White, "Networks and Compatibility: Implications for Antitrust", European Economic Review, vol. 38 (1994), pp. 651-662.

4) *Cf.* Brennan, Timothy J., "Industry parallel interconnection agreements", Information Economics and Policy, Volume 9, Issue 2 (June 1997), pp. 133-149; http://dx.doi.org/10.1016/S0167-6245(97)00010-3 [hereinafter "Brennan (1997)"]; Noam, Eli M., "Interconnection Policy", in: Cave, Martin E., Sumit K. Majumdar & Ingo Vogelsang (eds.): Handbook of Telecommunications Economics: Structure, Regulation and Competition, Vol. 1, Amsterdam: North-Holland; ISBN: 0444503897 (1 September, 2002), pp. 737, http://www.citi.columbia.edu/elinoam/articles/intercon.htm

5) A bottleneck facility is monopolistic when there is only a single supplier thereof, and entry is impossible or not economically feasible. Arguably, the existence of monopoly power should already follow from definition of "bottleneck". *Cf.* the definition of a bottleneck facility by Baumol, William J., *et al.*, Parity Pricing and Its Critics: A Necessary Condition for Efficiency in the Provision of Bottleneck Services to Competitors, 14 Yale J. on Reg. 145 (1997): "a monopoly input needed by both its owner and its owner's competitors in the final product market." [hereinafter "Baumol *et al.* (1997)"]

6) Named after Ramsey, Frank P., "A Contribution to the Theory of Taxation", The Economic Journal, Vol. 37, No. 145. (Mar., 1927), pp. 47-61.

7) One should note that an important *non-economical* objection to such a pricing scheme could be that it could run counter to (political) objectives such as (universal) accessibility on fair, reasonable and/or non-discriminatory terms.

8) The ECPR was first developed by Willig, Robert D., "The Theory of Network Access Pricing", in: Trebing, Harry M. (ed.), Issues in Public Regulation, Proceedings of the Institute of Public Utilities Tenth Annual Conference, Michigan State University Public Utilities Papers (1979) (*cf.* Baumol *et al.* (1997), p. 147 at footnote 4) and was popularized by Baumol, William J., Some Subtle Issues in Railroad Deregulation, 10 Int. J. of Trans. Econ. 341 (1983), Baumol, William J. & J. Gregory Sidak, The Pricing of Inputs Sold to Competitors, 11 Yale J. on Reg. 171 (1994), and Baumol, William J. & J. Gregory Sidak, The Pricing of Inputs Sold to Competitors: Rejoinder and Epilogue, 12 Yale J. on Reg. 177 (1995).

with perfect contestability, such that prices are at marginal cost as a result of the forces of competition. However, according to various authors, the ECPR may lead to inefficient results,[9] because it functions as a tax on entry in contexts where retail prices are *not* at marginal cost because some positive rents are included in these prices, while the function of entry is not only the reduction of costs, but also the reduction of *prices*.[10] Nevertheless, advocates of the ECPR maintain that it is not the best way to neutralize monopoly power.[11]

It remains debatable what the best access pricing regime is from an economical perspective. However, this debate need not be resolved in order to formulate an access regime that pursues non-economic goals. The question to be answered then is rather which access pricing regime is *competitively neutral*. When the provision of access to third parties (all who request it) is deemed necessary to guarantee *non-economic* goals (such as, in this case, the possibility of every opinion to be heard in the 'marketplace of ideas'), then it would be advisable to regulate such access provision in a manner that is neutral from an economic perspective, so as to prevent any (unitended) side-effects on social welfare. This means not only that competitive markets will remain competitive, but also that (unfortunately) markets where competition is distorted will remain distorted. However, the elimination of monopoly power is not the task of *media* policy, but of *competition* policy.

A Balanced View on Vertical Integration

An assumption which is often made is that a bottleneck owner would use the monopoly power in the upstream market to create monopoly power in the downstream market. A related argument is that vertical separation of different layers in the value chain is called for, because it would prevent "leveraging".

This argument is not very convincing as such, because the mechanism that would lead to such "leveraging" is not clear. The concept of "leverage" implies an *increase* of *total* market power, not merely "*shifting*" market power from one market to another. The "Chicago School" has argued that this is generally impossible, since monopoly power can only be used once.[12] However, post-Chicago economic theory – most notably approaches based on game theory – has identified some exceptions to the general rule that leverage is not possible.[13] However, it is not apparent if and how such an "exceptional" situation exists in the context of Conditional Access Systems for (digital and/or interactive) broadcasting services.

Furthermore, there are two main arguments why an vertically integrated sector may be economically more efficient than a vertically unbundled sector. First, there may be economies of scale and scope involved with joint production and distribution in the upstream and downstream markets, *i.e.* it may be cheaper to combine these activities than to split them, and the cost advantages may be substantial enough to benefit consumers in the end market. Second, a vertically integrated firm may avoid double

9) *Cf*. Economides, Nicholas & Lawrence J. White, "Access and Interconnection Pricing: How Efficient is the Efficient Components Pricing Rule?", Antitrust Bull. vol. XL, no. 3, pp. 557-579 (1995), http://www.stern.nyu.edu/networks/95-04.pdf; http://papers.ssrn.com/paper.taf?abstract_id=15114 ; Economides, Nicholas & Lawrence J. White, "The Inefficiency of the ECPR Yet Again: A Reply to Larson", Antitrust Bull. vol. XLIII, no. 2, pp. 429-444 (1996), http://www.stern.nyu.edu/networks/96-07.pdf; http://papers.ssrn.com/paper.taf?abstract_id=139264 (holding that a general public policy of preventing technologically less efficient challengers from competing with incumbents (especially those with market power) should be rejected, but that such undesirable inhibition of competition is a direct result of the ECPR); Brennan (1997).

10) *Cf*. Brennan (1997), pp. 139-140.

11) *Cf*. Baumol *et al*. (1997), p. 147 at footnote 3: "Of course, we do not advocate continuation of monopoly over the bottleneck services, though scale economies, subadditivity, or other considerations may impede or prevent its termination. It is our position, however, that distortion of access prices is the wrong instrument for elimination of monopoly power or monopoly profits."

12) *Cf*. Bork, Robert, The Antitrust Paradox: A Policy At War With Itself, Basic Books (1978), pp. 372-375. Kaplow, in Kaplow, Louis, "Extension Of Monopoly Power Through Leverage", 85 *Colum. L. Rev.* 515, pp. 517-518 (1985), http://sp.uconn.edu/~langlois/E382/kaplow.html [hereinafter "Kaplow (1985)"] states the argument as follows: "[T]he fixed sum [argument] is […] that a firm with market power may be able to gain its profit all from its own market, all from another, or from any combination thereof, but the total amount of restriction that the monopolist will profitably be able to impose is fixed regardless of the practice that is used."

13) See, *e.g.*, Kaplow (1985), Whinston, Michael D., "Tying, Foreclosure, and Exclusion", American Economic Review, Vol. 80, no. 4 (September 1990), pp. 837-859; also available as NBER Working Paper No. W2995 (June 1989), http://dsl.nber.org/papers/w2995.pdf, http://papers.nber.org/papers/W2995 , Blair, Roger D. & Amanda K. Esquibel, "Some Remarks on Monopoly Leveraging", Antitrust Bulletin (1995), pp. 317-396, Martin, Stephen, "Strategic and welfare implications of bundling", Economic Letters 62 (1999), pp. 371-376, and Nalebuff, Barry J., "Bundling", *mimeo* (1999), p. 4. http://papers.ssrn.com/paper.taf?ABSTRACT_ID=185193

marginalisation,[14] which means the following: the supplier in the (monopoly) upstream market adds his mark up over unit costs to establish the price which he charges the downstream buyer. Subsequently, when the downstream firm sells its product to the end user, he also adds his mark up to his units costs. The downstream firm's unit cost includes the price and hence the mark up he has paid to the upstream supplier. In the end the final consumer pays a mark up over a mark up. By contrast, a vertically integrated firm will avoid this double mark up or double marginalisation problem, because it will calculate internal transfer prices when transferring goods or services from one part of his production to another. Therefore, the price to end consumers will be lower and more units will be sold, which benefits social welfare.

From these arguments it can be concluded that vertical integration of firms is not necessarily a bad thing from an *economic* perspective. This view is recogized in competition law as well. As regards "full" vertical integration, the ECJ has quashed an EC decision to block a merger between firms in the *Airtours* case, because (amongst other reasons) on one hand the EC had held the view that an increased level of vertical integration was beneficial for competition, but on the other hand had used it as evidence for a tendency to collective dominance, which would be harmful for competition, without providing any adequate reason for these obviously opposing conclusions.[15] As regards "partial" vertical integration: the Block Exemption Regulation (BER) for "vertical" agreements[16] is based on the view that partial vertical integration by firms without substantial market power (which is inferred from relatively modest market shares of 30 %) is generally pro-competitive or at most competitively neutral, and generalizes this view into a legal presumption. See especially considerations 6-9 of the BER:

> "(6) Vertical agreements of the category defined in this Regulation can improve economic efficiency within a chain of production or distribution by facilitating better coordination between the participating undertakings; in particular, they can lead to a reduction in the transaction and distribution costs of the parties and to an optimisation of their sales and investment levels.
>
> (7) The likelihood that such efficiency-enhancing effects will outweigh any anti-competitive effects due to restrictions contained in vertical agreements depends on the degree of market power of the undertakings concerned and, therefore, on the extent to which those undertakings face competition from other suppliers of goods or services regarded by the buyer as interchangeable or substitutable for one another, by reason of the products' characteristics, their prices and their intended use.
>
> (8) It can be presumed that, where the share of the relevant market accounted for by the supplier does not exceed 30 %, vertical agreements which do not contain certain types of severely anti-competitive restraints generally lead to an improvement in production or distribution and allow consumers a fair share of the resulting benefits; in the case of vertical agreements containing exclusive supply obligations, it is the market share of the buyer which is relevant in determining the overall effects of such vertical agreements on the market.
>
> (9) Above the market share threshold of 30 %, there can be no presumption that vertical agreements falling within the scope of Article 81(1) will usually give rise to objective advantages of such a character and size as to compensate for the disadvantages which they create for competition."

Competition on a Network Versus Competition Between Networks

Clearly, as long as the upstream bottleneck facility is a monopoly, competition in the downstream markets is only possible when using that facility. However, bottleneck facilities do not have an eternal life. Technological progress can provide competitors for existing bottlenecks. The important points about regulating a bottleneck are that it should end when a competitor is in sight, and, even more importantly, mandated access to a bottleneck should not reduce or even eliminate the incentives for investment in research and development and innovation to develop an alternative facility to the bottleneck. *Cf*. the opinion of Advocate-General Jacobs in the *Bronner* case on the "essential facility" doctrine:

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14) This insight is commonly ascribed to Cournot, A., in "*Recherches sur les principles mathémathiques de la théorie des richesses*", Paris (1838; reprinted in 1938),. and has been extended by Economides & Salop to (parallel) vertical integration between two pairs of vertically related firms. *Cf* Economides, Nicholas & Steven C. Salop, "Competition and Integration among Complements, and Network Market Structure", Journal of Industrial Economics, vol. 40, no. 1 (1992), pp. 105-123, http://www.stern.nyu.edu/networks/jie92.pdf .

15) CFI 6 June 2002, case T-342/99 (*Airtours / Commission*), *E.C.R.* 2002, II-2585 ; see especially points 105-106.

16) Commission Regulation (EC) No 2790/1999 of 22 December 1999 on the application of Article 81(3) of the Treaty to categories of vertical agreements and concerted practices, *OJ* L 336/21 (29 December 1999) ("Block Exemption Regulation" (BER)). See also Commissddion Notice, "Guidelines on Vertical Restraints", *OJ* C 291/01 (13 October 2000) ("Guidelines on Vertical Restraints").

"[...] the justification in terms of competition policy for interfering with a dominant undertaking's freedom to contract often requires a careful balancing of conflicting considerations. In the long term it is generally pro-competitive and in the interest of consumers to allow a company to retain for its own use facilities which it has developed for the purpose of its business. For example, if access to a production, purchasing or distribution facility were allowed too easily there would be no incentive for a competitor to develop competing facilities. Thus while competition was increased in the short term it would be reduced in the long term. Moreover, the incentive for a dominant undertaking to invest in efficient facilities would be reduced if its competitors were, upon request, able to share the benefits. Thus the mere fact that by retaining a facility for its own use a dominant undertaking retains an advantage over a competitor cannot justify requiring access to it."[17]

17) Opinion of A-G Jacobs in case C-7/97 (Bronner / Mediaprint), delivered on 28 May 1998, at § 57. See also ECJ 26 November 1998, case C-7/97, (Oscar Bronner / Mediaprint), E.C.R. 1998, I-7791; especially paragraphs 41-47.

Three Different Approaches to Bottlenecks in Vertically Integrated Markets

Extending the Access Obligation to EPGs and Service Platforms?

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Introduction

Access obligations – like price regulation – can be seen as one of the most severe interferences with a market system. The freedom of choice of the parties to the contract as well as freedom in deciding the terms of a contract are essential for the self-regulation of market actors and thereby for the functioning of the market itself. Hence, due attention has to be given to the question of under what conditions such instruments of torture should be applied to an economy.

This article attempts to give a brief overview of the arguments that can be put forward in favour of or against extending the access obligation under the Access Directive (2002/19/EC).

1. Digital TV and the Emergence of Bottleneck Facilities

For media lawyers, who as a rule avoid dealing with technical issues, each media congress within the past number of years confronted them with the advent of a new service that was likely to become a bottleneck facility.[1] The first service to be detected and put under regulation was the conditional access system (CA system) which features a technical side dealing with encryption and decryption called subscriber authorisation system (SAS), and a consumer-orientated side, the subscriber management system (SMS). In some countries it was followed by the application programme interface (API), a kind of specialised operating system capable of processing advanced applications while communicating with the relevant software and hardware functions of the set-top box. In addition to these two examples, there are a good deal more services involved when it comes to the distribution of digital television. In order to integrate them properly into a regulatory framework the following distinctions may be helpful:

- content or non-content service (if content, then mass media or other services)
- service with or without consumer access
- technical or non-technical

At the moment, there are three particular bottleneck facilities that bother both lawyers and legal scholars. First of all, electronic programme guides (EPGs) have been identified as relevant services.[2] Their nature is ambiguous as they show resemblances to both content and non-content services. On the one hand, they provide information for the consumer, and in doing so, they must be regarded as

1) In this article, a bottleneck should be understood as a facility where the availability, in respect of the terms of access, falls below a level that has been deemed to be in the public interest, see Martijn Poel/Richard Hawkins, The Evolution of Access Bottlenecks in Europe: Re-locating the Regulatory Issues, Communications & Strategies, no. 44, 4th quarter 2001, pp. 72 ff., and generally Natali Helberger, Access to Technical Bottleneck Facilities: the New European Approach, Communications & Strategies, no. 46, 2nd quarter 2002, pp. 33 *et seq.*.

2) See Andreas Weiss/David Wood, *Was elektronische Programmführer leisten sollten, Multimedia und Recht 1998*, pp. 239 ff.

content services. At the same time, they act as a kind of control device for switching between programmes or services. Furthermore, providers of EPGs can create a brand of their own and thereby establish direct access to the consumer. In as far as they assume the functions of programme magazines, they may even become part of the mass media system.

Secondly, service-bundling has become essential for the distribution of digital television services. There is a technical side (multiplexing) and a consumer-orientated side (marketing). The latter has a lot in common with the EPGs being a service with consumer access and considerable influence on the bouquet of services from which consumers choose. On the other hand, bundling does not provide any content of its own. Thirdly, somehow in between these types of services are so-called portals, which like search engines, can be regarded as one of the most powerful devices that influence the attention of consumers. In this article, we will focus exclusively on these three services.

2. New Services, Well-known Problems

An inherent problem of infrastructure-based services is the asymmetry of power between access control haves and have-nots. The exclusive control over bottleneck facilities may trigger risks in two different fields. To begin with, the more strategic control a provider of access-related services exercises, the more economic power he incurs. This power, in turn, might be abused by the owner of the bottleneck to the detriment of economic competition. In network-based infrastructures, this phenomenon is typically catalysed by a variety of network effects.[3] These effects contribute significantly to the strengthening of the dominant platform and the establishment of proprietary standards.[4]

Besides these economic problems, communicative pluralism, or to put it slightly differently, fair access to public communication may be endangered. Also the functioning of the communication process is based on competition, albeit communicative competition or competition of opinions. Though this aspect does not fall primarily into the domain of the EU, it plays a much more important role in the Member States. Both perspectives have to be taken into account when considering what are the adequate instruments for regulating bottleneck facilities.

The Current State of the Law

In this chapter, we will take a closer look at the current state of the law at both European and Member State level. Having done so, the problematic aspects can be arranged in an elementary framework constituting the bedrock for adjusting the scope of Art. 6 of the Access Directive.

1. "New Framework": The Latest Regulatory Response at the European Level

Talking about opening bottleneck facilities at a European level, one should not underestimate the role of general competition law as applied by the European Commission. The Murdoch/Kirch-merger, for example, was only allowed on condition that specific requirements for opening bottleneck facilities were fulfilled.[5]

Furthermore, the European Court has established an essential facilities regulation under Article 81 EC, which applies to telecommunications and media services as well. However, the general competition law only allows for punctual interventions in cases of the abuse of market power or in cases of external growth in the form of mergers. This is why for traditional media services national regulation tends to establish specific regulatory safeguards, especially averting dominant power of opinion.

In contrast to those general competition rules, the new Access Directive (2002/19/EC) provides a sector-specific approach. Following Directive 95/47/EC, the Access Directive "harmonises the way in which Member States regulate access to, and interconnection of, electronic communications networks and associated facilities".[6] In this context, the term "access" is understood in the widest possible sense as "the making available of facilities and/or services, to another enterprise, under defined conditions,

3) For example, consumers tend to favour the best established platform (network externalities) which in turn allows the dominant provider to optimise his cost structure and internal processes (economies of scale), *see generally* Carl Shapiro/Hal R. Varian, Information Rules: A Strategic Guide to the Network Economy, Boston 1998, pp. 1ff. *and* particularly Michael Katz/Carl Shapiro, Network Externalities, Competition, and Compatibility, American Economic Review 1985, pp. 424 *et seq.*.

4) See Karl-Heinz Ladeur, *Rechtliche Regulierung von Informationstechnologien und Standardsetzung - Das Beispiel der Set-Top-Box im digitalen Fernsehen, Computer & Recht 1999*, pp. 395-404.

5) See European Commission, Case no. COMP/JV.37- BSkyB/Kirch Pay Tv, 21 March 2000, pp. 20-25.

6) Article 1(1) of the Access Directive.

on either an exclusive or a non-exclusive basis, for the purpose of providing electronic communications services".[7] In other words, the Access Directive seeks to establish a uniform approach towards the treatment of bottleneck facilities at the infrastructure level.[8]

Nonetheless, the Access Directive has a limited scope. An *ex ante* access obligation is established solely for CA systems under Article 6 (1) of the Access Directive.[9] Member States shall ensure that, in relation to CA to digital television and radio services broadcast to viewers and listeners in the Community, irrespective of the means of transmission, the conditions laid down in Annex I, Part I shall apply.[10]

As to EPGs and APIs there is no such absolute obligation. These services are regulated under Article 5(1) *juncto* Annex I, Part II of the Access Directive. Accordingly, national regulatory authorities shall encourage and where appropriate ensure adequate access and interconnection, and interoperability of EPGs and APIs. While the Commission reserved the right to implement standards for the API[11], the regulation of access to EPGs is entirely left to the Member States.[12] Furthermore, only the technical aspects of these bottlenecks are covered, but not the content-related ones.

The remaining non-CA, but CA-related services can - as far as they are located at infrastructure level - be regarded as so-called "associated facilities" under Art. 8-11 of the Access Directive.[13] As opposed to Art. 6 of the Access Directive, this rather flexible approach defines bottlenecks according to the actual market structure and leaves a wide scope of judgement and interference with the NRAs.

Hence, mandatory *ex ante* access obligations are limited to CA systems at the European level, whereas other potential bottlenecks are either regulable under the flexible approach or left to national regulation. This brings up the question under what conditions an access obligation is the adequate regulatory instrument.

2. Lessons from the Member States: The Examples of Germany and France

Even though the national legal frameworks regarding digital television are still in their infancy, fundamentally different approaches can already be identified. In this context, attention should be paid in particular to Germany and France.[14]

aa) Germany

In Germany, the regulation of digital broadcasting-related bottlenecks goes into relatively deep detail. At the core of the framework ranges of §53 of the Interstate Treaty on Broadcasting (*Rundfunkstaatsvertrag* – RStV) as implemented by a set of non-statutory rules (*Satzung*) enacted by the state media authorities (*Landesmedienanstalten*) under §53 (7) RStV. As far as CA systems are concerned, §53(1) RStV states that the service shall be offered "on fair, reasonable, and non-discriminatory terms" in line with the European provisions.[15] However, it is important to note that only technical aspects of the CA system (SAS) are explicitly covered, but not the consumer-orientated services (SMS). Futhermore, there is a special provision imposing the obligation to provide the CA system with an API which enables third parties to develop and operate additional services independently.[16]

EPGs are regulated under §53(2) RStV. The access provision applies only to so-called "basic navigator EPGs" which are currently understood as being the system which gives viewers access to all programmes and services available through set-top boxes or integrated digital receivers.[17] Basic navigators shall

7) Article 2 lit. a of the Access Directive.
8) *See* European Commission, Towards a New Framework for Electronic Communications Infrastructure and Associated Services, The 1999 Communications Review, COM (1999) 539 final, 10 November 1999, pp. 25-28.
9) In contrast to the former obligation imposed by Directive 95/47/EC, the Access Directive does not only encompass particular services, but applies to all kinds of electronic communications networks and associated facilities.
10) These conditions refer, for instance, to the obligation to offer technical services on a fair, reasonable, and non-discriminatory basis or the possibilty of including a common interface allowing interconnection with several other access systems, *see* Annex I, Part I, lit. b and c of the Access Directive.
11) See Arts. 18(3), 17(3)-(4) of the Framework Directive.
12) It should be noted that it is still unclear whether the NRA has a right to impose access obligations modelled on Art. 6 of the Access Directive, or whether it can also apply the flexible approach under Arts. 8-13 of the Access Directive.
13) For a detailed analysis of this flexible approach see Helberger, *op. cit.*, pp. 33 *et seq.*.
14) This brief overview refers to the current state of regulation, as of September 2003.
15) The wording is based on the provisions of Directive 95/47/EC, now replaced by the new Access Directive 2002/19/EC.
16) See §53 (1)-(3) RStV.
17) See EBU, EBU Comments on the 1999 Communications Review, 14 February 2000, p. 5, and *generally* Swantje Leopoldt, *Navigatoren*, Baden-Baden 2001, pp. 32 *et seq.*.

ensure, in accordance with the state of technology, that the programmes of public service and private broadcasters can be seen and chosen equally without further barriers in the first step of operation. Furthermore, providers of basic navigator EPGs have to ensure that consumers can still use alternative navigators or EPGs.[18] Finally, §53(3) RStV establishes a specific anti-discrimination safeguard with regard to bundling. This provision can be seen as a broadcasting-specific implementation of the general anti-discrimination clause under §20 GWB in response to the intrinsic risk of the abuse of monopoly power. But even if in this context the wording refers primarily to the consumer-orientated aspects of bundling, according to many legal scholars, the technical side (multiplexing) should also be covered as there is no specific safeguard provided in the German Telecommunications Act (*Telekommunikationsgesetz – TKG*).[19]

These provisions, tailored to the needs of already identified bottlenecks, are supported by a specific ownership regulation under §§25 ff. RStV, which measure influence on the process of public communication in terms of audience share *(Zuschaueranteilsmodell*). To some extent cross ownership is also taken into account under §26 (2) RStV, stipulates that related media markets relevant to public communication also play an important role in this respect.

Between the *ex ante* regulation of selected bottlenecks under §53 RStV and the safeguards against the abuse of communicative power under §§25 ff. RStV, no explicit link has been established. However, the cross-ownership rules integrate some of the effects of vertical integration. With regard to the operation of cable networks there is an additional safeguard against cross ownership under § 15 III of the *Satzung*.

bb) France

In contrast to the German approach, the focal point of the French framework is the distribution of programmes in combination with a diversified arrangement of general and specific competition rules.[20] Distinguishing different ways of distribution, the French approach imposes technical as well as content-related conditions.[21] Thus, the regulation of bottleneck facilities is very closely related to the regulation of broadcasting. While distribution via satellite, for instance, requires only a formal notification, distribution via cable is only allowed under a licence issued to the broadcaster after a close scrutiny of the composition of programmes by the national media authority *Conseil supérieur de l'audiovisuel* (*CSA*). Although there is a general provision to the effect that access should be granted on a fair, reasonable, and non-discriminatory basis, EPGs, CA systems, or portals are under no specific regulation in this regard.[22] This applies to terrestrial distribution, too, even though in this regard a hearing and submission procedure is established regarding every single channel.[23] In practice, the licence is granted only for the most important service of multiplexing as the French legislature presumes that the different technical services are provided by the same company.[24] Moreover, the French law also stipulates provisions ensuring interoperability of digital platforms concerning terrestrial distribution.[25]

Another remarkable feature of the French framework is the dominant role of competition law, both general and media specific.[26] The model consists of a limitation of the number of licences a company can obtain as well as of the amount of shares each licencee can hold.[27] Although there are two

18) See §14 (1) of the *Satzung juncto* § 53(7) RStV.
19) For further references see Wolfgang Schulz, in: Werner Hahn/Thomas Vesting, *Beck'scher Kommentar zum Rundfunkrecht*, Munich 2003, §53 footnote 74.
20) The French Freedom of Communications Act has recently been amended, see *loi n° 2000-719 du 1er août 2000 modifiant la loi du 30 septembre 1986 relative à la liberté de communication, Journal Officiel* of 2 August 2000, p. 11903, with a consolidated version in Légipresse n° 175 (2000), pp. 1 *et seq.*.
21) This differentiating approach has been challenged unsuccessfully by the parliamentary opposition before the French Constitutional Court (*Conseil Constitutionnel*) on the grounds of violation of the equality clause, cp. *Saisine par plus de 60 députès, 29 June 2000, section* 5. For more information about the current tendency in the French legislation to harmonise the regulation of the different distribution channels see Philipp Plog, *Frankreich: Umsetzung des Richtlinienpaketes*, in: Hans-Bredow-Institut, Docuwatch 2003-3, p. 15.
22) See Article 95 (2) of the Freedom of Communications Act, which includes the API.
23) See Article 30-2 of the Freedom of Communications Act.
24) See Jérôme Gallot, *La télévision numérique terrestre: Enjeux et modalités de mise en œuvre au regard des règles de concurrence, notamment au travers de la question de la distribution*, Paris 2002, pp. 10 *et seq.*. *and* Michel Boyon, *La télévision numérique terrestre - Rapport complémentaire*, Paris 2003, p. 27 *et seq.*.
25) See Article 30-3 of the Freedom of Communications Act with regard to pay TV, and the new Article 25 of the Freedom of Communications Act authorizing the respective secretary to standardize the API by decree (*arrêté interministériel*) with regard to both free and pay TV.
26) See Martin Bullinger, *Konzentration im Digitalen Rundfunk, Juristenzeitung 2002*, pp. 264-268.
27) See Emmanuel Derieux, *Le dispositif anticoncentration, Légipresse* n° 179 (2001), pp. 31 *et seq.*.; Raphael Hadas-Lebel, *Télévision numérique de terre*, 2000, pp. 74 *et seq.*.; Francesco Guidicelli/Emmanuel Derieux, *France, IRIS special, Television and Media Concentration*, pp. 59 *et seq.*.

agencies in charge of combatting concentration, i.e. the *CSA* for the media-related and the French Secretary of Commerce for general economic issues, a close cooperation between these bodies is guaranteed by mandatory mutual consultations.[28] As a link between access and anti-trust law, there has been established a must carry-rule for a minimum of "independent" national progammes though it is not applicable to EPGs.[29]

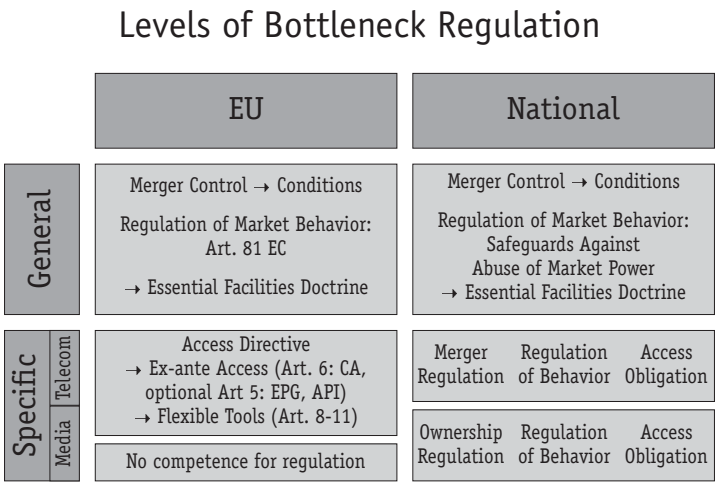
cc) Main characteristics

All in all, the current transposition of European provisions reveals remarkable differences between Germany and France. While in Germany the gatekeepers are put *ex ante* under sector-specific access regulation, in France the regulation of bundling, and in particular multiplexing, prevails. Under the French regulation, open access is safeguarded merely by the supervision of bouquets, and contract terms, between platform and programme providers.

Further, it becomes clear that regulatory models tailored to specific services always run the risk of focusing too much on details. This is particularly true of *ex ante* obligations to open access like the German §53 RStV. On the other hand, this defect can partly be compensated by a wide range of discretion on the part of the regulatory agency. Hence, a certain degree of flexibility can be guaranteed by the combination of statute law and guidelines issued by the regulatory agency itself.[30] Moreover, it can be seen in France that a close co-operation between media and competition authorities is also an essential factor for the effective functioning of the framework.

3. Levels of Bottleneck Regulation

It has already become clear that the legal framework for the new bottlenecks is a very complex one. The regulatory maze of concepts and competences shall be clarified and systematized in the following chart, shows all possible options[31]:



First and foremost, a sharp line has to be drawn between the European and the Member State levels. While the European provisions are basically committed to economic goals and the establishment of the single market, Member State regulation normally has to care for communicative goals as well.[32] The different competences are mirrored in different sets of regulatory instruments provided on each level.

As already outlined, there are two branches of law to deal with the risks triggered by bottleneck facilities: general competition law and specific media or telecommunications law. Within each branche,

28) See, for instance, Article 41-4 (2) and (3) of the Freedom of Communications Act.
29) See *Décret n° 2002-125 du 31 janvier 2002 (...) concernant l'autorisation d'exploitation des réseaux distribuant des services de radiodiffusion sonore et télévision par câble*, JO n° 27 of 1 February 2002, p. 2154; *cp. also* Philipp Plog, *Frankreich: Neue Must-Carry-Regelung*, in: Hans-Bredow-Institut, Docuwatch 2002-1, pp. 9-10.
30) In the United Kingdom the ITC has issued a code of conduct on EPGs on the basis of Section 2 (2) of the Broadcasting Act, see Independent Television Commission, ITC Code of Conduct on Electronic Programme Guides, June 1997.
31) Regarding the national legislation it is just an analytical framework; there might possibly be regulatory options that no EC Member State has made use of up to now.
32) See below at III. 1) in greater detail.

a distinct set of regulatory tools is available. To begin with general competition law, merger control can set *ex post* conditions for mergers and thus prevent the accumulation of economic power in the hands of a market player. Additionally, the essential facilities doctrine opens access to specific bottlenecks and therefore to otherwise foreclosed markets. While on the European level the doctrine is chiefly founded on Art.81 EC, on the Member State level a variety of different safeguards against the abuse of market power exist.

In contrast to general competition law, specific media and telecommunications law provides a sector-specific approach to bottleneck regulation. Based on the principle of separate regulation of technical and content-related services the EU lacks genuine competence to regulate content-related issues.[33] Therefore the scope of regulation at the European level is limited to mere technical aspects of electronic communications services and networks. At this point the "New Framework" comes into play providing a differentiated approach to bottleneck regulation. Accordingly, telecommunications law on the Member State level consists mainly of the transposition of European provisions and certain national particularities. Common instruments are sector-specific merger control, regulation of behaviour, and absolute access obligations. Similar tools are used in national media regulation, though focusing primarily on preventing the monopolization of communicative, but not economic, power. In this respect also the distinction between *ex ante* and *ex post* regulation becomes important. While *ex ante* provisions cannot be found in general competition law as a rule, Art.6 of the Access Directive or the German §53 RStV show that in sector-specific regulation they are occasionally used to open markets preventively.

In the end, at least three categories must be distinguished: the levels of competences and jurisdictions, the levels of general and specific provisions, and the levels of merger regulation, regulation of behaviour, and access obligations (*ex post* or *ex ante*).

4. Defining the Scope of Regulation in View of Convergence

To judge the necessity of extensions, attention has to be paid in particular to the current scope of regulation. Article 6(1) of the Access Directive is only applicable in relation to CA services to digital television and radio services broadcast. Just as in the debate on the amendment of the Television without Frontiers Directive, the problem of defining the notion of "television" or "broadcasting" becomes crucially important regarding the enforcement of the access obligation and possible extensions of its scope.

At the present stage of convergence, this problem has transcended the status of a mere academic problem. In Germany, for instance, the Wireless Local-Area-Network technology (W-LAN) is developing rapidly and threatening both the Universal Mobile Telecommunications System (UMTS) and Digital Terrestrial Television Broadcasting (DVB-T). Thus, there may be a need to subject W-LAN providers to national regulation, which would implement Article 6 of the Access Directive under the precondition that their services are regarded as television or radio broadcasting. As it is not unlikely that, for instance, music streaming and news feeds will be offered via W-LAN services, this technology would not only become economically attractive, but also communicatively relevant.

In this regard, regulators face virtually the same problems that have already been discussed with regard to the Television without Frontiers Directive.[34] For that reason, we would like to suggest a discussion of the scope of the Access Directive in general, and of Article 6 in particular, in order to establish a coherent framework for content services on the European level.[35]

III. Making the Right Regulatory Choice

The regulatory choice approach should provide arguments both in favour of and against the application of the identified regulatory tools to specific bottlenecks. In order to decide on the extension of Art. 6 of the Access Directive, the regulatory goals have to be clarified. On that basis, a manageable model of three analytic steps can be developed.

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33) Another question is if this sharp analytical separation can be kept up regarding the manifold hybrid characteristics of the new communications services, see Martin Cave/Pierre Larouche, Report of the CEPS Working Party on Electronic Communications, 10/2001, pp. 9 *et seq.*.

34) EC Council Directive 89/552/EC adopted on 3 October 1989, OJ L 298, 17 October 1989, as amended by the Directive 97/36/EC of the European Parliament and of the Council, adopted on 30 June 1997, OJ L 202, 30 July 1997.

35) We have suggested a modular approach, see Wolfgang Schulz/Uwe Jürgens, *Von der Fernseh- und E-Commerce- zur Content-Richtlinie: Harmonisierungsbedarf und Reformmodelle, Gutachten im Auftrag der Friedrich-Ebert-Stiftung*, Bonn 2002.

1. Regulatory Goals

As already stated, the scope of regulation is particularly important in view of the fact that the different perspectives – effects on the market and effects on public communication – are dealt with differently on European and national levels. The European regulation is committed to the goal of free trade within the common market.[36] Accordingly, the Access Directive follows the objective of sustainable competition, interoperability of electronic communication services, and consumer benefits (Article 1 (1) of the Access Directive).

On the Member State level, by contrast, fair access to public communication (traditionally: pluralism), as determined either by the constitution or by national media policy, is paramount. Despite changes in democratic processes and developments within the media system, the assumption is still valid that safeguards for fair access to public communication must be provided in order to constitute a public sphere that legitimates democratic decisions. In addition to these goals, there are also safeguards against the abuse of market power.

To take the German example again, the original directive 95/47/EC gave rise to rivalry between federal and state regulation. Whereas the federal government claimed competence over federal legislation as it regarded the problem as a matter of telecommunications and competition regulation under Article 73 no. 7 and 74 no. 16 of the *Grundgesetz*, the states insisted on access regulation being a broadcasting matter related to cultural issues.[37] In consequence, federal and state regulations implementing 95/47/EC were partly overlapping.

The situation has become particularly complicated as the same legal clause may be construed in two different ways. Depending on the context, the clause can be seen either as an economic regulation aimed at viable competition and free trade, or a media regulation guaranteeing free access to the public sphere. Providing "reasonable" access, for instance, can mean both behaving like an economically rational non-monopolist or privileging media services which structurally have low chances of access to the public sphere.

Moreover, the perspective of regulatory goals may be relevant when it comes to the assessment of the effects on different markets. Opening a foreclosed system does not only mean to opt for intra-service competition, but also to prevent inter-service competition. Media regulation tends to value fair access of broadcasters to such an extent that the lack of competition in the field of bottleneck facilities seems to be acceptable. In contrast to general competition law, there is no prevalence of a specific market.

Accordingly, an extension of the access obligation on the European level has to be seen in the context of the different ways in which the Member States deal with the problem of power of opinion within their specific media laws. An extension of the access obligation to a particular service may be useful in order to achieve economic or communications-related goals, but to deal with it on a European level might hinder the Member States working out an adequate framework to ensure pluralism and adapt to the pace of convergence. *Mutatis mutandis*, the same argument applies to the debate on the Television without Frontiers Directive.[38]

2. Options for a Regulatory Framework: Three Steps to Regulatory Choice

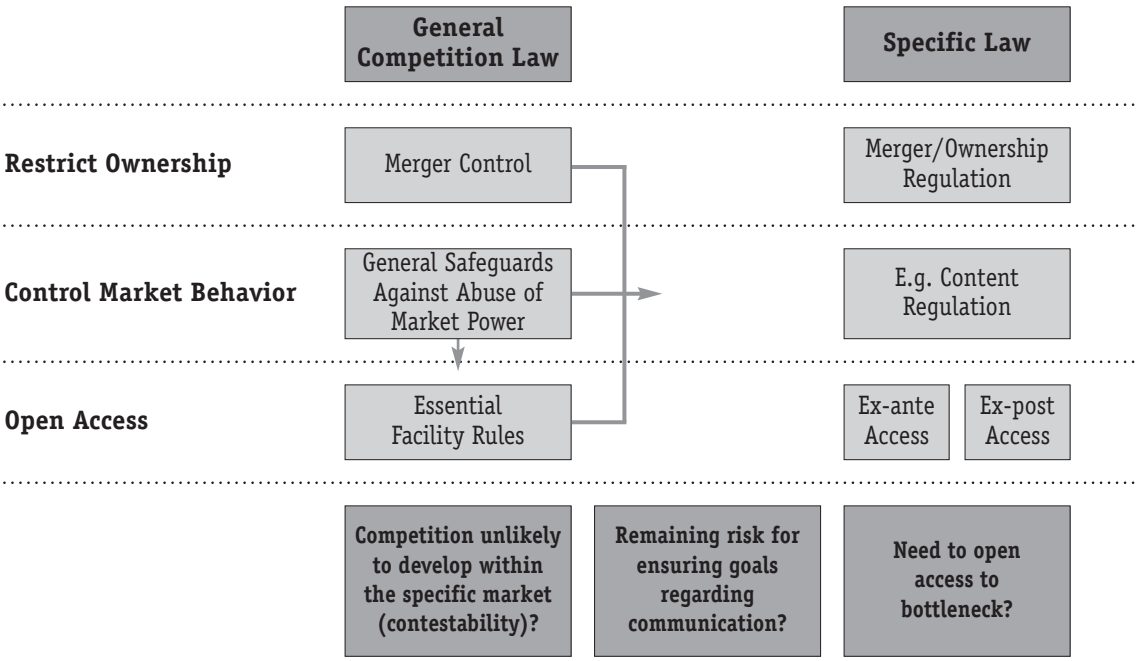
For analytic reasons, we would like to disregard the intricacies of the aforementioned multi-level system for a moment and concentrate on the essential decisions policy makers have to make in order to achieve the regulatory goals.

a) Analytic Concept

The decision-making process can be reduced to three major steps. First, it has to be clarified whether the respective market is a realistic one and if there is a need to open access by means of the essential facilities doctrine. Second, the question arises whether, besides general competition law, specific media and telecommunications regulation is required to achieve in particular the

36) See Article 2 and 3 EC, and the fundamental provision of the freedom to provide services under Article 49 EC.
37) See Wolfgang Schulz/Wolfgang Seufert/Bernd Holznagel, *Digitales Fernsehen*, Opladen 1999, pp.104-105.
38) See, European Commission, Fourth Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the Application of Directive 89/552/EC "Television without Frontiers", COM (2002) 778 final, and the respective public consultation with written contributions available at http://europa.eu.int/comm/avpolicy/regul/review-twf2003/contribution.htm

communicative goals such as pluralism and fair access to public communication. Third, there may still be a need to provide additional *ex ante* access obligations within the sector-specific law. The three steps can be illustrated in the following model:



Before applying this model to the potential bottlenecks and discussing the respective level of European or Member State enforcement, the three steps shall be set out in greater detail.

b) Choice within the General Competition Law (Step 1)

The first question to be asked is whether competition is likely to develop in a specific market or not. This leads us to the need of assessing the contestability of the market.[39] We can learn from economic theory that the contestability of a market depends on:

- the access to supply and outlet markets and relevant technologies,
- the hidden costs in case of a market exit,
- the predicted behaviour of the monopolist in view of its prices.[40]

In a case where the market position of the owner of the essential facility is not contestable, general merger control will be of no use and the abuse of market power can only be prevented by opening the essential facility to competitors and thus granting access according to merely economic criteria.

In practice, the degree of contestability is hard to judge. The responsible anti-trust body has to evaluate a complex, dynamic configuration of systems where short-term benefits for efficiency may be bundled with long-term efficiency losses.[41] This decision requires specific knowledge of different branches, and one can argue that in fields where access problems are the rule rather than the exception, a specific regulatory framework and a regulatory body monitoring the developments may be preferable to the sole application of general competition laws.

Even where competition is likely to develop, and the general merger control rules and the safeguards against the abuse of market power normally satisfy the goals, opening access to an essential facility might be necessary. Example are facilities which do not form a market of their own, and cases of internal growth where merger control remains ineffective.[42]

39) See generally William J. Baumol/John C. Panzar/Robert D. Willig, Contestable Markets and the Theory of Industry Structure, New York 1988, and with regard to digital television Wolfgang Schulz/Doris Kühlers, *Zugangsregulierung und Konzentrationskontrolle beim Digitalen Fernsehen, Gutachten im Auftrag der BAKOM 2001* (unpublished), pp. 49 *et seq.*.
40) See Baumol/Panzar/Willig, *op. cit.*, pp. 4-8 and 290-292 and further Günter Knieps, *Wettbewerbsökonomie*, Berlin 2001, p. 30; Michael Fritsch/Thomas Wein/Hans-Jürgen Ewers, *Marktversagen und Wirtschaftspolitik*, pp. 201 *et seq.*.
41) See Ulrich Immenga/Ernst-Joachim Mestmäcker (Ed.), GWB, §19 footnote 185.
42) That merger control can be effective in specific cases, for instance in the form of conditions for allowances, has already been pointed out.

c) Compensatory Role of Sector-Specific Law (Step 2)

As the French and the German experience have shown, it is crucially important to define the relationship between the regulatory impact of general competition law and specific media and telecommunications law. Though at least in the case of media regulation economic goals (competition) differ substantially from communicative goals (fair access to public communication), the two affect each other to a considerable extent. For example, specific media regulation is obsolete where the goals can already be achieved by economic competition.[43] Conversely, specific media regulation has to be in place where the risk of regulatory failure remains significant. In this respect, sector-specific regulation and general competition law can be regarded as reciprocal safety nets.[44]

Thus he question arises where general competition law leaves loopholes specific provisions have to darn. General competition law, for instance, may focus exclusively on external growth of companies. Depending on the general economic and social conditions this might not suffice to limit communicative power. Moreover, specific media regulation enables the implementation of procedural regulatory instruments rather than punctual interventions common to the general competition law. There is a strong need for this novel type of learning rules as findings from regulatory theory have shown.[45]

In the case of a conflict between regulatory goals – for instance, pluralism requires rules with an anti-competitive effect – the legislature has to judge which goal prevails. In Germany, this decision is stamped by the constitution (Article 5 GG). The German Federal Constitutional Court has ruled that there have to be specific safeguards to prevent predominant communicative power, as, according to the opinion of the Court, the general competition law with its specific mindset does not necessarily ensure the communicative objectives being met.[46] As the free and open process of public communication plays a pivotal role in a free society, additional safeguards are required constitutionally. Economic competition, however, can support the achievement of communicative goals. Finally, specific media as well as telecommunications law does not only provide a framework to deal with the particular problems of bottleneck facilities, but also gives the opportunity to establish specific regulatory agencies.[47]

d) Potential and Risk of Specific Access Obligations (Step 3)

The final step is to decide whether there is a need for specific access obligations within the media and telecommunications law. Similar to the lessons learned in step 1, opening access to sector-specific essential facilities may be an essential prerequisite for achieving public service goals. In media law, for instance, fair access of broadcasters to public communication is paramount. Hence, it seems to be reasonable to establish an access obligation for all bottlenecks that are relevant for the distribution of television services.[48] However, this could lose sight of the fact that competition among providers of bottleneck facilities normally entails a quicker improvement in quality. That in turn might lead to more programmes having the chance of being distributed and pluralism being enhanced.

A particular problem of *ex ante* access obligations arises from their rather rigid nature. The design of these rules is ultimately based on and restricted to the information available at the time they come into force. Consequently, *ex ante* obligations run the risk of lagging behind the latest economic and technological developments. Of course, every rule also needs a certain degree of implementation to be applied and enforced effectively. But the German experience has shown that by far more serious problems are caused by an uncertainty on part of the regulator of how to fill in the normative gaps. The struggle of setting MHP as the relevant standard under §53 (1) RStV proved a clear example.[49]

While in media law the goal of pluralism might outrank the benefits of competition, in telecommunications law another feature of absolute access obligations could affect the market performance adversely. An operator of an electronic communications network who is forced to grant access to competitors would not be overly motivated to invest in his infrastructure as every improvement to the network benefits his competitors as well. An absolute access obligation can therefore hinder the costly development of new technologies and thus the process of innovation.

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43) *Cp.* Recital no. 10 of the Access Directive.
44) See Wolfgang Hoffmann-Riem, *Rundfunkrecht neben Wirtschaftsrecht*, Baden-Baden 1991, pp. 87 *et seq.*.
45) See Schulz/Kühlers, *Zugangsregulierung und Konzentrationskontrolle*, pp. 146 *et seq.*.
46) See BVerfGE 73, 118, 176.
47) Most of the national legislatures have made use of this opportunity, take for example the *Landesmedienanstalten* in Germany, or the *CSA* in France.
48) This point can also be detected in the above mentioned German approach where the legislature values compatibility at the current state of technology regarding the API higher than technical innovation via monopolised standards, *cp.* §53(2)1 RStV.
49) See Schulz, *Beck'scher Kommentar*, §53 footnote 53.

In any case, the interaction between media and telecommunications rules has to be taken into account, as the criteria for open access may be different. In particular, the new bottlenecks in digital TV are characterized by a high degree of convergence with technical and content-related functions merging into novel hybrid services. Therefore, overlapping scopes are likely to involve problems of law enforcement and regulatory competence. As a warning, examples are the discrepancies between the German *Fernsehsignalübertragunsgesetz*, concerning access to the infrastructure for transmitting television signals, and the already mentioned §53 RStV, dealing with the content-related goal of public communication.[50]

e) Interoperability and Standardisation

Whereas the outlined three-step model consists of rather commonplace regulatory instruments, modern approaches to bottleneck regulation like interoperability and standardization become increasingly important. There is, however, a traditional reluctance on the part of regulators to intervene in matters of standardisation for fear of discouraging investment in new technology and thus hindering innovation.[51] On the other hand, ensuring interoperability is not necessarily a mere political and economic risk. It can also serve as an instrument to strengthen competition insofar as possible regarding essential facilities. Hence, it is not surprising that the idea of interoperability is recognised as an important means of guaranteeing access in the Framework Directive, which promotes the idea of technical standardisation with a view to achieving compatibility between standards.[52]

If the assumption is right that competition is chiefly desirable in order to achieve the regulatory goals, the legislature has to judge at which point to interfere and open up access. For that reason, it might be advisable to have a closer look at the respective bottleneck and identify its technological and economical features. Prior to the establishment of proprietary standards and bottleneck facilities, unwanted monopolisation might be hindered by guaranteeing interoperability during the process of development. Instead of the legal obligation to guarantee access in an adequate, non-discriminatory and fair way, enforcing interoperability might be preferable if there is a chance for competition to develop regarding the respective facility. Interoperability could reduce the cost of change between already competing services and services to come. The competitors only have to disclose their relevant specifications as far as is required to develop the compatibility standard. In accordance with the EU approach, the development and implementation of such a standard should be left to the industry insofar as possible.[53]

However, there is a systematic trade-off between compatibility and innovation: Mandating one particular approach to interoperability could temper technological and market development by imposing standards too early. This knowledge gap is a general problem of prospective regulation of information technologies.[54]

f) Potential of Regulated Self-Regulation

Concepts of "regulated self-regulation" or "co-regulation" are currently seen as implements that are suitable for solving regulatory problems in different policy fields.[55] However, one finding of research is that instruments that regulate self-regulation tend to fail where there is one market player with fundamentally opposing interests compared with its competitors. This is normally the case when it comes to essential facilities. Therefore, at first sight only minor matters could be dealt with these new regulatory approaches.

One area where regulated self-regulation might be fruitful is the development of industry standards, for instance for interoperability of services.[56] To some extent, even the owner of a facility with

50) See Schulz, *Beck'scher Kommentar*, §53 footnote 25.

51) See Tarlach McGonagle, Co-Regulation of the Media in Europe: The Potential for Practice of an Intangible Idea, in: IRIS plus 2002, p. 7 referring to the failed attempts to introduce the MAC standard by Directive 86/529/EC, the HD-MAC standard by Directive 92/38/EC, or the wide screen 16:9 format by Directive 95/47/EC.

52) See Articles 17 and 18 and in particular Recitals 30 and 31 of the Preamble of the Framework Directive (2002/21/EC) with the former stating: "[S]tandardisation should remain primarily a market-driven process. However there may still be situations where it is appropriate to require compliance with specific standards at Community level to ensure interoperability in the single market.".

53) An example might be the work of the DVD Group. On the other hand, the proliferation of such industry-driven interoperability solutions is modest, see Helberger, *op. cit.*, p. 40 *et seq.*.

54) For this reason, the Commission objected to mandating a general API for digital broadcasting in the new Access Directive, see Karl-Heinz Ladeur, *Europäisches Telekommunikationsrecht im Jahre 2001*, *Kommunikation & Recht 2002*, pp. 110-120 at 116.

55) See generally Wolfgang Schulz/Thorsten Held, Regulated Self-Regulation as a Form of Modern Government, 2003 (not yet published); for the media sector at European level Tarlach McGonagle, Co-Regulation of the Media in Europe: The Potential for Practice of an Intangible Idea, IRIS plus 2002-10, pp. 2-8.

56) See Wolfgang Schulz/Doris Kühlers, *Konzepte der Zugangsregulierung für Digitales Fernsehen*, Berlin 2000, p. 86.

dominant market power has an interest in customers' possibility of choosing the service. Experiences with the DVD group, as far as the DVD standard and the MHP standard are concerned, are partly promising.[57] However, it remains to be seen what happens when in view of convergence other players have to be integrated and the balance between compatibility and innovation has to be found anew.

IV. Conclusions

Having laid out a rudimentary framework for the regulation of bottleneck facilities, the time has come to sum up and draw conclusions. As each bottleneck is characterized by specific features regarding structure and market performance, it has to be judged separately. Accordingly, the three-step model should be applied to every single service integrating also the aforementioned different levels of bottleneck regulation.

As to EPGs, the German experience has shown that from the regulator's point of view it makes sense to distinguish basic navigator EPGs and application EPGs. In the case of the basic navigator, it seems to be a good choice to provide a preventive access obligation. Given its decisive role as an initial browser to all content following, there are good reasons not to trust merely in the emergence of competition. The contestability of this specific market is challenged particularly by the fact that exclusiveness is an inherent feature of a basic navigator as there can only be *one* basic EPG operating at a time. But even though it still might be possible to change the provider, one has to take into account the latest development of "intelligent" EPGs. This type of navigator adapts to the habits of users and develops individual profiles that in turn raise the cost of change. For these reasons, an access obligation for basic EPGs proves a viable solution.

However, it is important to note that this does not necessarily lead to an extension of the Access Directive. On the contrary, the main reason for opening access regarding the basic navigator is its impact on the process of public communication. As the European Community lacks genuine competence in this field, it is virtually impossible to install an access obligation at European level. An extension of the *ex ante* access obligation to basic EPGs on solely cultural grounds contravenes the principle of separate regulation of technical and content-related services. Hence, the problem can only be solved on Member State level so that Art. 5(1) of the Access Directive must be regarded as sufficient in this respect.

As far as application EPGs are concerned, the problem of access does not appear to be as crucial as it does in case of the basic navigator. In contrast to the latter, application EPGs operate at the second level of the system so that there is a good chance of inter-service competition as long as interoperability with regard to the set-top box is guaranteed. This refers especially to the aforementioned "intelligent" systems. The increasing cost of change due to personalisation of services could be mitigated by interfaces or converters guaranteeing open access to both software and hardware. For this reason, it would make sense to provide an obligation to grant interoperability of "intelligent" EPGs on the Member State level. An access obligation, in contrast, cannot be recommended for application EPGs at this stage.

The case of bundling is quite different. The technical side (multiplexing) is characterized by the high amount of hidden costs. The money originally invested in a play-out center cannot be retrieved when leaving this specific market later. For this reason, the service of multiplexing strongly tends to lead to monopolistic or at least oligipolistic structures. The question is thus whether an essential facility rule suffices to open access to this bottleneck, or whether some media-specific control is necessary. In favour of the latter it can be argued that discrimination is probable regarding the quality of transmission (bit rate management).[58] However, in as far as effective control is guaranteed by the general competition authorities, there is no need for sector-specific regulation. In this regard, the flexible approach under Articles 8 ff. of the Access Directive might prove sufficient.

As to the marketing-related aspects of bundling, economic analysis does not deny contestability of the market *a priori*. Yet there are certain features of bundling that reveal a tendency toward monopolization. Both economies of scale and indirect externalities have to be taken into account. To some extent, bundling is also a communicative service as the choice of programmes to be bundled can be seen as a selection of content relevant to public opinion. Even though this pre-structuring of

57) See David Sedman, Market Parameters, Marketing Hype, and Technical Standards: The Introduction of DVD, The Journal of Media Economics, 11 (1998) 1, pp. 49-58 at p. 51.

58) See European Commission, The development of the market for digital television in the European Union, COM (1999) 540 final, p. 26 f.; Schulz/Kühlers, *Konzepte der Zugangsregulierung*, p. 70.

information does not hinder consumer choice of a particular service directly, at least the decision to buy a certain package that includes one programme, but excludes another, will be influenced. Hence, specific access regulation does not seem to be required. As control of external growth does not guarantee an effective limitation of communicative power, it seems reasonable to rely on media-specific ownership regulation in the first instance, but to safeguard the remaining risk for the communicative goals with an access obligation for programmes. In other words, it might be advisable to provide an additional "must carry" rule even if the Universal Service Directive (2002/22/EC) has to be amended for this reason. Again, a so content-related provision could only be established on Member State level due to the lack of cultural competences on part of the EU.

In the case of portals it is still too early to make suggestions. It may be argued that basic navigator EPGs also fall into this domain. However, regarding the prominent role of EPGs they are treated as a category of their own.

As a result, the current European framework for electronic communications services and networks seems to be an adequate response to the challenge of digital television. The limitation of the *ex ante* access obligation under Art. 6(1) of the Access Directive to CA systems and the rather flexible approaches under Arts. 5 and 8-11 of the Access Directive leave ample scope to the Member States. Consequently, the regulation of new bottlenecks such as EPGs, bundling, and portals, can be tailored to the specific needs of each single country given the diversity of markets, regulatory cultures, and constitutional provisions.

Control over Technical Bottlenecks – A Case for Media Ownership Law?[1]

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During the debates about the implications of media convergence during the last decade, the bottleneck problem has been consistently and widely recognised as a significant issue for regulatory attention. Convergence has forced a closer analysis of the various components of the value chain for producing media content and it has become apparent that anybody who controls entry to, or movement along, the chain will exert considerable power. Understandably, the exercise of such power has been regarded as analogous to control over media ownership. It has seemed to follow, therefore, that, as sector-specific ownership rules become increasingly inappropriate for many media markets, their place may be taken by measures directed at bottleneck problems. The recent implementation of the EC's Access Directive appears to reflect that approach to regulating control in the new media, with its combination of competition law and conditional access rules. However, in this paper, I will argue that the Directive is not a sufficient means for regulating concentrations of power in new and converged media. The kinds of bottleneck issues that it regulates have been allowed to distract attention from the policy requirements that underlie media ownership regulation. Although the form of regulation may be becoming outmoded, those policy requirements are still relevant to the new media and it will be necessary, therefore, to find new regulatory devices for implementing them. It may be that the Directive provides a model for doing that, but it is inadequate in its present form.

Media Pluralism

At the outset, it is worth reminding ourselves that the rationale for regulating media ownership and control is the protection of media pluralism.[2] Although media pluralism has different shades of meaning, it embraces three basic concerns. First, there should be a diversity of content, namely, the availability of a range of views, opinions and subject matter. Secondly, there should be a diversity of sources, namely, a variety of programme or information producers, editors or owners. Thirdly, there should be a diversity of outlets for delivering material directly to the audience.

Amongst the differing conceptions of media pluralism, it is diversity of content that constitutes the strongest version. However, neither diversity of source nor diversity of outlet can be guaranteed to produce diversity of content.[3] The most direct way of regulating for diversity of content is found in

1) An earlier version of this paper was presented to the Observatory/IViR Workshop on "Vertical Limits - New Challenges for Media Regulation", Amsterdam, 27th September 2003. I am grateful for the helpful comments made by the participants and especially by Natali Helberger. Any errors or omissions are my own responsibility.
2) For a fuller discussion of these issues, see: T. Gibbons, "Concentrations of Ownership and Control in a Converging Media Industry" in C. Marsden & S. Verhulst (eds.), Convergence in European Digital TV Regulation (1999), Blackstone Press, pp. 155-173. This paper develops a number of points made in that chapter. See also: T. Gibbons, Regulating the Media (1998, 2nd ed.), Sweet & Maxwell.
3) For discussion of media pluralism, see: R. Craufurd Smith, Broadcasting Law and Fundamental Rights (1997) Oxford: Oxford University Press, chap. 7; T. Congdon *et al.*, The Cross Media Revolution: Ownership and Control (1995) London: John Libbey; R. Collins & C. Murroni, New Media, New Policies (1996) London: Polity Press, chap. 3.

public service broadcasting obligations that require a range of material to be provided, generally with news and controversial issues being presented impartially. But this approach may need to be supplemented with a diversity of other viewpoints from other sources, since public service broadcasting may well not represent all perspectives.

Regulation of media ownership has therefore attempted to provide a diversity of sources of content, thereby intending to limit any power exercised by the domination of only a few voices, by imposing structural control over the number of firms in a sector. However, the relationship between ownership control and media pluralism is not straightforward[4] and the presence of many players in a market does not *guarantee* a diversity of output. All that ownership control can do is to provide a set of conditions that are most favourable towards pluralism and thereby seek to minimise the adverse effects of media concentration.

Until relatively recently, the regulatory approach to achieving that outcome was to focus on concentration at the point of content (programming) outlets. There were a limited number of such outlets, partly due to licensing restrictions for allocating broadcasting spectrum and partly due to prioritising public service broadcasting policies. In addition, the outlets were characterised by a high degree of vertical integration whereby the ownership effect was experienced at all levels in the value chain, from production to delivery to the consumer. Since the originators of content were so closely linked to the mode of distribution, regulation was, therefore, sector-specific.

In a converged media industry, the segmenting of media markets and the creation of a producer-consumer nexus are both made possible by the use of common, non-sector-specific delivery platforms (the outlets). In theory, it does not matter who owns the platform or outlet, provided that the end-users are able to obtain a diversity of content. The platforms, as modes of outlet, will not be capable of maintaining a premium over their rivals because each will be capable providing the same content, so that the economic focus will shift and increasing emphasis will be laid on the production of content and the audience's access to it. In the light of such changes, it is generally recognised that it will no longer make sense, to regulate against concentrations of control over content by reference to programming sectors because, structurally, the different sectors will not be able to be kept separate. A possible response to this development is to treat conditional access to outlets, together with the creation of content or acquisition of rights, as the most important factors for regulation. In this context, the possibility that firms will seek to integrate vertically, with the same organisation controlling all aspects of content production, packaging and distribution to the end-user, may be considered a particular danger to media pluralism.[5] It may seem to follow, therefore, that the remedy in the new media will be to ensure that competition law operates effectively and that conditional access regulation is adequate to deal with the bottleneck problems that arise. The prior question, however, is whether those bottleneck problems are the real difficulty.

The Use of Competition Law

Under European Community law, Article 81 of the European Treaty prohibits, as incompatible with the common market, all agreements between undertakings that may affect trade between Member States and have as their object or effect the prevention, restriction or distortion of trade within the common market. Article 81 is aimed at collusion between undertakings that restricts competition, and agreements that infringe the prohibition are void. However, provision is made for notice of such agreements to be given to the European Commission, which may grant exemptions, individually or by group, provided that the relevant agreements contribute to the improvement of production or distribution of goods, or promote technical or economic progress. Article 82 prohibits any abuse by one or more undertakings of a dominant position within the common market, or in a substantial part of it, as incompatible with the common market in so far as it may affect trade between Member States. Article 82 is more concerned with the extent of market power enjoyed by a firm and the freedom that that gives from the constraints of market pressures. The prohibition is not directed against the existence or acquisition of market power as such, but against its use by a firm to affect adversely those with whom it deals.

4) See T. Gibbons, "Concentrations of Ownership and Control in a Converging Media Industry", n.1, above.
5) Such concerns were recently expressed by the Council of Europe: Report Prepared by the AP-MD, Media Diversity in Europe (2002) H/APMD(2003)001.

Both provisions have been used to test the competitiveness of strategic alliances or vertical arrangements between suppliers and distributors in the media industry.[6] A recent example is that of Telenor/Canal+/Canal Digital,[7] which involved an agreement about distribution of pay-TV premium content channels in the Nordic region through Canal Digital's satellite platform. It is interesting in the context of bottlenecks because it demonstrates how the provisions could operate in relation to a set of agreements that were designed to preserve the effect of undoing a previous vertical structural link. Telenor was a subsidiary of the Norwegian telecommunications operator and provided satellite and cable transmissions and distribution. It was jointly running Canal Digital with Groupe Canal+, the film and TV division of the Vivendi Universal Group. Groupe Canal+ also produced pay-TV channels and distributed bouquets of pay-TV channels through its subsidiary, Canal+ Nordic. When the parent company, Groupe Canal+, decided to transfer its shareholding in Canal Digital to Telenor, a series of agreements were reached concerning the distribution of Canal+ Nordic's pay-TV channels via Canal Digital and concerning the supply of pay-per-view (PPV) and near-video-on-demand (NVOD) channels by Canal+ Nordic to Canal Digital. There were provisions allowing pay-TV channels exclusivity to Canal+ Nordic for ten years and committing Telenor not to launch a similar competing channel for ten years. In addition, Canal+ Nordic was given an exclusive supply agreement in relation to supply of PPV and NVOD in the Nordic region for five years. In the light of the European Commission's objections that these arrangements would breach Article 81, the parties revised the arrangements so as to reduce the lengths of the agreements (to four years in relation to pay-TV exclusivity, and to three years in relation to the channel non-compete for PPV and NVOD), and to define the scope of the agreements more narrowly. The case demonstrates that vertical integration in itself is not so important as detecting anti-competitive arrangements. But it is also clear that the Commission's intervention was intended to enhance competition in the markets for supply of programming and any effect on viewer would be indirect, flowing from the general assumption that competition will improve consumer welfare.

In the United Kingdom context, a similar kind of analysis was recently applied by the competition regulator, the Office of Fair Trading (the OFT), to BSkyB's operations in the pay-TV market.[8] BSkyB is vertically integrated in this market by virtue of its channel production operations (possessing exclusive sports rights, especially for Premier League football, and having exclusive contracts with Hollywood studios to show films on its premier film channels), together with its distribution operations (bundling the channels and distributing them on the only satellite platform in the UK). Certain of BSkyB's competitors had complained that it was abusing its dominant position in the wholesale supply of its premium content in three ways. First, it was alleged that BSkyB exercised a "margin squeeze" in relation to its premium channels. It could do this by wholesaling the channels to other distributors at a price that allowed an insufficient margin for them to make a profit, even if they were as efficient as the vertically integrated BSkyB operation. The implication would be that, in such a situation, the vertically integration would be subsidising the distribution of premium channels, thereby distorting the market. The OFT concluded that an analysis of the market and BSkyB's behaviour could only lead to a borderline finding. Although the distribution operation had turned in a small loss, BSkyB's roll-out costs were very high. So, on balance, it had not abused its dominant position. The second complaint was that the practice of "mixed bundling" was an abuse of dominant position. This might happen if a competitor was foreclosed from supplying premium channels, because it was not worth doing since BSkyB had offered the channel at a discount to subscribers of its other premium channels. In this case, the OFT could not find sufficient evidence of the practice. Significantly, one of the reasons for this was that BSkyB had exclusive contractual rights to premium content, the inference being that rival suppliers did not have anything to supply in any event! The third allegation was that BSkyB had abused its dominant position by offering discounts to distributors in favour of BSkyB's own channels. Again, there was no evidence that this was happening.

While these and other similar cases show that competition principles can be applied to the media, it is not clear that they show how competition law can promote media pluralism. Removing barriers to entry and preventing foreclosure certainly provide the opportunity for diversity of viewpoint to surface. However, the main benefit is to the players in the markets for supplying content. The impact

6) Earlier examples include: *Re Astra* [1993] OJ L 20/23. [on appeal, Case T-22/93, British Telecommunications v European Commission]; *Centre Belge d'études de marché – Télémarketing (CBEM)* v *CLT and Information publicité Benelux* [1985] ECR 3261; Auditel IV/32031 [1993] OJ L 306/50. For subsequent, ancillary proceedings, see [1995] ECR II-0239; Re German TV Films: The Community v Degeto Film GmbH [1990] 4 CMLR 841; Magill TV Guide/ITP, BBC and RTE [1989] 4 CMLR 745; upheld by the CFI in RTE, BBC and RTE v European Commission [1991] 4 CMLR 586, 669 & 745; Re European Broadcasting Union [1987] 1 CMLR 390; Re the Application of the European Broadcasting Union [1991] 4 CMLR 228. See generally, T. Gibbons, "Concentrations of Ownership and Control in a Converging Media Industry", n.1, above.

7) COMP/C2/38.287 (2003/C 149/10)

8) Office of Fair Trading, *BSkyB:* The Outcome of the OFT's Competition Act Investigation (2002) OFT 623.

on the recipients of content is marginal and of incidental interest. As far as the wholesalers are concerned, one viewer is interchangeable with another; their objective is to reach an aggregate audience that delivers an acceptable turnover.

A competition measure that appears more directly relevant to concentrations of media control is merger regulation. The European Community's Merger Regulation[9] applies to all concentrations with a Community dimension, that is where the combined aggregate worldwide turnover of all the undertakings concerned is more than ECU 5,000 million and where the aggregate Community-wide turnover of at least two of the undertakings is more than ECU 250 million (unless each of the undertakings concerned achieves more than two-thirds of its aggregate Community-wide turnover in one Member State, in which case national jurisdiction applies). Proposed mergers must be notified to the Commission and a concentration that creates or strengthens a dominant position, as a result of which effective competition would be significantly impeded in the common market or in a substantial part of it, must be declared incompatible.

A number of high-profile merger cases in the mid-1990s demonstrated that, notwithstanding the infancy of various new media markets and the high start-up costs of developing new technologically intensive enterprises, the Commission was still prepared to intervene to prevent ventures that created dominant positions.[10] But, consistently, in the absence of such dominance, mergers were not opposed.[11] More recent cases provide examples of similar reasoning, but they also tend to demonstrate its irrelevance to media pluralism. In Microsoft/Liberty Media/Telewest,[12] Microsoft (a software company with telecommunications and multimedia links) and Liberty Media (a subsidiary of AT&T) proposed to acquire joint control of Telewest (a UK broadband company that provides digital television, telephony and high speed Internet access). The European Commission was concerned that the acquisition would have an adverse effect on competition in the market for digital set-top boxes because it could strengthen Telewest's existing dominant position as an exclusive supplier of cable services within its franchise area. In the event, notice of the merger was withdrawn.

In Kirch/BskyB/Kirch Pay-TV,[13] Kirch and BSkyB proposed to take joint control over Kirch Pay-TV. BSkyB's activities were outlined above, and Kirch was an audio-visual media firm with interests in sports, film and television rights, television production, pay-TV, and technical services for digital broadcasting and encryption. The European Commission was concerned that Kirch Pay-TV would strengthen its dominant position in the German and Austrian market because it would have access to BSkyB's financial resources and marketing and distribution know-how; this would raise the already high barriers to entry. The Commission was also concerned about the impact of the joint venture on the burgeoning market for digital interactive television services. Here, Kirch Pay-TV would be likely to enter the market ahead of its rivals and therefore consolidate its own set-top box as the standard decoder for such interactive services. In response to these objections, the parties offered an undertaking to allow other digital interactive television operators to manufacture their own technical platform and to have access to Kirch Pay-TV's conditional access system. They also undertook to increase interoperability by allowing other operators to run their services more easily on Kirch Pay-TV's platform. The Commission accepted these as lowering barriers to entry and therefore did not oppose the merger.

There are many more cases from the media sector[14] but a good instance of the considerations involved is the Newscorp/Telepiù decision in April 2003.[15] Newscorp intended to acquire control of Telepiù from the Vivendi group and merge it with its own pay-TV platform, Stream. Although the merger would create a near-monopoly in the Italian pay-TV market, it seemed clear that Stream would

9) Council Regulation (EEC) No 4064/89 of 21 December 1989 on the control of concentrations between undertakings (1989 OJ L 395, 1990 OJ L 257) with amendments introduced by Council Regulation (EC) No 1310/97 of 30 June 1997 (1997 OJ L 180, p.1). The basic approach will not be altered by the package of reforms that was adopted by the European Commission in December 2002 and is anticipated to be introduced during 2004.

10) See generally, T. Gibbons, "Concentrations of Ownership and Control in a Converging Media Industry", n.1, above. Major cases were: MSG Media Services [1994] IV/M.469, OJ L 364/1; the Nordic Satellite Distribution case: [1995] IV/M.490, OJ L 053/20; RTL-Veronica-Endemol [1995] IV/M.553, OJ L 134/32; [1996] OJ L 294/14.

11) Kirch-Richemont- Telepiu [1994] IV/M.410, OJ C 225/3; Bertelsmann-CLT [1996] IV/M.779, OJ C 364; Bertelsmann-News International-Vox [1994] IV/M.489, OJ C 274/9.

12) JV.27, 22 March 2000.

13) JV.37, 21 March 2000.

14) Vivendi/Canal+/Seagram, M.2050, 13 October 2000; Kabel Nordrhein Westfalen, JV.46, 20 June 2000; Kabel Baden-Württemberg, JV.50, 2 August 2000.

15) This is reported in V. Baccaro, "The Commission closes probe into pay-TV industry in Italy approving Newscorp/Telepiù merger deal" (2003) Competition Policy Newsletter 8-11. Another example is Sogecable/Canalsatelite Digital/Via Digital, M2845, 16 August 2002.

otherwise be closed down by Newscorp. But Newscorp would have become the gatekeeper of the only satellite platform and its conditional access system would be adopted; both situations would create barriers to entry to the market for pay-TV services. In addition, because Stream and Telepiù would together hold exclusive rights to premium films and major Italian football coverage, their potential rivals would be foreclosed from obtaining so called "driver" content for pay-TV. To deal with these obstacles, the parties offered undertakings to provide third party access to the premium content, the technical platform and the conditional access system, until 2011. The Commission accepted these, giving responsibility for their supervision to the Italian competition regulator.

This case illustrates that, typically, consumers' interests in general, let alone their interest in media pluralism, do not feature strongly but an interesting exception is the case involving the proposed Vizzavi Internet portal venture.[16] Here, the idea was to provide a multi-access portal to provide a set of web-based services across a range of platforms such as fixed and mobile telephones, PCs and television sets. In the light of the Commission's concern that the development of alternative Internet portals might be impeded, the parties gave undertakings to allow the end-users the ability to change the default portal if they so wished. The Commission considered this to be significant for allowing users to choose their content provider independently of their access provider. Nevertheless, in a media pluralism context, it is clear that such a choice would not necessarily achieve diversity of sources or of outlets.

More generally, the ability of competition law to protect media pluralism remains open to doubt. To summarise points that I have made elsewhere,[17] competition law does not recognise a firm's dominance, in itself, to be a problem, so it allows large firms to exist provided the market is contestable. However, the impact of such firms on diversity of content is not taken into account. In addition, any contribution by competition law to media pluralism is assumed to result from a supposed relationship between diversity of source and diversity of content for the audience.[18] Most importantly, competition law does not analyse market effects from the perspective of the end-user's experiences, whereas the main objective underlying pluralism is that individuals are provided with a range of media content at the point of use. For that reason, it is a matter of concern that individuals may obtain knowledge from a range of outlets, whether newspapers, radio or television, that are controlled in their locality by one supplier, whether or not that supplier is dominant in the broader market.

Conditional Access and Access-related Regulation

In the 1999 Communications Review,[19] it was accepted that the nurturing of emerging digital television markets required special measures to supplement competition regulation. Furthermore, the interests of the end-users were given specific recognition. However, Recital 10 of the Access Directive[20] is over-ambitious in implying that provisions of the Directive are a response to the recognition that "Competition rules alone may not be sufficient to ensure cultural diversity and media pluralism in the area of digital television". Certainly an aim of conditional access regulation is to "make sure that a wide variety of programming and services is available" and it may well be considered "necessary to ensure accessibility for end-users to specified digital broadcasting services". But the focus of the Access Directive, and indeed the other Communications Directives, is on communications networks, associated facilities and services rather than content, and it appears to be simply assumed that making material available is sufficient to deliver media pluralism.

The Access Directive in general deals with access relationships between providers of networks, associated facilities and services in wholesale markets (Article 1, paragraph 2, states that access in this context does not include access by end-users). It seeks to secure access and interconnection within such markets by providing for specific, *ex ante*, obligations to be imposed on undertakings with significant market power. Two provisions of the Directive, however, authorise the imposition of conditions regardless of significant market power. Under Article 5, national regulatory authorities are given discretion to impose obligations to ensure end-to-end connectivity, including interconnection

16) Vodafone/Vivendi/Canal+, JV 48, 20 July 2000; Sogecable/Via Digital, COMP/C2/37.652, 8 May 2003 and M2845, 16 August 2002.
17) In: T. Gibbons, "Concentrations of Ownership and Control in a Converging Media Industry", n.1, above.
18) The so-called Hotelling effect points in the opposite direction: see H. Hotelling, "Stability in Competition" (1929) 39 Economic Journal 41-52. See also, M. Cantor & J. Cantor, Prime Time Television: Content and Control (1992) London: Sage.
19) COM (1999) 657 final. See also the Communication from the Commission: … Orientations for the New Regulatory Framework, COM (2000) 239 final.
20) 2002/19/EC of the European Parliament and of the Council of 7th March 2002.

of their networks, on undertakings that control access to end-users. The regulators are also given discretion to require operators to provide access to application program interfaces (APIs) and electronic programme guides (EPGs) on fair, reasonable and non-discriminatory terms, where that is necessary to secure access for end-users to digital radio and television broadcasting services. Under Article 6, a set of conditions dealing with technical conditional access systems must be applied to all operators. Essentially, there must be facilities for transcontrol of such systems and operators must offer access to them on fair, reasonable and non-discriminatory terms and maintain separate financial accounts of their conditional access activities.

It must be conceded that the provisions of Article 5 are likely to be helpful in working towards achieving media pluralism. In particular, the end-to-end network interconnection obligation, in Paragraph 1, has the potential to alleviate the problem of localised bottlenecks whereby end-users are unable or unwilling to subscribe to more than one distributor's outlet. Reflecting the thinking in the Vizzavi Internet portal case, mentioned above, it has the effect of allowing users to choose their content provider independently of their access provider. But if the content provided is insufficiently diverse, that will not advance media pluralism. However, Article 5's purpose is actually different (albeit none the worse for being so), namely to prevent the loss of consumer welfare that results from viewers being bound, economically, to one distributor's outlet and thereby experiencing constraints on the free flow of information.

Similarly, the provisions of Article 5, Paragraph 2 are not aimed at media pluralism, although that might be incidentally benefited. Access to APIs on fair, reasonable and non-discriminatory terms is intended to assist the development of digital interactive television services. Many of those are likely to deal with commercial transactions rather than information flows. While there is no doubt that an API could provide the bottleneck that concentrated a flow of information, removal of the bottleneck will not necessarily provide the diversity of material that the broader social policy requires. Similarly, whilst access to EPGs will enable a wider selection of material to become available to end-users, it is the "presentational" aspect of such facilities – implicitly outside the Directive under Article 6, Paragraph 4 – that are likely to have a greater impact on control of content.

Article 6 is also limited in its potential for enhancing media pluralism. Again, the point is that the regulation of conditional access systems may be necessary but it is not sufficient for this purpose. The application of the Directive in the UK will serve to illustrate the point.[21] The regulator (OFTEL, acting on behalf of OFCOM, under s.408 of the Communications Act 2003) has emphasised that conditional access conditions must be imposed on a particular person (company) under the Directive. Furthermore, they apply to operators, "whose access services broadcasters depend on to reach any group of potential viewers or listeners …". Applied in the UK context, most broadcasters on the digital satellite platform reach their viewers by being included in a BSkyB pay-TV package, so they do not need conditional access services. Similarly, broadcasters on cable systems also reach the viewers via the packaging arrangements made by the cable operators; they do not need any technical conditional access system to do it. Similarly, free-to-air digital television (Freeview) does not use conditional access to reach its viewers. In principle, therefore, none of these digital outlets appear liable to conditional access conditions being imposed. However, in the case of digital satellite, some broadcasters reach their viewers without being part of a BSkyB package but, to do so, they must use the conditional access service provided on digital satellite, a system provided by Sky Subscriber Services Ltd (SSSL, a BSkyB controlled firm). Since the broadcasters "depend" on this service, SSSL falls within the scope of the Directive, and OFTEL have accordingly imposed conditions on it.[22]

Here, OFTEL are not interpreting the Access Directive narrowly, because Article 6 is precisely concerned with problems arising from dependence on proprietary set-top boxes. But, equally, it is clear that the Article is limited in its potential to enhance media pluralism. It cannot exert any effect on the contractual bundling arrangements made by the programme packagers, because they are not obliged to offer access to such bundles on fair, reasonable and non-discriminatory terms. That kind of access is presumed to be capable of being regulated by competition law, without such an *ex ante* condition being applied.

21) Communications Act 2003, ss.45, 73, 75 and 76.
22) OFTEL, The Regulation of Conditional Access: Setting of Regulatory Conditions (2003) 24th July.

Is Vertical Integration the Problem for Media Pluralism?[23]

The main impact of competition law and conditional access regulation is on the market for the supply of programming content. But this does not guarantee that end-users actually experience a pluralistic choice of material. Indeed it is easy to become sidetracked by the need to deal with vertical integration in the new media, both generally and through its more technical manifestations, without appreciating that that has not been the major policy objective in media ownership regulation. In the early broadcasting media, vertical integration was endemic: the typical company would produce the programmes and then deliver them across the transmission network that it owned. Concerns about competition led to modifications of the basic model, for example, requirements for independent production quotas, on the one hand, and divestment of transmission networks on the other. But those measures did not alter the fundamental locus of control, which was the broadcaster-as-editor. For that reason, in the United Kingdom for example, the attention of ownership regulation was directed to the licensee who was responsible for the content that ultimately reached the viewer or listener. Ownership regulation (as opposed to competition law) never moved further up the value chain to scrutinise the bottlenecks that did exist in the way that content packages were assembled. Various deals relating to production, use of library material and copyright, were not transparent. Nor, from a media pluralism perspective, did they need to be, because it was the net outcome that determined the range of content available.

This suggests that the drift towards vertical integration in the new media does not raise new issues for media pluralism. The more traditional (composite) firms had similar characteristics to the merged and joint ventures of the new media. If there was a case for regulating the former, there is a case for regulating the latter. Similarly, the well-aired older debates, about structural ownership regulation versus general competition law, will apply equally to the new vertically integrated entities. However, this does not mean that the advent of the new media has made no difference to configuring media regulation. Rather, the nature of new media practice, with the segmentation of different parts of the value chain, has the effect of highlighting the critical points of control over media content. Ownership regulation was crude by comparison, because there was no need to analyse the reason why diversity at the point of output was compromised; it was sufficient to know that, somehow, the result of the organisation's activities was to concentrate the diet of material available.

The transparency of the value chain in the new media may actually enhance some opportunities for regulating for media pluralism. One, possibly counter-intuitively, beneficial effect is that some access to the media will become commercialised and take advantage of bottleneck regulation. In a single vertically integrated media firm, any claim for access to the media (gaining access to the programming schedule) has to be framed in terms of political theory, centred on freedom of speech. Such claims are difficult to substantiate. Partly, this is because it may not be obvious why one person's speech should take priority in using scarce media resources compared to another's; partly, it is because the media firm's owners will assert their own free speech right to publish what they wish; again, partly, it is because those owners will claim a property right to use their resources as they wish. Generally, therefore, editorial selection tends to take priority over individual access claims. However, to the extent that separate acts of speech are reflected in independent commercial entities, competition law and conditional access rules can assist in enabling a greater diversity of expression to reach the audience. But the benefits must not be overstated, since the limitations are very obvious. If there are no anti-competitive effects or the abuse of a dominant position,[24] no regulator will force a company to do a deal with another that wishes to gain access to a schedule. Ironically, it may be that the more effective bottlenecks provide the best opportunities for mandating access!

Solutions?

Generally, what the transparency of the new media reveals is that the most critical bottleneck for the purposes of promoting media pluralism is the bundling of a programming package. It is this activity, analogous to the editorial decision, which determines what content reaches the audience. In the terms used by ownership regulation, in order to promote pluralism, we need to locate the entity that "controls" the decision making that is significant for diversity of content and, ultimately, for diversity of outlet. Clearly, regulating ownership of the platform for delivery of material will be less significant. So what alternative techniques may be adopted?

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23) For an argument that, in any event, vertical integration does not impose a problem in economic terms, and therefore should not be regulated, see: C.S. Yoo, "Vertical integration and media regulation in the new economy" (2002) Yale Journal of Regulation 171-300.

24) Including circumstances where there is an "essential" facility providing a bottleneck.

One approach is to regulate content directly to secure a measure of pluralism. Although this may not be appropriate for all kinds of programming, it remains one of the objectives of public service broadcasting. Even then, some diversity in public service programming is needed to stimulate creativity: content regulation alone cannot generate the creativity and originality that a diversity of sources can facilitate. Whatever the diversity of public service broadcasting, however, "must-carry" obligations are essential to preserve its prominence in the new media.[25]

Another approach to promoting pluralism is to focus on the delivery to the audience and ensure that a choice of material is available. My criticism, above, of the potential for access measures to promote pluralism does not mean that such choice should not be encouraged. Access measures effectively entail the imposition of some kind of common carrier obligations on operators controlling access to end-users. This should mean that the end-users can sample the whole range of material that those operators control. However, diversity of content depends on what has been produced by others and access provisions cannot determine that.

The most focused approach is to target programme production and supply, in order to guarantee diversity of output. One way of doing that could be to concentrate on behavioural measures under competition law and another way could be to impose some structural constraints. Taking competition measures first, although it has been suggested, above, that they are unlikely to protect pluralism in themselves, they may be able to contribute broadly to a freer flow of content. In the United Kingdom, for example, the broadcasting regulator has acted to facilitate greater consumer choice in the pay-TV market, by imposing restrictions on premium channel bundling by distributors. The imposition of minimum carriage requirements by programme suppliers is prohibited, the aim being to minimise anti-competitive effects of "buy-through" arrangements that required premium channels to be purchased only in conjunction with (typically large) packages of other channels. Buy-through itself has not been prohibited, because small, basic packages are permitted, but premium channels must be made available on an à la carte basis from those basic packages.[26] Of course, exactly which channels are made available will depend on commercial arrangements made upstream.

If general competition principles are insufficient, it may be that some modifications to the regulatory criteria could help to promote pluralism. One such modification might be to use a presumptive audience share threshold, of the kind found in media ownership rules, to trigger a market investigation.[27] However, in the new media, with so many combinations of programme rights and distribution arrangements, that may prove too complex. A different modification might be to incorporate a public interest test into the standard competition regime. For example, in the United Kingdom, the Communications Act 2003 has amended the main merger regime under the Enterprise Act 2002 to allow special tests to be applied in relation to media mergers. For mergers involving newspapers, the need for accurate presentation of news and free expression of opinion, together with a sufficient plurality of views in each newspaper market, must be taken into account alongside questions about substantial lessening of competition. For broadcasting mergers, the need to secure a plurality of control over the media serving each audience, the need to secure a wide range of quality broadcasting and the need for broadcasting controllers to be genuinely committed to programme standards, must be taken into account alongside questions about substantial lessening of competition. In addition, where one of the parties to a merger is a newspaper or broadcaster that controls 25% or more of the relevant national market or a substantial part of it, the same criteria may be applied independently of any competition test.[28] This modified regime has the potential to provide significant safeguards for media pluralism. However, in the United Kingdom, it applies only to proposed mergers, which are identifiable events, and where significant thresholds exist. Even if the criteria were to be applied to a general competition regime, and that may not be easy in practice, their application would depend on *ex post* behavioural analysis by the competition regulator, and the concern is that media pluralism could be compromised before the regulator was able and willing to act.

Another way of dealing with the issue, therefore, may be to adopt some form of structural constraint on programme supply. This would be analogous to media ownership regulation but applied in the

25) In the United Kingdom, must-carry provisions are implemented by s.64 of the Communications Act 2003. Those are complemented by "must-offer" requirements imposed on the public service broadcasters under s.272.
26) Independent Television Commission, Guidance on ITC's Bundling Remedies (1998) 26th June. The ITC's measure was upheld on judicial review: see T. Gibbons, R v Independent Television Commission ex parte Flextech plc (1999) 4 Communications Law 70-71.
27) See T. Gibbons, "Concentrations of Ownership and Control in a Converging Media Industry", n.1, above.
28) Communications Act 2003, ss.373-389, in particular amending and supplementing the Enterprise Act 2002, ss.58, 58A, 59, 59A, 61 and 61A.

context of new digital media, where sector-specific measures are no longer appropriate.[29] But, consistent with the aims of media ownership regulation, the main focus would have to be on the editorial decision-maker, in effect, the programme bundler (including multiplexer). The objective would be to ensure that each member of the audience had access to programming from a minimum number of independent bundlers.

Here, there may be a role for a degree of vertical disintegration to be imposed by structural regulation. For example, the basic effect of Article 6 of the Access Directive is to separate the technical platform from content services, and that will enable a diversity of content to be made available through any conditional access service. Similarly, in the United Kingdom, digital terrestrial television was established in a vertically disintegrated form when a new economic entity, the multiplex, was created to package and deliver programming.[30] But the rationale was less the need for diversity than the desire to foster greater competition for services. Again, the independent productions quota in the "Television without Frontiers" Directive was raised from 10% to 25% in the United Kingdom,[31] not so much to enhance pluralism as such but to improve the market setting for independent producers. In all these cases, a potentially more pluralistic environment can be formed through measures of vertical disintegration but it is unlikely to be a sufficient response.

If a structural method is considered desirable, it has to focus on the audience's experience of pluralism and seek to prevent major media players from controlling an unacceptable share of the audience's exposure to their content. Exactly what counts as an acceptable share is a political decision and cannot be subject to an economic formula. However, there seems to be widespread European consensus that there should be at least three players in each market, if pluralism is to be protected. I have suggested already that the method used in the Access Directive cannot achieve this. However, there may be some scope for adopting the basic technique and applying it, not to wholesale markets, but to content received by end-users. Article 5, in particular contains concepts that could be adapted in this way: the necessity to ensure end-to-end connectivity and accessibility.

What I envisage is that, where end-users in any local market encounter fewer than three separate sources of programming material, the distributor should be required to secure sufficient interconnection facilities to make a greater diversity of sources available. Such interconnection and access would, of course, have to be provided on fair, reasonable and non-discriminatory terms.[32] It might also be supplemented by regulation of EPGs content, to ensure that sufficient prominence is given, not only to public service broadcasters, but also to a diversity of alternative sources.[33]

Whether such a structural approach is necessary, however, depends on the nature of the media markets. It may not be so in the United Kingdom at present, because diversity of content is an important driver for commercial operators, so that duplication of content provision is unlikely to be resisted. On the contrary, "must-offer" provisions were written into the recent new legislation to enable such operators to secure public service broadcast content. However, in the absence of a general willingness to supply each other's content (on commercial terms), it is not obvious that consumers would find it easy to obtain a diversity of material because, until technical advances can provide true convergence, it is unlikely to be easy for them to migrate across the three main platforms of digital terrestrial television, cable and satellite. My conclusion is that, whilst it may well be sufficient to rely on a combination of competition regulation and the *ex ante* conditions authorised by the Access Directive, for the present, the need for what amounts to a surrogate form of media ownership must be anticipated for the future. The kind of interconnection requirement that I have suggested would not guarantee pluralism of content but it would impose diversity of source (bundling) and protect the end-user from concentrations of power over content distribution. It seems plain that the way that the markets are developing at present could pose dangers of unacceptable concentration before long. Arguably, unless constraints are put in place now, it may be too late to reverse the trend.

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29) Partly as a response to anticipated convergence across communications and media, the United Kingdom's Communications Act 2003 abolishes most of the previous restrictions on ownership, including those relating to foreign ownership and accumulations of interest. Two of the more significant of the few that are retained include a cross-ownership rule preventing newspaper proprietors who control 20% of national or local markets from controlling Channel 3, and a rule requiring local radio to have at least two commercial operators in each market in addition to the BBC. See generally, Schedule 14 to the Act.

30) Under the Broadcasting Act 1996, Part I.

31) Council Directive (89/552/EEC) of 3 October 1989 and Directive 97/36/EC of the European Parliament and of the Council; Broadcasting Act 1990, ss.16(2)(h) and 186.

32) It is appreciated that these terms have yet to be given clear meaning.

33) For the UK's general approach, see: Independent Television Commission, ITC Code of Conduct on Electronic Programme Guides (1997).

Vertical Regulation in Digital Television: Explaining Why the United States Has No Access Directive

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With its Access Directive, the European Union adopted a comprehensive legislative framework for regulation of vertical relationships in the increasingly digital, converging services marketplace.[2] By contrast, the fundamental communications statutes and regulations in the United States continue to address access and vertical regulation on a service-by-service basis. To be sure, American regulators – and in particular the Federal Communications Commission ("FCC") – understand the implications of convergence and the general, economic principles governing common communications markets. But, for a variety of reasons this regulatory (and academic) consensus has not translated into any attempt, similar to the Access Directive, to codify first principles of vertical communications relationships.

Emerging digital television services – the focus of this workshop and the contributions to this publication – provide an important case-study in U.S. regulation of vertical relationships in new communications markets, and this, in turn, offers some comparative insight into U.S. and European telecommunications policy. Indeed, viewed from one perspective, U.S. regulation of the vertical integration between digital television platforms and service or equipment providers may appear to be in disarray. Long-standing rules that limited the vertical integration of cable companies and programmers and that limited the horizontal integration of cable companies have been overruled by the courts. Similarly, rules restricting network ownership of territorial broadcasters have been substantially weakened. On the equipment side, a statute requires an open digital equipment market, but there is yet no regulation directed at the set-top boxes and other equipment necessary for interactive digital television services. Moreover, despite the FCC's opening an inquiry on the issue, no statutes or regulations address the possibility of a platform owner discriminating against unaffiliated service providers. Even if equipment markets have been declared open, service markets are not.

In order to provoke a profitable exchange on the direction of access regulation under the Directive, this paper presents the U.S. approach. The aim is three-fold: first, to explain the tools that the U.S. has used and currently uses to regulate vertical integration in media markets; second, to set forth the specific U.S. rules that currently govern (or fail to govern) interactive digital television equipment and services; and, third, to attempt to explain the apparent disarray. Indeed, what appears to be a tentative U.S. approach to regulation can be explained by placing digital television regulation within the context of several fundamental debates over communications policy – ranging from the debates over expected technological developments, economic theory, and the relationship between free speech and communications regulation. In the U.S., each of these provides reasons to eschew comprehensive ex ante regulation of emerging services. The preferred approach, for better and worse, demands evidence, based on solid market experience, of anticompetitive behavior before regulating new services such as interactive television.

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1) The author thanks the organizers of and participants in the conference for excellent comments and a profitable exchange. Errors and omissions remain my own.
2) Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), *OJEC*, 24 April 2002 L 108, p. 7-20.

I. The Current Status of Digital Transmission in U.S. Media Markets

To place the U.S. regulatory approach in context requires a brief review of U.S. media markets and of the current state of digital transmission in those markets. In multi-channel video[3] markets, cable continues to dominate market share, although direct broadcast satellite is providing vigorous competition. Terrestrial broadcasters continue to be an important source of programming, notwithstanding that an overwhelming percentage of TV viewers receive that programming over cable or DBS. Radio, newspapers, and the Internet are considered partial competitors, although their importance depends upon which aspect of the media market one is focused upon. Each of these media platforms is beginning a transition to all-digital transmission. Direct broadcast satellite service has used digital transmission since its inception, but DBS is increasingly delivering high-definition service and new rules now require compatibility with digital receivers. Cable television operators have been voluntarily upgrading their systems to digital services over the past several years, to expand channel capacity and offer new services. Terrestrial television broadcasting too is switching to digital standards, largely forced by government, and the transition is (optimistically) slated for completion in 2006. Digital radio broadcasting standards have been adopted, but, with the exception of infant satellite radio services service is essentially non-existent.

As a threshold matter, it is important to note that I will speak of "media markets," because U.S. regulation does not have concept of "broadcasting" that covers television, cable, and satellite services. In the United States, only traditional terrestrial broadcasting – *i.e.*, advertising supported "free" service – is classified for regulatory purposes as broadcasting. Thus, entirely different chapters of the Communications Act govern terrestrial broadcast and cable services.[4] Direct broadcast satellite services, because they are sold only on a subscription basis,[5] are within neither the television nor cable provisions, being acknowledged in only a few provisions of the Act.[6]

This statutory separation is slightly deceiving, however, for U.S. regulators and economists recognize that these three services are, to a greater or lesser extent, in competition with one another. Indeed, for most purposes, the FCC and commentators divide the market between the terrestrial broadcasters, on the one hand, and what the FCC calls the "multi-channel video program distributors" or "MVPDs" (*i.e.*, cable and satellite, largely) on the other.

1. The Media Market Generally

Although terrestrial broadcast continues to be ubiquitously available, a rather small percentage of the U.S. marketplace actually receives its television in this manner. According to the most recent statistics, fewer than 15% of U.S. television households rely upon terrestrial broadcast to receive television. More than 85% of all television households subscribe to one of the multichannel platforms; of these, cable television leads by a wide margin, holding 76% of the multichannel market. DBS, however, is growing more quickly. Although DBS commands only 21% of the multichannel market, its 12.5% growth rate significantly leads cable's paltry 0.4%. Other technologies, such as terrestrial wireless cable, are essentially declining fringe players, constituting no more than 4% of the market.[7]

Even as terrestrial broadcast as a transmission platform is in decline, these traditional broadcasters continue to play a significant role in the marketplace. Indeed, aided by retransmission and must carry rules, their viewership hovers around 50%, and they continue to supply the most popular programs. Even with the general economic downturn, broadcasters' advertising revenues in 2002 exceeded USD 36 billion. (By contrast, total cable company revenues, which includes advertising, subscription, and non-video revenues such as high-speed Internet access, totalled USD 43.9 billion.)[8]

In most geographic markets, competition is between a single cable company and direct broadcast satellite service (which is itself provided by two companies[9]). In several large cities, a second wireline

3) Editor's note: "video" is used in the sense of "visual".
4) Broadcasting is regulated under "Title III" of the Communications Act of 1934, as amended, 47 U.S.C. § 301 et seq., and cable television is regulated under "Title VI," 47 U.S.C. § 541 et seq.
5) See generally National Ass'n for Better Broadcasting v. FCC, 849 F.2d 665, 668 (D.C. Cir. 1988) (upholding FCC rules that DBS was not a broadcaster on the basis of its subscription characteristic).
6) See generally Howard A. Shelanski, The Bending Line Between Conventional "Broadcast" and Wireless "Carriage," 97 Colum. L. Rev. 1048 (1997).
7) See generally Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Ninth Annual Report, 17 FCC Rcd. 26901 (2002).
8) *Id.*; see *also* Kagan World Media, Cable TV Investor, 24 May 2002, at 9.
9) EchoStar and DirecTV. In October 2002, the U.S. Department of Justice sued to prevent the announced merger of EchoStar and DirecTV, United States v. EchoStar Communs. Corp., No. 1:02CV02138 (D.C. filed 31 October 2002), and the merger was withdrawn.

cable company provides service, but total non-incumbent cable subscribership is only about 1 million subscribers. Competition between cable companies and satellite providers has become reasonably vigorous, since the adoption of rules and technology that permit the satellite companies to retransmit local terrestrial channels. As noted above, DBS subscriber growth is far outstripping cable growth, and the companies have been engaged in head-to-head competition and marketing.[10]

2. The Transition to Digital Transmission

The U.S. video markets are well on the way to digital service, although digital receiver penetration is well behind the conversion of transmission platforms. DBS has always been a digital service, with set-top boxes converting the signal to accommodate analog televisions. In order to increase channel capacity and as part of the upgrades necessary to provide Internet services, cable companies continue to deploy digital transmission technologies. Of an estimated 68.8 million cable subscribers, 16.8 million (approximately one-quarter) take digital cable.[11] The industry projects that digital cable subscribership will exceed analog within the next 2-3 years.[12] Both DBS and cable provide limited amounts of high-definition service, with the largest cable companies expecting to make most prime-time shows available in high definition within the next year.[13]

Over-the-air stations are supposed to switch to digital transmission by the end of 2006, although few observers think that the deadline will be met. Currently, each of the top 30 markets has at least two broadcasters simulcasting in analog and digital, with approximately 1000 total stations broadcasting in digital.[14] Current FCC rules only require the digital licensees to offer a single video channel, notwithstanding that the licenses would support four (or more) channels under current compression standards.[15] As a result, there is little expectation that the transition to digital over-the-air signals will cause a significant shift away from cable or DBS as the preferred platforms, as the total number of over-the-air channels will remain the same.[16]

3. Horizontal and Vertical Integration

The United States media market is, in some dimensions, significantly concentrated. The top four multichannel providers serve slightly over 50% of the market, and the top ten serve approximately 85%.[17] Of the 308 programming networks available in the U.S., approximately 30% are affiliated with at least one cable operator. More importantly, eight of the 20 most popular video programming networks are affiliated with a cable operator. Adding in the broadcasting companies and a few other media players, 45 of the top 50 programming networks are owned by only 14 companies.[18]

As to electronic programming guides (EPGs), each DBS and cable company provides only a single such service to its respective subscribers, whether through exclusive contract with a third-party provider or through a proprietary service of its own.[19] In 1999, the then two-largest EPG providers (Gemstar and TV Guide) were permitted to merge.

4. Interactive Services

The FCC has recently concluded that "commercial two-way interactive service deployment has been very limited."[20] Approximately 12 million households are capable of receiving some interactive television service.[21] Apart from interactive programming guides, however, interactive service currently has a subscribership estimated at no more than one million.

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10) Ninth Annual Report, at para. 13. At a minimum, the cable industry seems to perceive the competition. See Dustin Goot, Video May Kill the Satellite Star, Wired News, 9 December 2002 ("Broadband Plus, formerly the Western Cable Show, opened this week with a call to arms from the chairman of the California Cable and Telecommunications Association: Cable companies must 'stop the bleeding that's going to DBS (satellite)'.") (http://www.wired.com/news/digiwood/0,1412,56729,00.html).
11) NCTA, What is Digital Cable; Kagan World Media, Broadband Cable Financial Databook, July 2002, at 78.
12) *Id*.
13) Ninth Annual Report, at paras. 135-40.
14) See http://www.fcc.gov/mb/video/dtvstatus.html.
15) See In re Advanced Television Systems, Fifth Report and Order, 12 FCC Rcd. 12809, 12910 (para. 28) (1997) (holding that each television broadcaster need only provide one channel of digital television service); *id*. at para. 32 (expecting that television stations will provide non-broadcast services over the remainder of the spectrum).
16) Additionally, broadcasters will still be entirely advertiser supported, which means that they cannot provide the mix of subscription fees and advertising that most consumers prefer.
17) Ninth Annual Report, *supra*, at paras. 132-33.
18) *Id*. para. 136 (AOL Time Warner, Cablevision, Comcast, Cox, Disney, E.W. Scripps Co., General Electric, Hearst, Liberty Media, MBM, Newhouse, News Corp, Viacom, and Vivendi). See also Kagan World Media, Major Owners of Cable Networks, 11 September 2001, at 4.
19) Ninth Annual Report, at paras. 159-61.
20) *Id*. para. 170.
21) *Id*.; *see also* Philip Swann, Interactive TV: Clearing the Static (13 May 2002) (http://news.com.com/2010-1071-911827.html).

II. The Current U.S. Approach to Vertical Regulation of Media Companies

The United States has used a number of regulatory measures to address vertical integration in media markets, including both structural and behavioral approaches. The most radical structural separation has long been rejected. Thus, traditional broadcasting has never been regulated as a common carrier, and the more-recent cable service provisions explicitly forbid the regulation of cable television as a common carrier service.[22] Instead, regulation has limited the degree of horizontal common ownership, as a means of creating multiple, independent buyers for programming. Similarly, rules have required cable companies to offer some unaffilitated programming. These rules have not required non-discrimination. That is, a cable company has been required to provide some unaffiliated programming, but the cable company has had editorial discretion to choose which unaffiliated programming it would offer.

1. Traditional Approaches to Programmer/Platform Integration

The original concern in regulating the vertical relationship between program and platform providers was the concern that the three broadcast networks would dominate the programming decisions of local broadcast licensees, frustrating the policy that television should be responsive to local needs. That concern has largely evaporated, given the much diminished importance of the broadcast networks and broadcast licensees as distributors of programs. Rather, the dominant concern for the past decade and more has been the possibility that the new platform providers (*i.e.*, the cable companies) will use their control over the platform to discriminate against unaffiliated programmers and against other platforms.

Structural Rules. The fundamental structural decision was to issue local (and not national) broadcast licenses. As a result, in order to preserve this local control of broadcasting, FCC regulations long limited the number of stations that a single entity could own.[23] The practical effect was to limit the integration of broadcast networks and individual broadcasters. The FCC also had long-standing rules that limited the number of media outlets that a single entity could own in a single locale, in order to maximize the diversity of programming.[24] In important cases in 2002, the United States Court of Appeals for the D.C. Circuit struck down these rules, and sent these issues back to the FCC.[25] The FCC has restored these rules, in weakened form; Congress, however, seems poised to return them to their original strength.[26]

In cable markets, structural limits have also been applied and are also currently in revision. In an attempt to guarantee a market for unaffiliated programmers, the United States imposed both horizontal and vertical limits on cable ownership. In other words, cable companies were limited in their permitted geographic reach and in the number of channels that they could devote to affiliated programmers. Originally, the rules provided that no cable company could own systems reaching more than 30% of all households, on the theory that multiple cable companies were necessary to ensure that independent programming purchases could be made. Moreover, the rules required cable companies to set aside a significant number of their channels for unaffiliated programmers.[27] In 2001, the United States Court of Appeals struck down these rules, holding that they were based upon faulty assumptions of the possibility of collusion among cable companies and trenched upon cable companies' first amendment rights.[28] The FCC has not yet adopted replacement rules, although it seems inclined to attempt to continue some limits on horizontal and vertical integration.[29]

Moreover, the cable companies have long been subject to must-carry rules for broadcast services. It has never been quite clear whether these rules were actually necessary, because cable companies would likely have reached an accommodation with many of the broadcasters to carry these popular programs.

22) 47 U.S.C. § 541(c). The Communications Act does make provision for a quasi-common carrier service called "open video systems," but there have never been more than a handful of such providers and, today, there are none.
23) See Amendment of Multiple Ownership Rules, Report and Order, 100 F.C.C.2d 17, para. 17 (1984) (stating that purpose was "to promote diversification of ownership in order to maximize diversification of program and service viewpoints" and "to prevent any undue concentration of economic power").
24) See Review of the Commission's Regulations Concerning Television Broadcasting, 64 Fed. Reg. 50,651 (1999), *recon.*, 66 Fed. Reg. 9039 (2001).
25) See Fox Television Stations v. FCC, 280 F.3d 1027 (D.C. Cir. 2002) (vacating national ownership cap and cable/broadcast cross-ownership prohibition); Sinclair Broadcast Group, Inc. v. FCC, 284 F.3d 148 (D.C. Cir. 2002) (vacating local ownership caps).
26) See Stephen Labaton, FCC Plan to Ease Curbs on Big Media Hits Senate Snag, N.Y. Times, 17 September 2003, at A1.
27) See 47 U.S.C. § 533(f)(1)(A), (B); Implementation of Section 11(c) of the Cable Television Consumer Protection and Competition Act of 1992, Third Report and Order, 14 FCC Rcd. 19098 (1999).
28) See Time Warner Enter. *Co. v. FCC*, 240 F.3d 1126 (D.C. Cir. 2001).
29) Implementation of Section 11(c) of the Cable Television Consumer Protection and Competition Act of 1992, Further Notice of Proposed Rulemaking, 16 FCC Rcd. 17312 (2001).

Nevertheless, must carry will continue into the digital era, although a digital broadcaster offering more than one video channel will be able to insist on cable carriage of only one channel.[30] DBS providers are subject to a somewhat different must-carry requirement, which is an adjunct to their only recently received authority to carry local television programming at all. But if a DBS provider decides to carry any local television stations on its service (as it must do to be an effective competitor to cable), then it must essentially carry all of the local stations.[31]

In addition to must carry, cable companies are required to set aside a very limited number of channels for leased access and public, educational, and government channels.[32] These routes, however, have led to very little effective programming.

Behavioral Rules. Broadcasters were never common carriers, and the U.S. had only limited behavioral regulation designed to limit vertical integration of programmers and licensees. The few notable regulations were (1) the so-called prime-time limit, which forbade a network to program more than 3 of the 4 prime-time hours of a broadcast affiliate; (2) the requirement that a broadcast affiliate always have the power to reject a certain network program or episode; and (3) the financial interest and syndication rules, which essentially forbade networks to use their dominant position in first-run broadcast markets to also acquire second-run rights in television programs. The last of these rules has been eliminated by the FCC and the first two have limited continuing significance.[33]

Because cable companies were viewed as neither broadcasters nor common carriers, the structural rules discussed above have never been supplemented by behavioral nondiscrimination rules. Nevertheless, although cable companies have not been subject to general rules requiring them to admit unaffiliated programming on a nondiscriminatory basis, those programmers affiliated with cable companies are required to sell their programming on a nondiscriminatory basis to other transmission providers. The point of these rules is to prevent the cable companies from using their incumbency position and relationship with programmers to impede the entry of competing platforms. Drafted with the case of DBS specifically in mind, these rules forbid the cable companies to enter into exclusive contracts with program suppliers – ensuring that new transmission platforms will have programming to sell to viewers.[34] The rules also forbid programmers that are affiliated with cable companies to discriminate in the sale of their programming (by, for example, offering cable companies significant, non-cost-justified discounts).[35]

2. Specific Rules Governing Set-top Boxes, EPGs, and Emerging Digital Services

The United States has no comprehensive regulatory framework that addresses electronic programming guides (EGPs), application program interfaces (APIs), or other aspects of future interactive television services. The Congress, in 1996, did require the FCC to make rules providing for the competitive provision of set-top boxes and other equipment, but the statute does not regulate services in any way. The FCC's equipment rules have recently been amended to set standards for so-called "plug and play" digital televisions, which include standards for conditional access devices. As to interactive services, the FCC began an inquiry several years ago. The agency's initial notice as well as a few more recent comments provide some clues to its thinking. But definite rules must await further development by the agency.

In 1996, as part of the first major overhaul of American communications law in 60 years, Congress required the FCC to establish rules to "assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems, from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor."[36] The legislative history indicates that Congress wished for the development of a competitive market in this equipment, similar to the market which developed when telephone carriers were required to accept third-party equipment on their networks.[37]

30) See Carriage of Digital Television Broadcast Signals, First Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 2598 (2001).
31) To be precise, the copyright law was amended to permit DBS to retransmit terrestrial signals pursuant to a compulsory license and subject to conditions such as local restrictions and must carry of other local channels. See 17 U.S.C. §§ 119, 122.
32) 47 U.S.C. §§ 531, 532.
33) For a discussion of these rules as originally adopted and as they have evolved, see Stuart Minor Benjamin, et al., Telecommunications Law and Policy 289-314 (2001).
34) See 47 U.S.C. § 548; Development of Competition and Diversity in Video Programming Distribution and Carriage, First Report and Order, 8 FCC Rcd. 3359 (1993).
35) *Id*. at paras. 82-120.
36) Telecommunications Act of 1996, Pub. L. 104-104, §304, 110 Stat. 56, 125 (codified at 47 U.S.C. § 549(a)).
37) H.R. Rep. No. 104-204, at 112-14, reprinted in 1996 U.S.C.C.A.N. at 79-81.

While opening the equipment market to competition, Congress protected MVPD operators' interests in other regards. Operators are permitted to sell equipment; the statute forbids the FCC to establish strict structural separation.[38] The statute also recognizes the MVPD operators' interest in maintaining security of their systems,[39] and the FCC is permitted to grant an operator a waiver from the rules where the operator shows that a waiver is necessary to introduce a new service.[40] Last, the regulations must sunset when the MVPD market becomes "fully competitive."[41]

The FCC has used its authority under this statute somewhat sparingly. In 1998, the Commission adopted rules requiring MVPD companies to separate conditional access functions from other functions and to provide the technical information necessary for others to manufacture navigation devices.[42] In other words, effective 1 July 2006,[43] the rules forbid the carriers to sell a device that integrates conditional access with navigation, tuning, or other functions. And consumers have the right to attach any compatible navigation device to an MVPD system. The FCC had just issued rules setting standards for so-called "plug and play" digital televisions, compatible with both digital cable TV and digital broadcast. The televisions themselves will have conditional access measures built in, apparently requiring a subscriber to insert type of security card before receiving service.[44] Thus, the new rules may seem something of a step back, for they require the integration of conditional access devices into all tuners/receivers. But, because the rules set open standards, they ensure the development of independent and competitive equipment markets.[45]

Even the FCC's most recent rules do not address interactive television services, in part due to the statute's limited scope. In the release, the FCC promised further work on standards and rules for the equipment that will enable two-way services,[46] and it clearly has authority to adopt such rules. In particular, the statutory text, the FCC's rules, and the FCC's discussion in its 1998 order, all speak broadly of equipment used by consumers to access "programming *and* other services over multi-channel video programming systems."[47] In its rulemaking order, the FCC used its authority over non-video equipment, stating that its rules required MVPD carriers to accept third-party equipment used to access electronic program guides.[48] However, neither the statute nor the rules make any provision for FCC authority over interactive services. The FCC's rules simply do not require the MVPDs to accept unaffiliated EPGs or otherwise to carry unaffiliated interactive services. In other words, the statute clearly requires the open provision of the *equipment* that a consumer would use to access ITV services, but it does not require the open provision of ITV *services* themselves.[49]

The agency has acknowledged that interactive television service may require a more general regulatory framework. To that end, the FCC did, in 2001, issue a "notice of inquiry" on the topic of "nondiscrimination in the distribution of interactive television services over cable."[50] That document provides some insight into the FCC's analysis of the issue. Under a tentative definition of interactive television services that encompasses any "service that supports subscriber initiated choices or actions that are related to one or more video programming streams,"[51] the FCC identified "three major building blocks for the delivery of ITV services": (1) a video stream, encompassing both the traditional video program and any relevant triggers, (2) a two-way connection, and (3) the necessary equipment.[52]

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38) 47 U.S.C. § 549(a).
39) 47 U.S.C. § 549(b).
40) 47 U.S.C. § 549(c).
41) 47 U.S.C. § 549(e)(1).
42) See Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Report and Order, 13 FCC Rcd. 14775 (1998), aff'd, General Instrument Corp. v. FCC, 213 F.3d 724 (D.C. Cir. 2000). The rules, as codified, can be found at 47 C.F.R. §§ 76.1200 - .1208.
43) See Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd. 7924 (2003).
44) See Implementation of Section 304 of the Telecommunications Act of 1996, Second Report and Order and Second Further Notice of Proposed Rulemaking, FCC 03-225, paras. 7-12 (released 9 October 2003). the text of the rules, only a summary of the order.
45) See *id*. paras. 3-13.
46) See *id*. para. 7 ("Negotiations are ongoing for a bidirectional receiver specification which would eliminate the need for an external navigation device to receive those advanced services.").
47) 47 U.S.C. § 529(a); *see also* 47 C.F.R. § 76.1200(c).
48) See 1998 Order, at para. 116.
49) There is one limited exception – a nondiscrimination requirement that applies only to require DBS EPGs to include any broadcast channels offered. But, since it does not apply to cable and does not apply to any ITV service other than EPGs, it is limited indeed. See 47 U.S.C. § 338. A second EPG non-discrimination rule, which applies to open video systems, is of no effect, because there are no such systems. See 47 U.S.C. § 573(b).
50) Nondiscrimination in the Distribution of Interactive Television Services Over Cable, Notice of Inquiry, 16 FCC Rcd. 1321 (2001).
51) *Id*. para. 6.
52) *Id*. para. 10-12.

In the notice, although it specifically called for more data on the issue, the FCC offered its tentative view that only cable television plant would provide all three elements on an integrated basis.[53] Specifically, the Commission proffered that DSL does not have the bandwidth necessary to offer the video stream and satellite service does not have a sufficiently efficient two-way connection to provide effective competition to cable providers' ITV services. It therefore called for comment on whether non-discrimination rules were necessary. "If it turns out that only one delivery platform in each geographic area has the capability to provide the most attractive ITV services package, and if the platform provider is vertically integrated with an ITV service provider, then there would be the potential for anticompetitive behavior."[54] Two commentators in the United States have picked up this theme, focusing on "the lack of a credible competitor to discipline cable operators" and the concern that it "opens several avenues for discriminatory behavior in favor of affiliated programmers and ITV service providers."[55]

As of this writing, the FCC has not issued any further documents in this proceeding, although it has referred to it. For example, in the AOL/Time Warner and AT&T/Comcast proceedings, several parties asked the Commission to condition the transfer of operating authorities on the companies' commitment to provide open access to electronic programming guides or other interactive TV services. In each proceeding, the Commission largely demurred, stating only that it had the matter under consideration.[56]

In sum, U.S. statutes and regulations clearly require MVPDs to make available standards so that unaffiliated manufacturers may provide the set-top boxes and other consumer equipment necessary for interactive television services. To that extent, vertical integration is limited. On the other hand, no specific U.S. regulation currently addresses the provision of such interactive services, and cable companies may integrate unrestricted by communications law.

III. The Current U.S. Debate

Given that the issue was formally noticed more than two years ago, it might appear that the FCC is remiss in adopting regulations to cover interactive television services generally, especially as the deployment of those services is expected to accelerate. Viewed within the context of the broader U.S. debate over communications policy, the FCC's hesitation in acting is more understandable.[57] This debate, which currently rages over almost all communications services, has (at least) four dimensions which must be considered: (1) the "new services" argument, (2) technological uncertainty, (3) disputes over the appropriate economic "first principles" to be applied to communications regulation, and (4) first amendment constraints.[58]

First, over the past seven years, FCC Commissioners have increasingly expressed the view that new and innovative services should be exempt from regulation in order to encourage their development. This view, which has its precedents in the FCC's early decision to exempt computer-enhanced telecommunications services from heavy-handed common carrier regulation,[59] has been labeled a "high-tech Hippocratic oath: first, do no harm."[60] In the dawning days of high-speed Internet access services, when cable faced no significant challenge from DSL and therefore had almost all of the high-speed market, the FCC Chairman characterized the cable companies as having a "no-opoly" – the services were simply too new to regulate.[61] Similarly, there have been proposals in the U.S. to exempt all "new" services offered by telephone companies from the unbundling regime put in place by the 1996 Act.[62] Although neither the Congress nor the FCC has adopted the most comprehensive of these

53) *Id*. para. 19-22.
54) *Id*. para. 1.
55) Hernan Galperin & Francois Bar, The Regulation of Interactive Television in the United States and the European Union, 55 Fed. Comm. L.J. 61, 74 (2002).
56) See AOL/TW Merger Opinion, 16 FCC Rcd. 6547 (para. 217) (2001); AT&T/Comcast Transfer Authority, at paras. 154-65; Ninth MVPD Report, at para. 170.
57) Moreover, the FCC's agenda has not been entirely its own, as the various court reversals mentioned previously and other court reversals on key regulations under the 1996 Act have required new FCC proceedings.
58) There are a variety of other concerns as well, most notably the concerns of content owners that service and equipment standards embed technologies that limit copying of digital transmissions. The FCC openly acknowledged these were a significant stumbling block in its adopting the one-way standards for digital receivers and cable systems. See Section 304 Second Order, *supra* note 43, at para. 11.
59) Amendment of Section 64.702 of the Commission's Rules and Regulations, Final Decision, 77 F.C.C.2d 384, 390-94 (1980).
60) Chairman Kennard Calls on Franchising Authorities to Promote National Broadband Policy (15 June 1999).
61) *Id*.
62) See, *e.g.*, Bret L. Grebe, Comment, Worth Its Weight in Copper: Is the Internet Freedom and Broadband Deployment Act Much Ado about Nothing?, 81 N.C.L. Rev. 769 (2003) (discussing proposed legislation).

proposals, one can detect in the FCC's recent decision to eliminate the so-called "line-sharing" rules a sense that these new services should be more lightly regulated.[63]

A similar reticence to intervene, lest regulation stifle the ITV market, explains the FCC's statements in the big cable mergers that the market has not yet developed and that it will continue to "monitor developments." The FCC, therefore, is likely to take a "wait and see" approach and intervene only after the market matures.

Second, and relatedly, the FCC has become increasingly unwilling to diagnose bottlenecks – that is, to conclude that any company has an access monopoly and that the access monopoly is likely to persist. Considering the advance of broadband technology, this unwillingness is, to a degree, understandable. DSL is now a significant competitor to cable broadband service, and DBS is a competitor to cable to a degree not expected several years ago. Even in traditional telephone markets, approximately 3% of U.S. subscribers have now replaced their wireline service entirely with wireless.

To be sure, the ITV Notice of Inquiry is notable because it is forward looking, attempting to determine the future technology of ITV. Indeed, its expressed concern is that technological advance may *create* a single bottleneck – that cable plant may prove the only acceptable platform for deploying these services. The United States courts that review the FCC's decisions, however, insist on strong evidence to support a regulatory decision, and the agency's need to develop the appropriate record to support any nondiscrimination rule is simply a fact of U.S. administrative law.

Third, communications policy in the United States continues to struggle to define the appropriate economics default rules. Although antitrust economics has become the dominant intellectual mode for communications regulators, antitrust economics is strongly divided over the question of whether a bottleneck owner would assert its physical control over ITV services to discriminate against unaffiliated service providers. The so-called "Chicago school" asserts that such monopoly leveraging generally will not be in even a monopolist's economic interest. Observed instances of vertical integration or refusals to deal with third parties are therefore better explained by the need to recover investments, the need to assure quality service, or other benign reasons.[64] It might be argued that this school of economic thinking currently has the upper hand at the FCC, as evidenced by the Commission's unwillingness to regulate cable Internet services,[65] to unbundle local loops for the shared provision of voice and DSL,[66] or to continue significant limits on media concentration.[67]

If this is the case, then the FCC is unlikely to view the possibility that a platform provider will discriminate against unaffiliated ITV services with much sympathy. The essential argument is, of course, that the platform provider will offer its subscribers the service that is most appealing to the subscribers; only this maximizes profits.

The "Chicago school" is not the only player in these debates, and a substantial "post-Chicago" school that argues that such monopoly leveraging and discrimination is much more prevalent and is of significant concern in information markets.[68] It is not my intent (here) to resolve these arguments, only to note that this is a significant debate. The important point is that the absence of a consensus resolving the likelihood and threat of monopoly leveraging on a more theoretical plane helps explain the absence of ex ante rules for specific services such as ITV. Of course, the debate probably cannot be resolved at a theoretical level in any event, which simply feeds the "new services" concern discussed above. Because the FCC will not want to attempt a theoretical resolution, it will wait for the market to develop and act only if there is evidence of actual, significant anticompetitive action.

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63) See Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Report and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36 (released 21 August 2003).

64) See generally James B. Speta, The Vertical Dimension of Cable Open Access, 71 Colo. L. Rev. 975 (2000); Christopher S. Yoo, Vertical Integration and Media Regulation in the New Economy," 19 Yale J. on Reg.171 (2002).

65) See Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd. 4798, para. 106 (2002).

66) Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Report and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36 (21 August 2003).

67) 2002 Biennial Review – Review of the Commission's Broadcast Ownership Rules, FCC 03-127 (2 July 2003).

68) One prominent example is Lawrence Lessig's book The Future of Ideas (2001). Bar and Galperin also assert that "[a]bsent rules that provide for non-discriminatory access to network components and a degree of standardization of terminal equipment, these platform operators will have strong incentives to leverage their ownership of delivery infrastructure into market power over ITV services and content." Bar & Galperin, *supra*, at 63. For a more general discussion of the post-Chicago school, see, e.g., Herbert Hovenkamp, Post-Chicago Antitrust: A Review and Critique, 2001 Colum. Bus. L. Rev. 257 (2001); Symposium, Post-Chicago Economics, 63 Antitrust L.J. 445 (1995)

Fourth, the U.S. Constitution's free speech guarantee provides a significant constraint on both the Congress and on the FCC's regulatory freedom in this arena. The U.S. Supreme Court has consistently ruled that cable television companies exercise "editorial discretion" with respect to the services carried on their platforms and are therefore "entitled to the protection of the speech and press provisions of the First Amendment."[69] DBS providers, which similarly operate closed systems, will surely be entitled to similar rights. Thus, any regulation that attempts to force platform providers to carry unaffiliated services or to provide APIs or triggers to unaffiliated companies may prove unconstitutional. Indeed, one United States court, in a controversial decision, held that proposed rules requiring all cable companies to provide access to unaffiliated Internet service providers violated the first amendment.[70] As a practical matter, the applicability of the first amendment makes it quite difficult for the agency to adopt prophylactic, *ex ante* rules. Under the prevailing test, the regulator (be it Congress or the agency) must base any access regulation on evidence that demonstrates (to the court) that the regulation is necessary to further an important governmental purpose.[71] For example, this so-called "intermediate" level of first amendment scrutiny has been used to scrutinize the concentration and affiliation limits imposed on cable companies.[72] This first amendment scrutiny can be met of course, for the first amendment does not eliminate economic regulation, and the courts have upheld a variety of regulations in the face of first amendment challenges. But ITV regulation, again without marketplace complaints, is unlikely.

IV. Conclusion and (Some) Comparisons

It is, therefore, true that U.S. regulation of interactive television services appears to be in some disarray, at least by contrast to the approach taken by the Access Directive. No comprehensive regulatory framework exists for these developing digital services. And, yet, this seeming disarray is perfectly consistent with the current U.S. approach to communications law – regulate lightly (if at all) and only when the evidence develops that such regulation is necessary. In the specific case presented here, we can, for good and ill, expect more of the same: prospective service providers will continue to present their concerns over the possibilities of discrimination to the FCC; the agency will regularly announce that it is "monitoring" marketplace developments and seeking to determine whether regulation is necessary; and, facing that threat, platform providers will open their platforms perhaps more than they would if left entirely to their own devices.

I believe that this mediated, but essentially hands-off, approach has much to recommend it, as the discussion in the previous section has hinted. First, unlike the Framework Directive, which purports to resolve that monopoly leveraging is a likely strategy by all bottleneck owners,[73] the U.S. approach recognizes that circumstances differ. Especially where a monopolist is attempting to grow the size of its network rapidly, even a monopoly may set clear standards and work with any unaffiliated provider whose content or services attracts additional subscribers to the network.[74] Second, the U.S. approach places faith in facilities-based competition and in the willingness of market entrants to take on monopoly markets. Sometimes, this faith is not rewarded, but the costs of regulation are also taken seriously such that it is the second-best option. And, last, the U.S. notion of freedom of speech, while assuredly not universal, has served in this country to provide a balance between private and public power.

It could be argued that the differences between the Access Directive and the U.S. regulatory approach may be more in approach than in result, for the results of the Access Directive are not yet settled. That is, although the Access Directive is bold and comprehensive in its own statements, it appears that the implementation of the Directive will struggle through many of the same issues that dominate the U.S. debate. For only one example, the necessary determination of which carriers have

69) Turner Broadcasting System, Inc. v. FCC, 512 U.S. 622, 636 (1994).
70) Comcast v. Broward County, 124 F. Supp. 2d 685 (S.D. Fla. 2000); see generally William E. Lee, Cable Modem Service and the First Amendment: Adventures in a "Doctrinal Wasteland," 16 Harv. J.L. & Tech. 125 (2002).
71) *E.g.*, Turner, 512 U.S. at 636.
72) See, *e.g.*, Time Warner Ent., Co. v. FCC, 240 F.3d 1126, 1129-30 (D.C. Cir. 2001).
73) Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive). OJEC L 108 of 24 April 2002, p. 33-50 (Art. 14 (3)). Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services. OJEC C 165 of 11. Juli 2002, p. 6-31 (paras 83-85).
74) I have made this argument concerning cable open access rules – that cable providers will sell more high-speed Internet access service by enabling open systems and that government regulation is therefore unnecessary. See James B. Speta, Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms, 17 Yale J. on Reg. 39 (2000).

"significant market power" in order to specify the extent of access obligations will require implementing authority to struggle with technological uncertainty. Nevertheless, the difference in approach does seem important, for the Access Directive suggests that regulation is necessary unless and until competition is proved to make it unnecessary,[75] while the U.S. approach prefers (at least with respect to interactive TV, but more generally as well) to regulate only when marketplace developments make the need for regulation clear.

One thing is certain: communications regulation, both as a matter of academic study and as practiced in the real world, is furthered by responsible experimentation with a variety of approaches. Thankfully, and regrettably, there is no other way to proceed.

75) See Access Directive, intro. recital 13 ("The aim is to reduce *ex ante* sector specific rules progressively as competition in the market develops. However, the procedure also takes account of transitional problems in the market such as those related to international roaming and of the possibility of new bottlenecks arising as a result of technological development, which may require *ex ante* regulation, for example in the area of broadband access networks. It may well be the case that competition develops at different speeds, … and national regulatory authority should be able to relax regulatory obligations were competition is delivering the desired results.").

Some Additional Aspects and Examples

The Collapse of Digital Platforms in European Union Member States

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Introduction

Over the last five years, European digital platforms have faced huge financial losses. Examples of these are ITV Digital in the UK, Kirch in Germany, Quiero and Vía Digital in Spain, Tele+ in Italy, Canal+ Nordic and Canal Digital in Scandinavia, Canal+ Polska in Poland, and Canal+ Vlaanderen and Canal+ Belgique in Belgium. Companies have either closed operation, been taken over by banks or off-loaded shares onto the market. The remaining market players, such as BSkyB and Fininvest, have barely survived substantial losses but only due to considerable investment by their parent companies and cross-advertising of their media products through other holdings.

In retrospect, it is simple to pinpoint reasons for the great digital collapse. Many platforms failed due to market saturation from existing competition in terrestrial and cable broadcasting coupled with heavy investment in new technologies and programme acquisition. The situation rapidly dissolved into the status quo as digital platforms went bankrupt trying to play catch-up with existing services. New market entrants placed strain on established markets, with terrestrial and cable operators making losses as well. However, it was inevitable that the new (digital) entrants to the market would be the first to exit.

The collapse has meant a high cost for companies, jobs and regulatory cost to governments across Europe.[1] The policy goals for competitive markets set out in the mid-1990s were not met. In most Member States, only one digital gateway remains often by a single company. National regulatory authorities (NRAs) are faced with potential monopoly power from owners that not only control encryption technology (CA, Multiplex, etc.), EPGs and APIs but also exert control over upstream or downstream markets. Further potential externalities in terms of the public interest (media pluralism, etc) are obvious. This paper will review the collapse of digital platforms and then assess the present regulatory climate at the European level.

The Role of EC Competition Law

Competition law has been the only tool available to the European Commission in shaping digital markets up until the present given the restricted number of regulatory instruments available to it. When issuing licences for pay-television platforms in the mid-1990s, Member States initially preferred one tightly regulated consortium of all their key national players (e.g. Bertelsmann/Kirch/Deutsche Telekom in Germany; Carlton/Granada/BskyB in the UK, RTL4/Veronica/Endemol in the Netherlands, Canal Plus España/Telefónica in Spain, etc) rather than requiring each player to establish a separate platform. However, the EC competition directorate vetoed these choices in the interest of competition. Particularly in digital markets, the Commission mandated that there be multiple

1) Harcourt, Alison (2004) The European Union and the Regulation of Media Markets, Manchester University Press.

platforms at national levels to ensure competition. This policy was implemented to the avoidance of the imposition of must-carry rules and access requirements on single platforms which would have required huge regulatory effort on the part of the EU institutions.

The EC competition strategy did not work as dominant positions emerged overtime. Moreover, intense market competition weakened European parent companies (usually terrestrial television operators). Few of the major European players are presently in sound financial shape. The dilemma that the European institutions now face is that many European terrestrial and digital players are vulnerable to foreign (e.g. non-European) take-over. Europe already finds itself in a situation wherein initial investment in the new media markets of the early 90s (cable and satellite) largely came from established US corporations such as AOL/Time Warner, Liberty, News Corporation, NTL, UPC, and Viacom.

It was not simply that the EC over-estimated the sector's growth potential, but that it lacked internal co-ordination of a common policy. DG Information Society defined communications markets (widely) differently than DG Competition (narrowly). Whereas DG Information Society recommended standard-setting, access and greater market concentration in emerging markets, DG Competition enforced diverse ownership in each specific market and competition in the choice of gateway technologies. DG Market preferred a middle ground approach that recommended that a certain number of media owners be maintained at the national level, at least 3-4 in each market, but it not only came into difficulties when defining those markets, but produced an ownership Directive which was politically infeasible. Some Member States have since reacted to Commission efforts by attempting to push forward their own agenda within the European Council in 2003. This would be for a single national digital platform in public/private partnership upon which regulatory constraints such as access and must-carry rules could be applied.

National Cases

In the 1990s, European countries began to licence pay television platforms. When considering policy options, national regulators needed to balance a number of different sometimes conflicting goals: ensuring market competition, the removal of entrance barriers, the promotion of new technologies, the support of national industry and the safeguarding of the public interest (media pluralism, etc). Most governments decided that the market could initially support only one platform and planned to license consortia comprising of their largest existing terrestrial players. Some consortia consisted of private actors only, some of public/private partnership. In return for privileged market position, the government would be able to apply must-carry and access rules to operators. European intervention in the form of competition decisions prevented national governments from implementing these original plans.

Germany

Germany is Europe's largest cable market. Satellite subscription is low in Germany due to high cable penetration. Deutsche Telekom (DT) dominated ownership in the cable market until very recently. The European Commission prompted sector competition by pressuring the sale of DT's cable networks and promoting the establishment of further pay-television services (e.g. satellite).

In 1994, a proposal for a pay television (MSG Media Service) service was made by a consortium between the groups Bertelsmann AG, Taurus Beteiligungs GmbH (belonging to Kirch) and Deutsche Bundespost Telekom (the public telecommunications group). The European Commission Competition Authority found the joint venture to be incompatible with the common market as it would have created a dominant position in three markets: 1) technical and administrative services for pay-TV (a market in which MSG would have been directly present), and two other markets, in which the parent companies were present: 2) cable distribution (DT), and 3) pay-TV (Kirch and Bertlesmann through Premiere). The Commission also considered that MSG was likely to gain a lasting dominant position in new media markets (of the future), particularly for digital television where it would foreclose the market to new entrants. Hence, the consortium dissolved. The decision had serious implications for the German market. Two digital platforms (Kirch's DF1 and Bertelsmann's Premiere) were launched. However, they chose to use different technologies for set-top boxes. The Commission later failed to convince Bertelsmann to use Kirch's D-box technology.

In July 1996, the Kirch Group braved the market alone by launching the DF1 digital satellite service. At the end of 1996, despite much higher estimates, subscribers to the service only numbered 30,000 and the Group was predicted to entail huge losses until at least the year 2004.[2] In February 1997, the

pay-channel Premiere (which was owned at the time by Bertelsmann, Canal Plus and Kirch) started to use digital decoders and launched a new service, Premiere Digital with 4 pay-per-view services. This formed the basis for a joint venture between Premiere and DF1 with the collaboration of Deutsche Telekom for a digital service. The joint venture was blocked by the European Commission despite its support from the German CDU government. Kirch subsequently acquired Premiere in 1999 to form "Premiere World".[3]

Until 1999, the Kirch Group was owned by Leo Kirch and his son Thomas after which other partners (Berlusconi, Murdoch and Prince Al Waleed) took shares. Due to financial difficulties, the Group was reorganised into KirchMedia and KirchPayTV in 1999. KirchMedia owned the national channels Kabel 1, Deutsches SportFernsehen (DSF), and N24. It also owned 52.52% of ProSiebenSat1 (which owns the channels Sat1 and ProSieben). ProSiebenSat1 was floated on the stock market in 2000.[4] The Kirch PayTV branch housed the digital satellite service, "Premiere World". As predicted, Premiere World consistently lost money until KirchPayTV filed for insolvency in August 2002. By 2002, Kirch owed EUR 1.4 billion to its bank creditors and EUR 500 million to its US content providers, Paramount, Warner Bros and Disney. In addition, BSkyB sought the conditional return of its 22.03% equity interest in KirchPayTV. Kirch's chief creditor was the state bank of the Bavaria, Bayern LB (headed by Edmund Stoiber, Bavaria's Minister-and Chairman of the CSU political party). It is estimated that the State of Bavarian has lost up to EUR 2.3 billion due to the financial collapse of the Kirch Group.[5] In August 2003, ProSiebenSat1 was sold to the U.S. media owner Haim Saban by Kirch's creditors (creditors which included the U.S. companies Disney and Columbia studios). The German government seemed keen to attract a European owner, but there were few bidders.

France

Canal Plus launched the first subscription satellite service in France in 1992 with CanalSatellite. Canal Plus later launched a digital satellite service in 1996, Canalsatellite Numérique. France's second digital satellite service Télévision par Satellite (TPS) was launched in December 1996. The European Commission was unsuccessful in convincing TPS to choose the same technology as Canal Plus for its set-top boxes.[6] A smaller third digital satellite service (AB Sat) was started by AB Productions in March 1997. Canal Plus and AB Productions use the same set-top box technology and under the "simulcrypt" agreement are able to offer each other's programme packages to their subscribers. This has rendered TPS less competitive and the group has sunk into considerable debt.

Due to diversification and Europeanisation, the French company Canal Plus for a short time became Europe's most successful private television operator. After its merger with the Dutch/South-African company NetHold in September 1996 it became, according to some, the "largest television group in the world."[7] In 1998, it launched digital platforms in Belgium, Italy, the Netherlands, Poland, Spain, Scandinavia through Canal Plus. In 2000, Canal Plus was fully acquired by the utilities group Vivendi. Vivendi also merged with the Canadian distillery group Seagram[8] in 2000 therewith acquiring the film production companies Universal and Polygram. It also owned 24% of BSkyB in the UK between 1999 and 2002[9]. Vivendi is no longer "French" as such as the majority of its stockholders are US citizens since it was listed on the New York exchange in 2000.

Since 2000, Vivendi/Universal has been downsizing its media assets due to huge losses due to acquisitions. Canal Plus continues to own CanalSatellite (France), Canal+ Netherlands, 10% of EchoStar

2) Lang, Matthias (1997) Entering the Digital Age. The Promise of Pluralism and the Danger of Monopoly Control. Paper presented at the ECPR-Workshop "New Media and Political Communication" March.
3) Kirch owned 25% of Premiere until 1998 when it purchased Canal Plus' share in Premiere in return for Kirch's 34,72% stake in Telepiù. It bought remaining shares in 1999 leaving Bertelsmann with around 5% which Bertelsmann sold to Kirch in 2001.
4) In 2000, the publishing group Axel Springer owned 11.4% of ProSiebenSat1. 40% of Axel Springer was owned in turn by the Kirch Group (40% of which was taken over by Deutsche Bank AG in 2003 as a part of the Kirch liquidation).
5) Hooper, John, John Cassy and Mark Milner "Investors take Kirch's fate to the wire" The Guardian, 4 April 2002.
6) Levy, David A. (1999) Europe's Digital Revolution: Broadcasting Regulation, the EU and the Nation States. London: Routledge.
7) Dempsey, Judy. Financial Times 18 September 1996 Survey - Europe's Most Respected Companies: Conflict of Cultures for Media Giant.
8) In production Seagram owns the Universal Television Group, Polygram, the Brillstein-Grey Entertainment (50%), Multimedia Entertainment (which produces the talk show Jerry Springer), USA Networks Inc. (45% formerly the Home Shopping Network Inc.) and the distribution company Universal Pay Television. Seagram also has shares in HBO Asia, Telecine (Brazil), Cinecanal (Latin America), Showtime (Australia) and Star Channel (Japan).
9) In 1999, acquired a 24.5% stake in BSkyB, but was obliged by a Decision of the European Commission to sell its holding. Instead it used its share in BskyB to secure a bank loan from Deutsche Bank to offset debt. Deutsche Bank floated the shares in 2002.

in the US and has shares in Canal Satélite Digital (Spain)[10]. But it has sold off many of its digital platforms and channels in an attempt to reduce media debt. These were Scandinavia (Canal+ Nordic and Canal Digital), Italy (Tele+), Poland (Canal+Polska), Belgium (Canal+ Vlaanderen and Canal+ Belgique) and Germany (Vox). The group hung on to its (American) assets in content production: Universal Studios, Polygram Film International and Abbey Home Entertainment. Its March 2003 Annual Report showed a corporate debt of EUR 23.3 billion (the net debt was EUR 12.3 billion) and announced that it would divest 7 billion worth of assets in 2003. In an effort to compensate for its debt, Vivendi is selling off Havas Advertising and some other non-American assets to Lagardère SCA, for EUR 1.28 billion in cash (the European Commission opened an investigation in July 2003). In September 2003, Vivendi's entertainment assets were acquired for USD 14 billion by the US media group NBC, which belongs to the US utilities group General Electric. The new group will be called NBC Universal.

Italy

The first Italian digital satellite service was offered by Orbit Satellite Television and Radio Network in 1996.[11] But the main market operator is Telepiù which began satellite broadcasting in March 1996 and broadcast digital from 1999. A third service, Stream, which has been providing a video-on-line service since 1995, went digital in 2000. Stream was slowly acquired by News Corporation with the European Commission approving both acquisitions it bought in 2000 and 2003.[12] When the French group Vivendi shed Telepiù, it was also bought by News Corporation. News Corporation merged Telepiù and Stream in 2003 to form Sky Italia, which is 80.1 percent-owned by the U.S. group News Corporation and 19.9 percent-owned by Telecom Italia. Even though the spotlight is on media concentration in Italy at the moment, it is the only country under discussion to have different players operating in terrestrial and satellite markets and to have two digital satellite platforms. However, despite Italy's early 1970s ventures into the cable market, there is no competition from cable operators in digital markets.

Spain[13]

Since September 2003, there has only been one digital satellite platform in Spain. Digital+ is a result of the merger of digital platforms Canal Satélite Digital (CSD) and Vía Digital. CSD and Vía Digital merged following heavy losses due to investment by both companies.

Canal Plus España (whose main investors were Canal+ France and Prisa) was the first to offer terrestrial pay television in Spain in 1990. In 1996, Telefónica de España and Canal + España, announced a new joint venture, called Cablevisión, to create a platform of digital pay television via cable systems. The Commission blocked the acquisition.[14] It found that the venture affected the supply of services to cable television operators and prevented new entrants to markets for pay and cable television. Originally, the companies had notified the acquisition to the Spanish Competition Defence Tribunal (*Tribunal de Defensa de la Competencia* – TDC), which vetoed the joint venture, but it was overruled by the Spanish government. After this, the Commission wrote to Canal Plus España requesting notification to the Commission (indeed, informally the Commission had to put up a considerable fight to wrench the decision away from the Spanish government). Following a negative decision by the EC Commission's Merger Task Force (MTF), Sogecable sought an annulment in the CFI and a suspension of the Commission's activities until the Court had determined whether the operation had a Community dimension. The Court of First Instance (CFI) did not suspend the MTF investigation (as it viewed this to be a substitution of the EC's administrative activities), but supported the MTF decision.[15] In any case, just before the CFI negative decision was announced, the operation was withdrawn due to a change in the Spanish government in 1996 and the opposition of European Commission.

10) The group still has television interests in Africa through NetHold and Asia, Australia and Latin America through Seagram.
11) Orbit Satellite is owned by the Mawarid Group of Companies based in the Saudi Arabia, whose chairman is the Saudi prince, Khalid bin Abd al-Rahman, who is a cousin of King Fahd. The company is active in construction, electronics, computers, food, and banking and investment sectors.
12) Stream was originally owned by Telecom Italia but was floated in 1999. News Corporation gained a 35% stake, Cecchi Gori Communications 18%, and four Italian football teams (Fiorentina (owned at that time by Cecchi Gori), Lazio, Parma and Roma) owned 12%. News Corporation bought out the football teams in 2000.
13) My gratitude is expressed to Carles Llorens-Maluquer and Monica Arino for comments on this section.
14) 1996 Case No. IV/M.0709 [OJC 228/05, 7 August 1996].
15) 1996 Case T-52/96 Sogecable SA v Commission of the European Communities. [12 July 1996, ECR 0797].

The Prisa group then proposed to Canal Plus France and other investors the creation of a new firm called Sogecable to launch a new Spanish digital platform by satellite, Canal Satélite Digital, and the management of the analogue terrestrial pay television channel Canal+. Llorens-Maluquer claims that the then Spanish government attempted to prevent the launch of Canal Satélite Digital with two laws.[16] The government stated that the laws were enacted to promote pluralism as they required the use of multicrypt (rather than simulcrypt) transmission and mandated the shared use of sports rights. As Canal Satélite Digital was using simulcrypt, this rendered their broadcasts illegal. The Commission opposed Act 17/97 as anti-competitive and in contrary to the free movement of goods and threatened to challenge it in the Court of Justice of the European Communities (ECJ). As Llorens-Maluquer details well, a long battle between the Commission and the Spanish government ensued resulting in an amendment by Spain of Act 17/97.[17] In a parallel development, CSD challenged Act 17/97 in a Spanish court (*Tribunal Supremo*), which referred case in turn to the ECJ. Long after the Act had been amended, the ECJ ruled with the Spanish court, and against the Spanish government in January 2002.[18] In a recent development, the Spanish government was condemned by the Spanish Tribunal Supremo to pay EUR 26.4 million in compensation to Sogecable for commercial damages as a result of the illegal application during 6 months of Act 17/97.

Sogecable, through its subsidiary Canal Satélite Digital was the first to go digital in January 1997. Telefónica's Vía Digital launched its satellite service in September 1997. Telefónica and Sogecable announced the merger of their pay television interests (Vía Digital and Canal Satélite Digital respectively) in mid 2002 into Sogecable. A third digital pay television, Quiero, established by a terrestrial network in 1998. Other digital players include the cable companies, Spaincom and Grupo Auna. Spaincom owns ONO which started cable services in 1995 (then as Cableuropa). Telefónica owns cable licences in each of Spain's 42 regions (each region issues 2 licences). In addition, there are dozens of local cable companies in Spain, many yet unregistered. Telefónica rather than continuing its development of the cable networks is presently developing the ADSL network and it is planning to offer broadcasting services via the ADSL network rather than via cable.

The United Kingdom

The UK differs from continental media markets as it has maintained diversity in ownership through strict regulation, particularly in cross-media ownership. Unlike other European markets, UK groups have operated in the separate markets of press, broadcasting and telecommunications. Co-operation between the largest UK groups is low. Media tends to be the core activity of UK groups, rather than investment coming from industrial champions as in other Member States. These factors have meant that UK players are smaller in size than their European counterparts in both press and broadcasting. New market investment (cable, satellite) mostly came from US companies (NTL, TeleWest and News Corporation).

The first UK private satellite operator started in 1980 with Satellite Television Ltd. which became Sky in 1984 (it was bought in 1982 by Murdoch). Sky started broadcasting its package service in 1989 from the Astra satellite. British Satellite Broadcasting started a rival service later in the same year, but was acquired by Sky with which British Sky Broadcasting (BSkyB) was formed in November 1990. BSkyB is currently the only digital satellite service operative in the UK. It is currently controlled by News Corporation through Sky Global Networks, Inc.[19] Major shares were floated between 2000 – 2003 on the market after the withdrawal of previous partners Vivendi, Kirch, Pearson and Granada (due to their financial difficulties).

A digital terrestrial television (DTT) licence for a second digital satellite service was granted by the British government authority, the ITC, in June 1997 to BDB, a joint venture between BSkyB (33%), Carlton (33%) and Granada (33%). Under pressure from the European Commission (DG IV) the UK

16) 1997 *Ley* 17/97 incorporation of the Directive 95/47/EC; and 1997 *Ley* 21/97 *Reguladora de las Emisiones y Retransmisiones de Competiciones Deportivas* (on the retransmission of sporting events).
See Llorens-Maluquer, Carlos (1998) "European Responses to Bottlenecks in Digital Pay-TV" Cardozo Arts & Entertainment Law Journal Vol 16, No 17) April. pp. 557-586.

17) *Real Decreto Ley* 16/97 amends *Ley* 17/97 with the changes mandated by the Commission.

18) Case C-390/99 Canal Satélite Digital v Spain 2002 [22 January 2002].

19) In 2002, BSkyB was 35.4% owned by Sky Global Networks, Inc., the controlling shareholder of which is Sky Global Holdings, Inc., which is majority owned by News International Plc, which is majority owned by Newscorp Investments Limited, which is 100% owned by News Corporation Limited.

government asked BSkyB to withdraw[20]. The resulting joint venture, ONdigital (renamed ITV Digital), was established by Carlton (50%) and Granada (50%). The two companies sank into considerable debt (GBP 402 million) and ITV Digital was terminated in April 2002. The greatest debt is owed to the content providers Sky TV (GBP 210 million) and the Football League (GBP 179 million). The UK is seeking to attract outside investment to establish a satellite service to rival BSkyB. (For the time being, the ITC issued the existing digital licences to the BBC and Crown Castle). In 2003, the UK Communications Act will remove ownership restrictions and open the UK television market to foreign (non-European) owners. The removal of foreign ownership restrictions may have been an attempt by the British government to quickly establish a rival service to BSkyB as there are few European bidders at hand. Press predictions are that Viacom[21] will buy the ITV companies. ITV of course was not only a digital operator but is the chief terrestrial player licensed through fifteen regionally based franchises.[22] The (merging in 2003) companies Carlton[23] and Granada[24] presently own 12 of the 15 licences.

The cable companies NTL and Telewest dominate the UK cable business. NTL and Telewest are to merge in 2004. Between them they presently had 60% share of the broadband market in 2002. Concentration in the cable sector occurred in 1996 when Cable and Wireless's Mercury telecommunications business merged with the UK cable operators Nynex CableComms, Bell Cablemedia and Videotron to form C&WC (now NTL).

Netherlands

Like in Germany, cable reach is high in the Netherlands. The state telecommunications company (Royal PTT Netherlands) sold off its main cable networks which were bought mainly by foreign companies. Of the 50 cable operators in 2002,[25] the US group Liberty (through UPC) owned by far the largest number. Up until the present, Canal+ Netherlands represented the only digital satellite platform in the Netherlands. A new digital terrestrial service Digitenne was launched in 2003 backed by KPN, Nozema, NOB, SBS and Canal+ as a public service/private sector partnership. Digitenne has been singled out under the EU's e-Europe initiative as a model for Europe as it represents a single digital platform which allows extensive access.

Conclusion: Policy Options?

As shown, most Member States initially preferred one digital platform of its key national players, rather than requiring players to establish separate platforms. The Commission forced, through competition law, the establishment of at least two market players. Attempts, as in the example of Spain, to impose a single encryption technology (e.g. multicrypt) at the national level were also vetoed by the European Commission which ensured that there be a market choice. National players, naturally, chose different systems. One has to question the wisdom of EC decision-making in this case. Not only did enforcing national competition go against the EC's own recommendation, under the 1995 TV standards Directive,[26] to encourage the use of one digital standard, but the market outcome was far from ideal. The choice of different digital set-top boxes meant increased financial difficulties for market players leading to the eventual collapse of national platforms and/or mergers into one service provider in each Member State. If governments had been permitted by the European Commission to enforce the use of a single encryption technology and at the same time been required to license a stipulated number of operators, this may have resulted in a more even playing field for competition.

20) The only other contender for the licence, Digital Television Network (DTN), (a joint bid between cable operator NTL and United News & Media) had filed a formal complaint with the European Commission about the award of the DTT licence to Carlton and Granada.
21) Viacom was predicted to buy ITV following Tony Blair's meeting with Viacom Chairman Sumner Redstone on November 12th, 2002. Viacom already owns MTV, CBS, Paramount film studios, Blockbuster Video, the UCI cinema chain, the Paramount Comedy Channel and all the advertising spaces on London Underground.
22) Anglia, Border, Granada, LWT, Meridian, Tyne Tees, Yorkshire, Carlton, Central, HTV, Westcountry, Grampian, Scottish, Ulster, Channel.
23) Carlton, Central, HTV, Westcountry.
24) Anglia, Border, Granada, LWT, Meridian, Tyne Tees, Yorkshire.
25) Communications and Information Technology (CIT) (2002) The Media Map of Western Europe London.
26) Directive 95/47/EC of the European Parliament and of the Council of 24 October 1995 on the use of standards for the transmission of television signals OJ L 281 , 23 November 1995 pp. 51 – 54.

Following the collapse and/or sell-off of digital players in Europe, most Member States are left with a single digital platform operator resulting in potential bottleneck problems which are being discussed here today. A number of today's speakers are proposing different solutions to the bottleneck dilemma. These include the possibility of extending access under the new EC regulatory framework or strengthening media ownership rules nationally. I must ask, how political feasible can these proposals be?

At the European level, trying to regulate for the public interest is an extremely difficult task due to a number of reasons: regulatory limitations set out in the EU Treaties, the Commission's fear of being struck down by the Court of Justice (which rarely takes into account considerations of public interest due precisely to Treaty requirements), the existing regulatory framework (at national and European levels), political resistance from national governments, and the reluctance by national regulatory authorities to relinquish power to the Commission in this area. Most significantly, the key policy-maker in this area, DG Information Society does not consider the public interest to be a policy goal of the European Commission.

The 2003 Regulatory Framework for Electronic Communications – Implications for Access to Broadcasting Networks and Associated Facilities

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Background

The new regulatory framework is applicable to all transmission infrastructures, irrespective of the types of services carried over them. It covers all electronic communications networks, associated facilities and electronic communications services, including those for broadcasting. However, regulation of content broadcast over electronic communications networks (e.g. radio and television programmes or TV bouquets) remains outside the scope of the 2003 regulatory framework. The framework is without prejudice to EU or national broadcast content regulation adopted in conformity with Community law.

The new regulatory framework draws upon the following Directives:

– Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, ("Framework Directive");

– Directive 2002/19/EC of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associated facilities ("Access Directive");

– Directive 2002/20/EC of the European Parliament and of the Council on the authorisation of electronic communications networks and services, ("Authorisation Directive");

– Directive 2002/22/EC of the European Parliament and of the Council on universal service and users' rights relating to electronic communications networks and services ("Universal Service Directive").

The Framework Directive aims at establishing a harmonised regulatory framework for all electronic communications networks and services across the European Union. As an overarching text, it determines the general scope of application of the various directives. It sets out a number of principles and objectives for regulators to follow. It also contains a number of definitions and horizontal provisions common to more than one measure in the package, such as the market definition and analysis procedures for the designation of significant market power (SMP) operators.

The primary responsibility for implementing the new framework relies on national regulatory authorities (NRAs). NRAs are best placed to assess the specific conditions in their national markets,

1) The opinions expressed are purely personal and do not necessarily reflect those of the European Commission.

and the measures best suited to address them. NRAs are given a degree of discretion in choosing the tools most appropriate to deal with regulatory concerns as they arise. As a counterbalance to this increased flexibility however, the new framework seeks to improve co-operation between the Commission and national regulators using a new consultation and transparency mechanism.

Access to Networks and Associated Facilities

The Access Directive establishes a framework for access and interconnection agreements across the European Union. It envisages that access obligations can be imposed on operators that have significant market power (SMP). The Access Directive also applies where a third party requires access to a network traditionally used for broadcasting purposes in order to distribute electronic communications services as opposed to broadcast content. The Directive takes over the specific regime for access to conditional access systems in Directive 95/47/EC[2] on the use of standards for the transmission of television signals.

General Framework on Access

The Access Directive establishes a general access regime based on the assumption that negotiations between market players should be undertaken on a commercial basis first. When competition is not effective on specific markets, access remedies can be imposed on operators that have been designated as having significant market power on a specific market following a market analysis by national regulatory authorities (Article 8 of the Access Directive). A list of product and service markets whose characteristics may be such as to justify the imposition of sector-specific regulatory obligation was identified in the Commission Recommendation on relevant markets (pursuant to Article 15 of the Framework Directive). The access remedies are: transparency; non-discrimination; accounting separation; access to, and use of, specific network facilities; price control and cost accounting obligations (Articles 9-13 of the Access Directive) or other types of obligations in exceptional circumstances and with the agreement of the Commission (Article 8.3 of the Access Directive).

This procedure under Article 8 could be used, for instance, to impose obligations on operators, designated as having significant market power in a particular market, to meet reasonable requests for access to, and use of, specific network elements and associated facilities, *inter alia* in situations where the NRA considers that denial of access, or unreasonable terms and conditions having a similar effect, would hinder the emergence of a sustainable competitive market at the retail level or would not be in the end-user's interest (Article 12 of the Access Directive).

Specific Provisions for Conditional Access Systems to Digital Radio and TV Broadcasts

As regards conditional access issues, the key measures regarding conditional access systems contained in Directive 95/47/EC have been carried over into the Access Directive (Article 6 and Annex I, part I)[3]. The main provisions of this specific regime are as follows:

- As regards conditional access, CAS operators are required to provide services to other broadcasters on "fair, reasonable and non-discriminatory" terms, and to license their intellectual property rights to manufacturers on the same basis.

- Moreover, cost-effective transcontrol between CAS providers and other local network operators has to be possible, so that for example cable operators can directly manage CAS services offered to their own customers.

Compared to the general access regime, the CAS regime applies to all service providers, and not only to those with significant market power. Notwithstanding the above-mentioned provisions, Member States may permit their national regulatory authority, to roll back these obligations following a market analysis in accordance with Article 16 of the Framework Directive. It may determine whether to maintain, amend or withdraw the conditions applicable to non-SMP operators subject to the consultation and transparency mechanism (Articles 6 and 7 of the Framework Directive). Before

2) Directive 95/47/EC of the European Parliament and of the Council of 24 October 1995 on the use of standards for the transmission of television signals (OJ L 281, 23 November 1995, p. 51).
3) Note that the wide-screen requirement of Article 2(c) of the TV Standards Directive 95/47/EC has been taken over in Article 4 of the Access Directive. The Universal Service Directive has taken on board the interoperability requirements of the Directive 95/47/EC (see Article 20).

removing the obligations, however, the regulator must ensure that there would be no adverse effects of such amendment or withdrawal on accessibility for end-users to radio and TV broadcasts and broadcasting channels and services specified in accordance with Article 31 of the Universal Service Directive; the NRA must also conclude that the prospects for effective competition in the markets for retail digital television and radio broadcasting services and conditional access systems and other associated facilities are not unduly compromised or diminished. An appropriate period of notice shall be given to parties affected by such amendment or withdrawal of conditions.

Finally, the Commission can in the light of market and technological developments, using its powers under comitology (Regulatory procedure), review the conditions contained in Annex I (Conditions for access to digital television and radio services broadcast to viewers and listeners in the Community) in order to have the most suitable harmonised basis across the Community (Article 6(2) of the Access Directive).

Access to other Associated Facilities for Digital Television Interactive Services

Technological and market developments, in particular the emergence of competitive interactive digital television services, make it necessary to include flexible mechanisms to enable the situation regarding access to other associated facilities such as APIs and EPGs to be reviewed.

Where access to other associated facilities is necessary, it may be sufficient in many cases to impose access rules only on SMP providers of the associated facilities concerned, under Articles 8-13 of the Access Directive, subject to the market analysis regime in the Framework Directive.

The Access Directive also provides the possibility for NRAs to impose fair, reasonable and non-discriminatory obligations and conditions on operators to provide access to other associated facilities such as APIs and EPGs (referred to in Annex I, Part II), to the extent that this is necessary to ensure accessibility for end-users to digital radio and television broadcasting services specified by the Member State (Article 5(1)(b) of the Access Directive). All obligations and conditions imposed shall be objective, transparent, proportionate and non-discriminatory, and shall be implemented in accordance with the procedure in Articles 6 and 7 of the Framework Directive (Article 5(3) of the Access Directive).

Content and presentational issues related to CAS and other associated facilities are not covered by the Access Directive. In particular, rules providing for the prominence or the visibility of certain broadcast contents on electronic programme guides (EPGs) are not affected by Articles 6 or 8 of the Access Directive (Article 6(4)).

How the Way in Which Europe Regulates Technical Gateways for Digital Television in Vertical Chains Affects the Business of Network Operators

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1. Business Strategies of Companies Operating Electronic Communications Networks Which Supply Electronic Communications Services to Providers of Digital Television Programme Services

Companies operating electronic communications networks[2] may:

(i) Supply electronic communications services[3] to providers of all kinds of content services (*e.g.*, broadcasters) and information society services (*e.g.*, e-commerce services or video-on-demand services).[4] These service providers are likely to purchase such services whenever they have an interest in offering their content services or information society services to end users connected to the electronic communications network of a supplier of electronic communications services;

(ii) Alternatively, the owners of electronic communications networks may choose to only offer those content or information services which either they own themselves or with whose suppliers (external content producers) they choose to enter into a contractual agreement (on an exclusive or non-exclusive basis) to the end users which are connected to their networks. In this case, the owner of the electronic communications network in question determines what kind of content services he wants to offer to his customers (the end users).

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2) Defined in Article 2(a) of the Framework Directive as: "transmission systems and, where applicable, switching or routing equipment and other resources which permit the conveyance of signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit- and packet-switched, including Internet) and mobile terrestrial networks, electricity cable systems, to the extent that they are used for the purpose of transmitting signals, networks used for radio and television broadcasting, and cable television networks, irrespective of the type of information conveyed."
3) Defined in Article 2(c) of the Framework Directive as services: "normally provided for remuneration which consist wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks".
4) Defined in Article 1, para. 2(a) of Directive 98/48/EC of the European Parliament and of the Council of 20 July 1998 amending Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations, OJEC 5. August 1998 No. L 217: 18-26, as: "any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services."

Ad (i)

In the first situation, providers of content or Information Society services can, in fact, purchase capacity on a network for the supply of their services. This is typically the case where network operators are only active in the wholesale market, such as for example, satellite operators (ASTRA; Eutelsat; others).

Ad (ii)

In the second situation providers of content or Information Society services cannot simply purchase capacity on a network for the supply of their services, because the network operator is also a packager in his own right. Third party packagers would compete with the network operator's own service packages, since the network operator will package content and Information Society services and offer those in one or more subscription packages to end users connected to his network. This is typically the case where the network operator is active in the retail market: his clients are the end users connected to his network and pay a subscription fee in return for the supply of one or more content and/or Information Society service packages that are of interest to them. The network operator purchases content and Information Society services that are offered on the wholesale market and, after packaging, offers these services to his subscribers. In addition, some network operators may also choose to produce their own content and/or Information Society services.

2. The Role of Conditional Access Systems (CAS) in the Business Strategies of Network Operators

Digital television services are normally encrypted. In both cases (under option (i) mentioned above in para. 1 and under option (ii)) the question that is relevant in regard to the supply of digital television services, is whose encryption system is going to be used.

Encryption makes it possible for an operator to manage his subscriber base electronically from a distance. It ensures that only those end users who have actually purchased the service, can receive the service. Such encryption requires a conditional access system (CAS), which consists of a subscriber management system (SMS) and a subscriber authorization system (SAS). The former contains all kinds of customer data (a valuable asset for a service provider since it effectively blocks potential competitors from using the SMS for their own marketing purposes); the latter is a purely technical management system that transforms instructions from the SMS into instructions that can be read by digital set top boxes. Using the SAS, the operator of an encryption system can provide or block individual access to certain services upon the request of the operator of the SMS without actually knowing which subscriber is granted or denied access.

A CAS can be either open or closed. In an open CAS, decoders can be made available by many different manufacturers by means of which consumers can receive not only the services owned by the network operator but also services of other providers using open encryption systems (it enables them to use different smartcards from different service providers). In an open system, every provider of a digital television service can acquire from the owner of the encryption system the right to use the system against payment of a certain fee.

In a closed system, only those broadcasters who entered into an agreement with the system's owner acquire the right to use the encryption system. The operator of a closed encryption system has the possibility of reserving the right to control the SMS.

For network operators who are only active in the wholesale market, selling electronic communications services to suppliers of digital television services, it is hardly relevant which encryption system is chosen by the suppliers of the television services. It is the sole responsibility of the television service providers to choose an encryption format that can be used by the members of their target audience. A disadvantage of this system is that members of the target audience of one digital television service may also be members of the target audience of another digital television service, in which case they might have to invest in two (or more) different set top boxes (which would be the case if the second or third digital television service provider uses different encryption methods). Most end users who receive digital television services via satellite are confronted with this situation. Hence the requirement that digital television sets (not digital set top boxes by the way) containing a CAS should have a common interface which can cope with different types of conditional access modules.[5]

5) Annex VI to the Universal Service Directive (see footnote 13 below): "Interoperability of digital consumer equipment referred to in Article 24 para. 2."

Network operators who are (also) active on the retail market (e.g., cable and Digital Terrestrial Television (DTT) operators or Canal Plus digital packages), selling digital television services to the end users connected to their networks,[6] have an interest in opting for a single encryption system in order to avoid that their clients (the end users) have to invest in different set top boxes for different services communicated to them through the network to which they subscribe. This is why those network operators will want to retain the right of "transcontrol"; *i.e.*, they will require that digital television service providers use the conditional access system chosen by the network operator.[7]

The additional advantage is that under a system of transcontrol, the network operators offering digital television packages of different providers whereby the programme services offered in the different packages may partly overlap each other, do not have to distribute the overlapping programme services twice over their networks because of the intelligence which they can built into the smartcards that they use in their CAS. This is important from the point of view of efficient use of network capacity.

A network operator who does not offer electronic communications services on the wholesale market to third party suppliers, but chooses to offer his own digital television service package(s) on the retail market (option (ii) above) will simply produce and/or buy digital television content services suitable for the conditional access system of his choice. The problem here is that when different network operators use different systems, content providers will have to format their services in such a way that they suit all different needs (much like the old days, when films for VCRs had to be released in three different formats: VHS, Betamax and VCC).

3. Regulatory Responses to the Business Strategies of Network Operators

3.1 Merger Decisions

In merger cases, the European Commission took a number of decisions relating to aspects of vertical integration and gateway monopolies. These decisions were based on the "Regulation on the control of concentrations between undertakings".[8] In those cases, the European Commission has taken the position that a certain amount of vertical integration benefits the competitiveness of the European industries. At the same time, however, the Commission tries to prevent the establishment of gateway monopolies in these vertical chains.[9] In cases where a company, which as a result of a merger would be in a position which would enable it to control the access of potential competitors to distribution systems (notably to conditional access systems), its competitors would become dependent on this company for the distribution of their services and it would be difficult for them to get access.[10]

One way of dealing with the situation would seem to be, according to the Commission, to oblige the merged company to use an open encryption system whereby decoders can be made available by many different manufacturers through which consumers can receive not only the services of the merged company, but also other services, using open encryption systems (it would enable them to use different

6) Unlike subscribers to wire-based networks such as the fixed telephony network or a traditional cable system, subscribers to content packages offered by an operator of a digital terrestrial television service or by a content packager leasing a satellite transponder from a satellite operator are not physically connected to the networks used by those packagers, but through the authorization by the network operator of a smartcard which is located in the receiver with which they receive the content package of their choice.

7) Annex I of the Access and Interconnection Directive (see footnote 13 below): "Conditions for access to digital television and radio services broadcast to viewers and listeners in the Community", Part I: "Conditions for conditional access systems to be applied in accordance with Article 6(1)":
"(a) conditional access systems operated on the market in the Community are to have the necessary technical capability for cost-effective transcontrol allowing the possibility for full control by network operators at local or regional level of the services using such conditional access systems."

8) Council Regulation (EC) No 1310/97 of 30 June 1997 amending Regulation (EEC) No 4064/89 on the control of concentrations between undertakings, OJEC 9 July 1997 No. L 180: 1-6.

9) Case No. IV/M.490 - Nordic Satellite Distribution, 19 July 1995, OJEC 2 March 1996 No. L 53: 20-40;
Case No IV/M.993 - Bertelsmann/Kirch/Premiere, 27 May 1998, OJEC 27 February 1999 No. L 53: 1-30;
Case No IV/M.1027 - Deutsche Telekom/Betaresearch, 27 May 1998, OJEC 27 February 1999 No. L 53: 31-45;
Case No. IV/M.856 – British Telecom/MCI (II), 14 May 1997. OJEC 8 December 1997 No. L 336: 1-15;
Case No COMP/M.1845 - AOL/Time Warner, 11 October 2000, OJEC 9 October 2001 No. L 269: 28-48;
Case No COMP/M.2050 – Vivendi/Canal+/Seagram, 13 October 2000, OJEC 31 October 2000 No. C 311: 3;
Case No COMP/M.2876 – Newscorp//Telepíu, 2 April 2003,
http://europa.eu.int/comm/competition/mergers/cases/decisions/m2876_en.pdf

10) *See* in particular: Case No COMP/M.2876 – Newscorp//Telepíu, 2 April 2003,
http://europa.eu.int/comm/competition/mergers/cases/decisions/m2876_en.pdf

smartcards from different service providers). However, even in an open encryption system the Commssion has doubts: it all depends on who controls the SMS and this, according to the Commission, should be the provider of the content or information service - not the network operator.

3.2 Prohibition of Abuse of a Dominant Position

Options (i) and (ii) mentioned in para. 1 above are as such unproblematic from a regulatory point of view, unless the owner of a particular electronic communications network is in such a dominant position that providers of content services or information society services are dependent on the network operator in question for the supply of their services to end users. This is the case if they do not own an electronic communications network themselves and if there is a lack of competition between electronic communications networks in the same market. If the lack of competition does not result from a merger between companies, the European Commission cannot intervene on the basis of the concentration regulation. Theoretically, the Commission could intervene on the basis of Article 82 of the EC Treaty, which prohibits the abuse of a dominant position. It might, however, be difficult to show that a network operator who does not want to offer electronic communications services to all service providers so requesting, abuses his position. Moreover, the procedure is lengthy.

The most relevant case in this regard is the Bronner case.[11] In this case, a reference for a preliminary ruling was made to the Court of Justice of the European Communities by the Vienna Higher Regional Court (the *Oberlandesgericht*). According to the Court, it asked in effect whether the refusal by a press undertaking, which holds a very large share of the daily newspaper market in a Member State and operates the only nationwide newspaper home-delivery scheme in that Member State, to allow the publisher of a rival newspaper, which by reason of its small circulation is unable either alone or in cooperation with other publishers to set up and operate its own home-delivery scheme in economically reasonable conditions, to have access to that scheme for appropriate remuneration constitutes the abuse of a dominant position within the meaning of (then) Article 86 of the Treaty (currently Article 82).

The Court answered that, although Mediaprint was *de facto* in a monopoly situation and thus held a dominant position, it would still need to be determined "whether the refusal by the owner of the only nationwide home-delivery scheme in the territory of a Member State, which uses that scheme to distribute its own daily newspapers, to allow the publisher of a rival daily newspaper access to it constitutes an abuse of a dominant position within the meaning of Article 86 of the Treaty,[12] on the ground that such refusal deprives that competitor of a means of distribution judged essential for the sale of its newspaper." In this regard, the question to be answered is, according to the Court, whether the service in itself is indispensable "to carrying on that person's business, inasmuch as there is no actual or potential substitute in existence for that home-delivery scheme."

If other distribution methods are available, "even though they may be less advantageous" and, in addition, "it does not appear that there are any technical, legal or even economic obstacles capable of making it impossible, or even unreasonably difficult, for any other publisher of daily newspapers to establish, alone or in cooperation with other publishers, its own nationwide home-delivery scheme and use it to distribute its own daily newspapers", a company refusing access to its private distribution network does *not* abuse its dominant position.

It would only do so, if it was demonstrated that the creation of an alternative distribution system "is not a realistic potential alternative and that access to the existing system is therefore indispensable." For this reason, according to the Court, "it is not enough to argue that it is not economically viable by reason of the small circulation of the daily newspaper or newspapers to be distributed" to establish an alternative.

In line with this decision, a network operator, even if he is in a dominant position, may have every right to refuse access to his network by third parties offering digital television services in competition with the operator's own digital television services. Other providers of digital television services have every right to establish their own wire-based electronic communications infrastructure. Alternatively, they can use the digital services platform of Canal plus, they can lease one or more satellite transponders, conclude a distribution agreement with a DTT operator, and distribution is now technically also possible via ADSL or VDSL using the IP protocol.

11) Case C-7/97 of 26 November 1998 [1998] *ECR*: I-7791 (Bronner).
12) The old Article 86 EC that is, currently Article 82 EC.

3.3 The New European Regulatory Framework for Electronic Communications Networks and Services

In 2002, a new European regulatory framework was adopted which applies to all types of electronic communications networks and services.[13] It allows the National Regulatory Authorities (NRAs) to impose certain *ex ante* obligations on dominant operators, *i.e.* if the network operator has a "signifcant market power" ("SMP").[14] It also imposes certain obligations on operators of conditional access services who provide access services to digital television and radio services and whose access services broadcasters depend on to reach any group of potential viewers or listeners. These obligations can be imposed irrespective of their market power and irrespective of their means of transmission. The obligations may, however, be amended or withdrawn if a market analysis shows that one or more operators do not have significant market power in the relevant market. The preconditions for such a withdrawal or amendment are that:

1. accessibility for end-users to radio and television broadcasts and broadcasting channels and services specified in accordance with Article 31 of the Universal Service Directive would not be adversely affected by such amendment or withdrawal, and

2. the prospects for effective competition in the markets for:
(i) retail digital television and radio broadcasting services, and
(ii) conditional access systems and other associated facilities,
would not be adversely affected by such amendment or withdrawal.

Under the new European regulatory framework, an operator with SMP who is active on the wholesale market (the situation under option (i) in para. 1 above) will typically be required to provide electronic communications services upon request on a fair, transparent and non-discriminatory basis; possibly even on a cost-oriented basis. An operator with SMP who is (also) active on the retail market (the situation under option (ii) in para. 1 above) will typically be required to supply electronic communications services to competitors who want to offer content and/or Information Society service packages to end users connected to the network of the operator with SMP.

4. Possible Consequences of the New European Regulatory Framework for the Business Strategies of Network Operators

Recital 19 of the Access Directive stipulates that "Mandating access to network infrastructure can be justified as a means of increasing competition, but national regulatory authorities need to balance the rights of an infrastructure owner to exploit its infrastructure for its own benefit, and the rights of other service providers to access facilities that are essential for the provision of competing services."

NRAs should use their newly acquired competences in a prudent way. No network operator will invest in new services if from day one he has to provide access to third party competitors. This is especially the case if he would be required to create extra capacity for competing service providers who might require access some day. Such an investment would put the network operator at risk for different reasons:

13) Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive). OJEC 24 April 2002 No. L 108: 33-50;
Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), OJEC 24 April 2002 No. L 108: 7-20;
Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive), OJEC 24 April 2002 No. L 108: 21-32;
Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive), OJEC 24 April 2002 No. L 108: 51-77;
Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications), OJEC 31 July 2002 No. L 201: 37-47;
Commission Directive 2002/77/EC of 16 September 2002 on competition in the markets for electronic communications networks and services, OJEC 17 September 2002 No. L 249: 21-26.

14) The notion of dominance used by Article 14 of the Framework Directive.

- Creating capacity which may never be used is an economic waste;
- The costs of spare capacity for which there is as yet no demand cannot be charged to end users;
- An NRA may one day, when calculating a cost-oriented access rate, decide that by creating spare capacity, the network operator created an inefficient network and may consequently not take into account the costs of the spare capacity,[15]
- Whenever third party service providers are not required to participate in the investment risks taken by the operator of the network to which they require access, they will not have an incentive to create a network of their own (which is both risky and costly). Therefore, it is important that NRAs realise that the "imposition by national regulatory authorities of mandated access (…) increases competition in the short-term", but that it "should not reduce incentives for competitors to invest in alternative facilities that will secure more competition in the long-term" (recital 19 of the Access Directive).

5. Relation between Article 82 EC as Interpreted by the Court of Justice and the Access and Interconnection Directive

In para 3.3 above it was explained that cable operators have every right to reserve their network capacity to themselves. In para. 4 it was explained that the new Access and Interconnection Directive does not appear to allow this.

This raises interesting questions of European constitutional law, i.e., on the relationship between European competition law, especially Article 82 of the EC Treaty (prohibiting abuse of a dominant position) and the provisions of the new Access and Interconnection Directive (pursuing internal market purposes, based on Article 14 EC and consequently the approximation of Member States' national laws on the basis of Article 94 EC).

Was the Bronner case referred to above overruled by the new regulatory framework for electronic communications networks and services?

If not, which approach will prevail if a network operator should choose to grant access to his network and/or associated facilities to only those providers of digital television services with whom he can conclude a deal which is of interest to him from a commercial point of view and which he believes will satisfy the demand of the subscribers to his network? Would such a business strategy no longer be allowed?

Answering all those questions would go well beyond the framework of these opening statements; it would, however, be worthwhile to address them in the framework of a separate workshop.

15) This follows from the position taken by the European Regulators Group (ERG), which is comprised of the NRAs. The ERG chose as a cost allocation model a long-term forward looking incremental cost model which allocates costs on the basis of a theoretical model (and therefore does not take the actual costs into account).

Technical Bottlenecks and Public Service Broadcasting

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1. Main Access Issues from the Public Service Broadcaster's Perspective

Public service broadcasters look at technical bottlenecks from two perspectives: that of the market player and that of the public service organization.

From the market point of view, technical bottlenecks can be called gateways which, on account of the relevant technology market, enable one market player (or a small group of market players) to control access to this or to neighbouring markets.

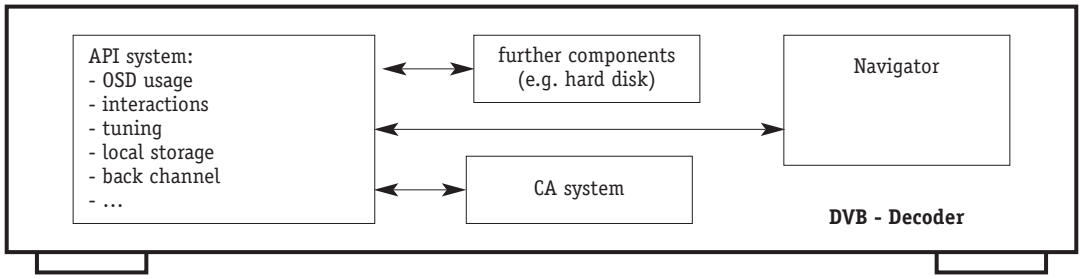
From the public service broadcaster's point of view, technical bottlenecks can be called those gateways which can prevent or hinder, by means of technology, the fulfilment of the public service broadcaster's remit, which includes universal reach, by denying or limiting the viewer's access to public service broadcasting programmes and services.

To take the example of digital television: viewer access to the programmes and services of public service broadcasters requires the digital programmes and services to be capable of being found and received. For this, it is necessary that, on the one hand, public service broadcasters make use of technology which is accessible and affordable for the viewer and, on the other, that the viewer can purchase a receiver to receive free television and pay-TV as well as additional interactive services without needing to choose, prior to the purchase, which services will be available. Thus, where technology can be used by a market player to interfere with this procedure, the issue of technical bottlenecks arises at each stage of transport and reception.

For any broadcaster - and not only a pay-TV operator! - , who wants to deliver any enhanced or interactive television service to the public via an existing platform, the main practical access issues arise on the decoder[2] side. From the consumer's perspective this means that the decoder technology and configuration decides whether the consumer will have a free choice over, and easy access to, a plurality of services.

1) This paper is not an official EBU document.
2) The decoder can either be integrated into the television set or be a separate set-top-box.

The following diagram illustrates the most critical components:



- the Navigator provides the basic access menu to all services; it is critical because it determines whether, where and how third-party services can be found and selected and how they are "promoted";
- the CA system makes it possible to receive scrambled services; it is critical because it determines whether a third party service can be decoded and whether the same smartcard can be used;
- the API system allows various important enhancements (including broadcasters' specific EPGs) and interactions for broadcast services; it is critical because several different systems are in the market (each of them being highly complex) and many details have to match perfectly in order to display correctly the underlying services;
- further components like hard disks are critical as almost no standards exist on storage management and on the ability to store or access content. Thus, control over these attractive features will be difficult to achieve for broadcasters.

Interoperability means open common technical standards, which allow manufacturers to compete on the basis of price, quality and features, and in turn allow content providers to compete openly for public attention. It exists when all broadcasters have open access to all above decoder components that are relevant for their services.

2. Practical Issues

Any bottlenecks in access will result in limited or blocked competition and a lack of variety in broadcast programmes. The low level of interoperability that currently exists has a number of effects:

- it inhibits consumer appetite for digital television, and is a disincentive for the retail distribution chain;
- it restricts the availability of a strong range of free-to-air services for all consumers;
- it raises costs for service production, reinforcing the dominant position in the process;
- it thus slows down the progress towards analogue-to-digital switchover (not all television viewers want to become pay-service subscribers).

This can be illustrated further by the following example:

In one particular country a broadcaster had to use the vertically-integrated pay-TV platform of its competitor in order to reach digital satellite households. When the broadcaster introduced new information television channels, the platform placed the channels on unattractive positions in the service list of the decoders' navigator, thereby favouring its own platform channels. Consequently, the first specific access problem was to find an adequate, *i.e.,* fair and non-discriminatory position on a navigator which is controlled by a competing broadcaster. In an open retail market there would be no biased navigator list and the consumer would be able to adjust the list according to his preferences.

To solve the problem and to compensate for the bad location, the broadcaster decided to broadcast a small OpenTV application together with its main programmes, which would provide information about the new services and allow direct zapping to them. The platform, however, did not allow the broadcaster to implement the zapping function - although this would have been technically possible. Again, the competitor's control of the platform created the access problem. An API decoder distributed via an open retail market would have allowed any form of bundling and presenting programmes, including zapping functions, as it has been proven very successful for certain open markets (e.g. the "Free Universe Network" decoder in Germany or decoders in the Nordic countries). Such a multiple EPG scenario would enable the consumer to choose freely the EPG that he prefers.

3. Implications of Regulatory Strategies to Avoid Bottlenecks

The main strategies to ensure interoperability and to avoid bottlenecks are:

- obligations to grant access to existing infrastructure (of whatever kind),
- encouragement and, if necessary, requirement to use common open European standards,
- encouragement and, if necessary, requirement to ensure open retail markets for decoders,

these have quite different practical consequences and have different levels of effectiveness, as will be discussed later.

Pure Access Regulation:

A pure access regulation may be sufficient for some technically simple service aspects (e.g. listing the service in a navigator) but it will fail for more complex services. The typical vertical market will look like this for third party broadcasters:

- In vertical markets subsidized end-user devices are designed to serve exactly the business models of the platform operators. The needs of third-party programme providers will mostly remain unserved.
- The systems used in vertical markets up to now are proprietary, which means that proper know-how is not commonly available. Even widespread technology like OpenTV is "customized" for each single platform so that all of them have their "little secrets".
- The need to protect investment will result in even less interoperability (or more bottlenecks) than is technically necessary. This results in incomplete information given to third-party programme providers by the platform operators or complicated ways of certifying or integrating services.
- The systems used in vertical markets usually vary between different platforms. This is another bottleneck for broadcasters who want to reach the entire population as they would have to provide their services in multiple technical formats. Re-authoring, *i.e.*, the automatic translation of content from one API to another, is a matter sometimes discussed, but is not a real solution, since it is too complicated and requires significant financial resources, without guaranteeing a sufficient degree of application quality.

Pro-standard Regulation:

The usage of common (!) open standards greatly helps to avoid bottlenecks:

Common standards mean that

- the scope of the infrastructure basically serves the needs of the whole market;
- there is common know-how and there are independent technology sources and tools available;
- the licence fees are fair and low;
- costs for technical components may be lower owing to competition and mass production.

It is very important, however, to note that the application of standards *per se* does not automatically imply open access. This is because:

- standards usually do not cover the full range of the technology chain (e.g. there is no standard for the implementation of navigators which are crucial even for finding services);
- standards have points where they are open to various market models - even closed ones (e.g. the security model in MHP makes it possible to restrict important resources to one provider. In other words, MHP could be embedded in a decoder box in a way that would make it impossible that services delivered by third-parties can be accessed by the consumer).

Open Retail Markets for the Decoder Part:

An open retail market for the decoders means:

- manufacturers will optimize their devices according to the needs of the end customers, which usually means having optimum access to all services offered;
- the market tends to achieve commonly and widely accepted standards that ensure reliability for the end-users' investment and thus also for broadcasters;
- competition will lead to the lowest prices for the decoders.

What Are the Consequences for the Regulatory Strategy?

Achieving interoperability without bottlenecks is crucial for broadcasters – not standards or regulation *per se* – and no government-mandated interoperability solution is desirable *a priori*. But, as may be seen today, many market segments are still closed and we have to fear that even bigger closed market segments will follow (e.g. German cable networks). As the interest of the most relevant players in these vertical markets is not focused on optimum interoperability, regulation (whether via encouragement or requirement) remains the only effective means of achieving the crucial political goals.

Pure access obligations do not, as shown above, seem sufficient to remove bottlenecks effectively. Bottlenecks in the proprietary infrastructure of vertical markets cannot be sufficiently overcome by pure obligation as they are in most cases too intrinsic.

Standards will prove to be the decisive basis for minimizing bottlenecks. Only common and open standards will be applicable across various market segments and only standards will grant a sufficient sharing of know-how so that competitive services can be developed. In the field of broadcasting we have decades of very positive experience using standards. In the digital age too, the DVB/ETSI standards have proven that an even higher degree of broadcasting interoperability within all European markets is possible. DVB has been a great success story, not least in terms of European industrial policy. Consequently we see no realistic alternative to use existing standards as far as possible to achieve adequate interoperability. However, standards may fail to be self-fulfilling in terms of openness in certain cases. Consequently, they have to be seen as complementary to other measures rather than as a pure alternative.

As pointed out above, access obligations will fail for services that are technically too complex. Also, open common standards do not cover the full range of the technology chain. Thus, in vertically integrated markets there is still sufficient incentive as well as the possibility to create bottlenecks, even in the case of access obligations on the basis of open common standards. Consequently, as a complementary measure, the establishment of *open market development* on the decoder technology market would further facilitate the implementation of interoperability.

4. What Role Can Competition Law Play in this Context?

In a "perfect world" and on "perfect markets", market forces would lead to access to CA systems, to open APIs and to interoperability. In highly-concentrated markets, horizontally as well as vertically, remedies are necessary that enable the market to develop this "perfect market".

Competition law can provide remedies on the basis of controlling horizontal and vertical agreements, including mergers, and controlling the abuse of dominant market power, which includes the essential facility doctrine.

In particular, the Commission's merger decisions on pay-TV platforms have an important impact on market developments on the markets for digital television. In some cases, in the absence of specific legislation, they provide for rules that secure access to markets. BSkyB/Murdoch and Newscorp/Telepiù, dealt with below, provide examples.

In Newscorp/Telepiù, the Commission imposed on the merging parties the following access obligation:

> "11.1 The Combined Platform [Sky Italia] undertakes to grant third-party operators access to the Combined Platform's satellite platform, in order to allow such operators to offer channels that compete with the Combined Platform's retail offer. The Combined Platform's obligation shall consist in the supply of technical services that are necessary and instrumental to the offering of TV channels in Italy (whether free or pay, commercial or promotional). These services will be offered to third parties at fair, transparent, non-discriminatory and cost-oriented conditions as specified under paragraph 11.6 below."

This obligation includes access to conditional access management services for conditional access technology or technologies, and accessibility to all (sold and rented) decoders used by the merging parties' active customers who access the merging parties' offer; the right to be included in the automatic tuning immediately following all the channels offered by Sky Italia, and the right to be included in Sky Italia's electronic programme guide, which may not be reorganized without objective justifications. It also includes access to the application programme interface (API) so far as is necessary

to develop interactive services compatible with the decoders used by the Combined Platform's customers at fair, transparent, cost-oriented and non-discriminatory prices.[3]

The Commission justified imposing this obligation in the absence of any statutory regulation, on the grounds of the near-monopoly of the merged platform.[4]

Nevertheless, the effects of competition law are limited, for the reasons set out below:

- A merger procedure is restricted to the merging parties. Commitments imposed on them do not create obligations for other market participants.
- The merger procedure is subject to strict time constraints in accordance with the merger regulation. However, the study of the commitments and their appropriateness often need more time and a more transparent discussion with affected third parties, as the commitments tend to be of a regulatory character and to set the legal framework for the whole market.
- The European merger regulation allows for the imposition of behavioural commitments, such as access obligations. However, it leaves the surveillance of compliance to the market competitors. This ultimately leads to a scenario similar to the abuse of a dominant market position.
- Merger (and other competition law) decisions rely on market definitions. These markets tend to change very rapidly in the media field. The merger regulation does not provide for sufficient flexibility to take account of these changes after the decision has been made.

The BSkyB/KirchPayTV merger too highlights these limits. In BSkyB/KirchPayTV, the Commission obliged the merging parties to grant competing platforms access to the merging parties' platform Premiere by concluding a simulcrypt agreement. After a competing platform had requested access to the programmes and had asked if they could conclude the agreement without KirchPayTV reacting, it was up to three arbitrators to decide such questions as how to define a platform within the meaning of the Commission's decision and what level of security would have to be accepted by the requesting platform on the basis of the Commission's decision. The arbitration court was not able to find a solution before KirchPayTV filed for bankruptcy.

As regards the abuse of dominant market power, it needs to be considered that it applies when a market player and/or the competition authority can prove that there has been such an abuse. This *ex post* scenario also applies to the essential facility doctrine, which therefore cannot be regarded as a remedy equivalent to (*ex ante*) access regulation. Furthermore, the scope of applicability of the essential facility doctrine is currently more than unclear.

The *ex post* approach will also apply to horizontal and vertical agreements, since as of May 2004 they will not have to be notified to the Commission but will be controlled *ex post* following a complaint by a competitor or *ex officio* by the Commission.

Finally, it needs to be considered that competition law does not take into account aspects that go beyond market power, such as media pluralism and cultural diversity.

5. What Role Can Specific Media Regulation Play in this Context?

In competition law it is already difficult, although possible, to define relevant markets and to assess, particularly in cases of vertical integration, market power. However, it is established that market regulation is necessary but insufficient to guarantee a sustainable degree of media pluralism. Consequently, there needs to be specific media regulation securing media pluralism independent from "significant market power". Because the European Union has limited competences in this area, it is currently for the Member States to deal with this issue.

To take just one example: as EPG and the API are directly linked to public service programmes and necessary to secure media pluralism – independently of the question of market power of a network operator – it would be justified if Member States extended the access obligations to interactive applications including EPGs to permit reception of free-to-air television services across all platforms.

3) However, it seems doubtful whether the conditions are sufficient. For example, the commitments do not explicitly allow for a multiple EPG that gives the consumer the choice between the platform's EPG and the EPG provided by third programmes.
4) It did so although the regulatory communications package is to be implemented by Italy later in 2003. Nevertheless, the Commission was right to ignore this since it is not yet clear by when and with what exact content the package will be adopted. The Italian Communications Authority will have to see in due course whether there are additional obligations to be imposed in accordance with the package.

At the Commission level it would be welcome if the Commission would, for example within Article 18 of the Framework Directive, encourage the Member States to consider the structural separation of vertically-integrated platforms as regards decoders. In all probability, standards and interoperability would emerge as being much more useful for the market as a whole – and we consider them to be very useful. Thus bottlenecks could be kept at a minimum in the most "natural" way, which means that a detailed regulation of which standards to use, or where and how to grant access, could possibly be avoided. It is only in open retail markets that all of the many benefits that standards offer can develop optimally, to the benefit of the complete existing and potential market.

6. Conclusion

Access obligations, common open standards and structural separation of the decoder market are complementary measures that are necessary in order to achieve interoperability, guarantee media pluralism and ensure that public service broadcasters can fulfil their obligation vis-à-vis all households possessing a television.

Vertical Regulation in Digital Television: The Italian Approach

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1. The Players of Digital Television Services

The Italian regulation of digital television services (*Delibera* 435/01/Cons www.agcom.it) distinguishes three main players in the supply of television services (electronic communications value chain):

a) Content provider
b) Service Provider
c) Network Infrastructure Provider

The authorization to be a content provider is a general authorization and is subject to conditions such as respect for national and European legislation ("Television without Frontiers" Directive) on content provision. The authorization to be a service provider (pay-tv or interactive service) is also a general authorization under the electronic communication code (national transposition of the new European directives which entered into force on 15th September 2003). A specific authorization is granted to the network infrastructure provider with the rights to use the broadcasting frequencies (in case of Digital Terrestrial Television (DTT)). The rights to use the frequencies are subject to public interest limitations such as the obligation to allow content providers to have fair and non-discriminatory use of network infrastructures.

A vertically integrated company is dealt with by a "Chinese wall" approach; a vertically integrated company (service/content and infrastructure provider) has to request three different authorizations and the following provisions apply:

a) accounting separation between content provision and service provision
b) structural separation between network provider and content provider (applies only in the case of national DTT network providers)

2. Regulation of API and EPG

The 95/47/EC Directive on television standards mandated the use of television transmission systems standardized by a recognized European standardization entity. The European Directive also stated that a transmission service had to include the following elements: program formatting (audio and video source encoding and program multiplexing including the common scrambling algorithm), and channel encoding (including energy dispersal when appropriate). This definition excluded the following elements:

a) Conditional Access systems (CAS)
b) Electronic Programme Guide (EPG)
c) Application Programming Interface (API)

As a consequence, in the majority of European countries the digital television operators have chosen different proprietary standards for CAS and API. This choice was often connected to vertically integrated business concerns, including in the same entity transport, multiplexing and service provision. The main motivation for vertical integration has been the high degree of risk of externality in choosing external suppliers and an attempt to lock-in customers by rising switching costs due to lack of interoperability. Furthermore, at European level the various regulators were reluctant to intervene because they did not want to discourage investment in the emerging digital television market by imposing an overly restrictive set of rules regarding platforms' interoperability.

The new European Framework and in particular the Access Directive represent a first move towards interoperability of digital interactive services, entrusting Member States with the task to "encourage" providers of digital interactive television services to use an open API. Furthermore the EC Directive states that Member States shall encourage the proprietors of API to make available on fair, reasonable and non-discriminatory terms all the information necessary to enable providers of digital interactive television services to provide all services supported by the API.

With respect to the new 2002 EC directives, ahead of time the Italian parliament in 1999 formally recognized the importance of interoperability of digital television services by adopting a law (78/99) concerning access to different platforms.

AGCOM (*Autorità per le Garanzie nelle Comunicazioni*) in accordance with the principle set forth by the 78/99 law, issued in 2000 a decision n. 216/00/CONS "*Determinazione degli standard dei decodificatori e le norme per la ricezione dei programmi televisivi ad accesso condizionato*" ("Determination of the decoder standard and general rules for the reception of conditional access television programs" available on the AGCOM web site www.agcom.it). This decision defines the rules for the transmission standards and for television receivers to guarantee platform interoperability regarding CA, EPG and API.

In particular, AGCOM imposed a requirement that the CA (pay-TV) operators shall use either simulcrypt or multicrypt techniques in order to allow viewers to receive different platforms with the same equipment. *Delibera* 216/00/CONS deals also with EPG and API.

In regard to EPG, the obligation on service providers is to provide access based on fair, reasonable and non-discriminatory conditions. Two levels of EPG have been defined:

a) basic navigation tool, which includes a programme list compiled by the service providers. The programme list should be capable of being edited by means of simple operations by the user. In addition, the basic navigation tool should allow transparent display of the basic DVB Service Information (now-next event list, channel id, bouquet id, parental rating). The decoder should also be transparent as regards the traditional teletext system.
b) EPG within the editing responsibility of the service provider (which has full freedom in establishing the "look and feel" of the EPG), which must be available to broadcasters on the basis of fair and non-discriminatory conditions. In very exceptional circumstances the service provider might refuse to grant a third-party access to the EPG (for example where the programme content would infringe the service provider's own code of ethics or general provisions imposed by law).

In regard to API, decision 216/00/CONS does not mandate a common standard (such as MHP) allowing service providers to utilize proprietary API technology but, also in accordance with the EC directives, the service providers utilizing non-standard APIs have to make available on fair, reasonable and non-discriminatory terms and against fair remuneration of the capital invested:

a) information and specifications concerning the API's
b) the necessary assistance, testing and development tools that allow third party application providers to develop API specific programming
c) access to decoders that are owned by service providers and rented by customers.

In compliance with decision 216/00/CONS of 2000, the two existing satellite pay-tv operators Stream (Telecom Italia and Newscorp) and Tele+ (Canal+), reached a complex agreement to use simulcrypt to allow their customers interoperable access. The two operators implemented simulcrypt broadcast services based on a single smartcard (the existing customer of one platform could subscribe as a guest to the services of the other platform without changing smartcard) and provided mutual access to their basic navigation and EPG systems. Full interoperability of API was not reached due to a number of technical problems and lack of commercial interest. This meant that that only existing pay-per-view and interactive services were available to customers.

In spite of a good start-up for the Italian digital television services under the pressure of very high fixed cost of premium programming (and thus heavy loss-making operations) the two platforms decided in 2002 to merge in a single one controlled by Newscorp Corporation. This new single platform, which has the brand name of Sky Italia, has been authorized by the European Commission with a number of conditions. *Inter alia*, the platform has made a commitment to provide fair, non-discriminatory and cost-oriented access to a number of technical services such as the EPG, programme encoding and multiplexing and access to the decoders which are rented by the customers. The platform has accepted that in the case of litigation on the access conditions, AGCOM will make a binding decision on the matter. Any such AGCOM decision shall apply retroactively. The platform has committed itself to an accounting separation system in accordance with the relevant European Commission recommendation. The accounting separation shall be monitored by an independent auditor whose report has to be approved by AGCOM. Currently AGCOM is dealing with one dispute about the fairness of access pricing and conditions offered by the platform to a service provider.

The Complex Spanish Approach to Digital Pay-TV Access Issues

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In order to understand the effect of access regulation on the Spanish market, it is important first to understand the situation regarding media regulation, to be more specific, to analyse the regulation of media ownership.

The Spanish Regulation of Media Ownership

The Spanish rules on media concentration, which have been relaxed recently, focus mainly on horizontal concentration of broadcasting and of terrestrial TV sector in particular. As we will describe below, only the terrestrial broadcasters (digital and analogue) are subject to limits with regard to media concentration ownership in the Spanish TV market.

The keystone of the Spanish broadcasting regulation is the ownership limits established by the Private TV Act, which was approved in 1988, but modified many times since then by successive governments. This has been regularly done through a special Act on taxation, administrative provisions and social affairs ("Special Measures Act"). This type of act is approved each year, together with the Budget Act. The main object of the Special Measures Act is to introduce amendments to existing provisions, thus acting as a "container" of amendments. This method has been criticized by law experts because almost every year it deprived TV operators of legal certainty.

For example, in December 2002 the Spanish Government introduced by means of this special Act new amendments to the ownership articles of the Private TV Act.[1] Since then it is no longer prohibited to have holdings exceeding 49% of the share capital of one TV licence holder as it had been the case before. However, the undertakings holding shares in a national terrestrial television are not allowed to have shares in any other television concessionaire, regardless of its coverage. As a result, an undertaking will no longer be capable to combine national TV operations with regional or local TV. On the other hand, local and regional TV operators can own other local and regional TV operators in the same area as long as the population covered by their services does not exceed the limits that will be set by means of a regulation. These modifications have changed drastically the situation of Spanish TV operators, because two big media groups (PRISA and Correo, the latter is now called Vocento) are trying to build up a free-to-air national TV network with local TV stations and they have shares in national broadcasters: Canal+ (Prisa) and Tele 5 (Vocento). As a result, their expansion plans have become uncertain.

The Berlusconi position in the Spanish free-to-air broadcaster Tele 5 has been reinforced with the elimination of the share limit of 49%. MediaSet now holds 52% of Tele 5. The new rules have also forced Telefonica to sell its main holdings in Antena 3 Televisión to Planeta Group, the first Spanish publishing house. The sale allows Telefonica to join the Sogecable shareholders and merger its Vía

1) *Ley 10/1988, de 3 de mayo, de regulación de la Televisión privada* (Private TV Act 10/1988, 3 May 1988).

Digital pay-TV subsidiary with Canal Satélite Digital. Sogecable was the main Spanish Pay TV operator with the multichannel Canal Satélite Digital, broadcast by satellite, and Canal+, a single terrestrial pay TV channel.

These new rules apply also to digital terrestrial broadcasters (Veo TV and Net TV).

This last reform of the 1988 Private TV Act implies also that Spanish digital satellite operators nowadays have no limits in regard to concentration. Before this reform, the only restriction that applied to digital satellite TV stated that the digital satellite TV operator had to abide by the ownership limit laid down in Art. 19.1 of the Private TV Act of 1988 in its original version, which prohibited an undertaking from having holdings exceeding 49% of the share capital of a license-holder.[2] But, as we explained above, the Spanish Parliament abolished this limit last December with the approval of the "Special Measures Act", enacted with the 2003 Budget Act.

As regards cable TV (digital and analogue), the situation is rather confusing. In fact, the cable regulation strikes a complicated balance between ownership controls and windows of opportunity for independent producers. The main ownership limit in this sector prevents any undertaking from holding shares or controling cable operators which jointly have more than 1,5 million subscribers in Spain as a whole. Concerning the windows for independent producers, cable TV operators are obliged to reserve for independent content-providers 40% of the capacity used for the provision of audio-visual services. Important investment requirements were also imposed on cable TV operators by the Cable Telecommunications Act of 1995.[3] But these financial commitments were relaxed recently by the Spanish Government because of the telecommunications crisis and the failure to develop a mature Spanish cable market (the cable market consisted of 800.000 subscribers at the end of 2002 according to CMT[4] data). Now, two big firms dominate the small but fast-growing Spanish cable market: ONO and AUNA.

ONO, is owned by Santander Central Hispano bank (20%) and an investment fund set up by General Electrical, Bank of America and the Canadian firm Capital Communications, which holds 50% of share capital. This group had 286.000 subscribers at the end of 2002, but it claimed to have 455.000 subscribers in mid-October of 2003.

AUNA is owned by the Spanish energy firms Endesa (35%) and Unión Eléctrica Fenosa (19%), and the Santander Central Hispano Bank (24%), and had 260.000 subscribers at the end of 2002.

This is far from Sogecable's numbers. At the end of 2002, before the merger with Vía Digital, Sogecable had around 2 million subscribers (1,25 million from Canal Satélite Digital and 755.000 from Canal+).[5] Following the merger, Sogecable is now owned by Prisa (20%), Telefonica (22%), Groupe Canal+ France (16%), small shareholders (12%) and the other 30% have been floated on the stock market.

Regarding this issue, in November 2002 the Spanish Government imposed 34 conditions on the merger in order to allow it to go ahead. The main conditions are aimed at avoiding the development of a monopoly on premium content rights. On the other hand, there is no reference to technological access issues. However, the State imposed strict conditions to allow content providers to access the new platform: Sogecable must open 20% of its channels to new operators, that is to say, different from those who operated in the former platform. These new operators must not be controlled by Sogecable or its main shareholders. Moreover, Sogecable will have to offer its platform and other associated services to independent providers that operate news channels not related to Sogecable or its main shareholders.

Content access to the satellite platform must be granted on fair, transparent and non-discriminatory conditions. The price to be charged to independent providers has to be cost-oriented. Moreover, Sogecable will have to adopt two separate accounting systems: one for the channel or distribution business and the other concerning content management.

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2) *Disposición transitoria cuarta* (Fourth Transitional provision), *Ley 17/1997, de 3 de mayo, por la que se incorpora al Derecho Español la Directiva 95/47/CE, de 24 de octubre, del Parlamento Europeo y del Consejo, sobre el uso de normas para la transmisión de señales de televisión y se aprueban medidas adicionales para la liberalización del sector* (the Act 17/1997 on the implementation of the EC Directive 95/47 EC, on TV signals of 3 May 1997), *Real Decreto-ley 16/1997, de 13 de septiembre, de modificatión parcial de la Ley 17/1997, de 3 de mayo* (as amended by Decree Law 16/1997, on the amendment of Act 17/1997, 13 September 1997).

3) *Ley 42/1995, de 22 de diciembre, de las Telecomunicaciones por Cable.*

4) *Comisión del Mercado de las Telecomunicaciones* (Telecommunications Market Commission).

5) All data was collected from the *Comisión del Mercado de las Telecomunicaciones* (2003). "*Informe Anual 2002*". Madrid: *Comisión del Mercado de las Telecomunicaciones*.

Access Regulation: the Spanish Debate about a Common Interface

The Digital Terrestrial and Satellite TV operators that provide conditional access services must comply with the provisions of the 17/1997 Act, which basically transposed Directive 95/47/EC on TV signals into Spanish Law. The elaboration of this Act was highly controversial as explained below.

In 1997, the Spanish Government tried to take advantage of the launch of the new digital satellite TV services (Canal Satélite Digital and Vía Digital) to impose a common interface, based on the multicrypt system. The Spanish Government, knowing that Vía Digital had declared its desire to adopt a multicrypt system, adopted on the day of the Canal Satélite Digital launch (CSD), *Decreto Ley*[6] 1/97 of 31 January 1997, which imposed the common interface as provided by Directive 95/47/EC. This Decree was ratified by the Parliament and became the first version of the Act 17/97.

The economic and political aspects of this decision were so important and controversial that it filled the front pages of newspapers and stirred up a bitter debate in Parliament. It was called the "digital war".

The first version of Act 17/97 established a different scope from Directive 95/47/EC. While the Directive had been designed to establish standards in advanced television services, the Spanish law sought to protect the consumer's right to receive information and to guarantee the pluralistic offer of services. Multicrypt was a synonym of pluralism; it was more open than the simulcrypt technology. The Spanish law stipulated in Article 7.a that the operators using simulcrypt decoders had to reach an agreement with the other operators so that all programs could be received using a single decoder. If there were no agreement, an interface should be added to the simulcrypt decoders within a period of six months in order to make them absolutely open, otherwise they would be deemed illegal. Since Vía Digital, still in a pilot phase, had chosen the multicrypt system and decided to ignore any agreement offers from CSD, the simulcrypt decoders offered by CSD were in a situation of near illegality.

However, the Spanish Government wanted to impose a standard in CAS, multicrypt, in spite of the Directive 95/47/EC that accepted both simulcrypt and multicrypt. At this time, decoders with a common interface existed only as prototypes. Since this situation had the potential to mislead customers and cause severe financial damage to CSD, CSD as well as the Socialist Party filed a complaint with the European Commission.[7]

After 4 months of struggling, the tug-of-war between the Aznar Government and the European Commission ended in September 1997 when the Spanish Government admitted defeat and decided to change the law. Real Decreto-Ley of 13 September changed the law in two main aspects. First, the decoders had to be open, either multicrypt-based, or where the operators had achieved a mutual agreement, simulcrypt-based. Second, there was no term for this agreement, but the law empowered the *Comisión del Mercado de las Telecomunicaciones* (Telecommunications Market Commission – CMT) to supervise the negotiations in order to allow consumers to receive all digital channels with only an Integrated Receiver Decoder (IRD).[8] These modifications were incorporated in the Act 17/1997 and are still in force. This has allowed the development of two proprietary architectures in the Spanish digital satellite market, one simulcrypt (Canal Satélite Digital) and one multicrypt (Vía Digital).

The merger of both platforms, which occurred six years later, proved that it had not been the STB architecture that had been the obstacle to the reception of the services of both platforms in a single decoder, but instead issues related to commercial and market domination had hindered effective competition. Each subscriber of Vía Digital can receive in his Set Top Box (STB) the signal of the new multichannel TV service, called Digital+, regardless of his STB architecture.

The Spanish TV Conditional Access Regulation

The Act 17/1997, which basically transposes Directive 95/47/EC on TV signals into Spanish Law, lays down in article 7 that providers of conditional-access services for digital free-to-air, cable or satellite TV must use decoders that are directly and automatically open, either because they use a multicrypt

6) A *Decreto Ley* is a provisional statutory instrument that the Government may issue for extraordinary and urgent matters. It must be ratified by the Parliament within a period of 30 days.
7) Recently, the Spanish governement has been condemned by the highest Spanish Court (*Tribunal Supremo*) to pay EUR 26,4 milions to Sogecable to compensate for commercial damages as a result of the unlawful application during 6 months of Act 17/97.
8) An equivalent to a Set Top Box or decoder.

system, or because the owners of the decoders reach an agreement with the other digital TV operators, the simulcrypt architecture. The CMT is competent to approve the agreements reached by operators. It must ensure that the terms of the agreements are fair, transparent and non-discriminatory and allow consumers to receive all digital TV programme services with one single decoder. If such agreement is not reached, the CMT is allowed to establish the legal, technical or economic conditions necessary to allow the decoders to be directly and automatically open.

Although Act 17/1997 did not regulate directly EPGs (Electronic Programme Guides) or APIs (Application Programming Interfaces), the CMT in 2001 investigated the impact of the use of proprietary APIs in the Digital Terrestrial TV market. Its conclusions were mixed. The CMT recognized that a mandatory common STB would be beneficial to consumers and new entrants, but it would lead to higher costs in a saturated market context. The operators and the CMT concluded that it was preferable to let the market decide the pace and features of next generation STBs. This was the policy approach until the bankruptcy of Quiero, the digital terrestrial and Pay TV operator. Since then, the Government has promoted the coordination of industrial STB and TV manufacturers with the content producers to boost the terrestrial digital TV. In order to achieve this objective, the Spanish Authorities have encouraged the TV manufacturers to bring down the price of the first analogue-to-digital TV adapters. As a result, Philips has announced in a sell by Christmas campaign a basic adapter at a price of about EUR 200.

The Access Issue in the New Telecommunications Bill[9]

The latest development on access issues is the ongoing discussion on a general telecommunications bill in the Spanish Parliament.

The new general telecommunications bill, which is due for adoption before the end of 2003, regulates all the aspects of telecommunications except the content transmitted by broadcasting media or Information Society service providers. This new telecommunications law is aimed at adapting Spanish law to the new EC Communications Framework. In fact, the bill will transpose the 6 main directives of this new Communications Framework into Spanish law. It also adopts the new principles of this Framework: free but supervised competition, liberalisation, more power to be given to National Regulatory Authorities, universal services guarantees, etc.

Conditional Access Systems (CAS), Electronic Programme Guides (EPG) and Application Programme Interfaces (API) are regulated in the 7th additional provision of the telecommunications bill. Concerning CAS regulation, it seems that the law follows the former rules of Act 17/97. The bill explains that a future *reglamento* (regulation) will impose "certain conditions on conditional access to digital television and radio services broadcast to viewers and listeners to all operators of public electronic communications networks".

The bill also establishes in section 2 of the 7th additional provision that the CMT, can impose obligations on the API and EPG providers in order to facilitate the access to this middleware in a fair, non discriminatory and reasonable basis, provided that this is necessary to guarantee users' access to digital broadcasting services.

Finally, section 4 of the 7th additional provision establishes the possibility of imposing future service public obligations on TV and radio services operators with dominant networks if a "significant number of end users of these networks" use them as a principal way of receiving TV and radio programmes. These obligations have to be tightly and clearly defined objectives of general interest and must be proportional, transparent and periodically reviewable.

9) Editor's note: shortly after the writing of this article, the new *Ley General de Telecomunicaciones* (Act 32/2003 on Telecommunications of 3 November 2003) was finally adopted (see IRIS 2004-1: 11).

Background Paper and Information on the Workshop

Overview of the Regulation of Technical Bottlenecks in Digital Television under the New Access Directive

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There are several potential technical bottlenecks to the provision of digital TV services, and it is likely that in the future other, so far undreamed of, facilities will emerge with technological progress and the development of economic business models for marketing information services (see Digital Television Glossary). In response, the EC has adopted the Access Directive, which includes specific provisions on the regulation of bottlenecks in digital TV. The authors of the Access Directive announced it as their intention to create a uniform and horizontal approach to the regulation of technical bottlenecks, including technical bottlenecks in digital TV. Upon closer inspection, however, the Directive is far from a uniform, technology-independent approach. Instead, it uses different regulatory concepts for different kinds of bottlenecks: Article 6 deals specifically with broadcasters' access to an established CA system, Article 5(1)b addresses EPGs and APIs, and Articles 8-13 deal more generally with access to technical facilities in the communications sector. The following presents a brief overview of the legal situation regarding technical bottlenecks in digital TV under the new Directive.

Article 6

Access obligation

Article 6, Annex 1 of the Access Directive mandates an absolute, unconditional access obligation: "All operators of conditional access services … are to offer to all broadcasters, on a fair, reasonable and non-discriminatory basis … technical services enabling broadcasters' digitally transmitted services to be received by viewers or listeners authorised by means of decoders administered by the service operator …". In other words, operators of CA devices are not in a position to freely determine either their contracting partners or the terms of access. The mere fact of having control over a CA facility triggers an unconditional access obligation – unconditional in the sense that Article 6 does not specify any reasons to legitimately deny access. As opposed to other existing concepts of access to facilities (notably in telecommunications and general competition law), here the access obligation is absolute. It is, in the first instance, not made conditional upon the existence of any particular market structures, be it the existence of significant market power (SMP) or the level of vertical integration: all operators of CA devices are obliged to grant access, irrespective of the actual market conditions or the economic strength of the facility operator.

Scope

The first thing to note about Article 6 is that the provision is based on the distinction between broadcasting[1] and non-broadcasting services, and that the Article refers exclusively to CA services for digital TV and radio[2] broadcasting services (anticipating the end of analogue broadcasting).[3] Moreover, Article 6, Annex I addresses exclusively providers of access-controlled broadcasting services, thereby excluding providers of Information Society (IS) services as well as network operators that offer their own, access-controlled service packages. This distinction may have far-reaching practical consequences. Because modern digital TV platforms carry not only broadcasting but increasingly also non-broadcasting-originated services, such as services from telecom and cable operators, and, most importantly, IS services. The signals of IS services are transmitted together with the broadcasting signal and are received via the same consumer equipment device. Consequently, providers of, for example, t-commerce services or enhanced TV services depend on access to the CA system in the same way as pay-TV broadcasters do in order to provide their services.[4] However, no claim lies under Article 6 of the Access Directive because Annex 1 is still grounded in the notion of "broadcasting".

For the purpose of Article 6, "conditional access system" is defined as "any technical measure and/or arrangement whereby access to a protected radio or TV broadcasting service in intelligible form is made conditional upon subscription or other form of prior individual authorisation" (Article 2(f) Framework Directive). Thus the Directive refers to the CA in general as an arrangement of hard- and software facilities intended to control access to radio and broadcasting services. It does not distinguish between the different components of the CA system. One might assume that access to the individual elements of the CA system is included in the general access obligation. What is unclear is whether Article 6 would also form the basis for claims for unbundled access to individual components of the CA system, notably those that are needed also by (not necessarily access-controlled) providers of digital services in order to provide services to consumers. Examples could be access to the operating system, the navigator or browser of the set-top box, access to the smartcard in order to establish an electronic payment system or access to the SMS in order to research consumer data (provided this was compatible with data protection law). Evidently, the definition does not cover non-CA-related functions such as the EPG or multiplex, or those functions of the set-top box that are not specifically related to the decryption/encryption process. This means, for example, that where digital non-encrypted broadcasters require access to the set-top box in its function as a digital converter or to the EPG, this does not fall under Article 6 (but see the explanation under Article 5(1)b Access Directive).

Interoperability

Distinct from the question of open access to third parties' CA facilities is the question of interoperability between competing CA systems. Presently, there is some evidence that interoperability between competing CA systems might be of even more practical importance than the question of access to the decoder. This is because the majority of providers of access-controlled services presently active on European markets are relatively large commercial providers of content services who operate their own proprietary CA systems. According to the Directive, interoperability is "of benefit to end-users and is an important aim of this regulatory framework".[5]

Neither the Framework Directive nor the Access Directive legally oblige CA controllers to make their systems interoperable. It was argued that mandating one particular approach to interoperability could hamper technological and market development by imposing common standards at too early a stage.

1) Council Directive of 3 October 1989 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities (89/552/EEC), OJ L 298, 17 October 1989, p. 23, as amended by Directive 97/36/EC of the European Parliament and of the Council of 30 June 1997 amending Council Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities, OJ L 202, 30 July 1997, p. 60, Article 1a: "'television broadcasting' means the initial transmission by wire or over the air, including that by satellite, in unencoded or encoded form, of television programmes intended for reception by the public. It includes the communication of programmes between undertakings with a view to their being relayed to the public. It does not include communications services providing items of information or other messages on individual demand such as telecopying, electronic data banks and other similar services".
2) The former Article 4c of the Directive 95/47/EC of the European Parliament and of the Council of 24 October 1995 on the use of standards for the transmission of television signals, OJ L 281, 23 November 1995, 51, did not apply to radio broadcasting.
3) Article 6 and Annex I Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive), OJ L 108, 24 April 2002, p. 7 (Access Directive); Article 2(f) Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, OJ L 108, 24 April 2002, p. 33 (Framework Directive).
4) Under the new framework, an extension of the scope of Article 6 is bound by strict procedural provisions and involves the participation of the EC, Articles 6(2), 14(3) Access Directive.
5) Access Directive, Recital 9.

Instead, the development and the implementation of common standards were left entirely to industry initiatives, such as the work of the DVD Group. So far, however, the growth of industry-driven interoperability solutions has been modest. Only a small number of systems possess a common interface to make systems interoperable (multicrypt solution). As far as interoperability solutions do exist, they are generally simulcrypt agreements.[6]

Article 5 - Access to EPGs and APIs

A further extension of the scope of Article 6 is bound by strict procedural provisions and involves the participation of the European Commission.[7] In certain circumstances, however, NRAs may choose to introduce access obligations for EPGs and APIs, if this 'is necessary to ensure accessibility for end-users to digital radio and television broadcasting services' (Article 5(1) Access Directive).[8]

Scope

Again, this is a technology-specific, facility-oriented approach focused on a few specific facilities associated with the digital TV platform (while excluding, for example, similar access technologies on 3G platforms).

Definitely outside the scope of Article 5(1)b are content-related aspects, such as the way information services are listed or presented in an EPG. A provider of a digital pay-TV service cannot claim that its service must be presented at a favourable position or in a particular thematic bouquet in an EPG. This can be concluded from Article 6(4), which says that the provision is without prejudice to the ability of Member States to impose obligations in relation to the presentational aspects of EPGs and similar listings and navigation facilities. Having said this, it is important to note that the presentational aspects of an EPG design are crucial to whether and, if so how, services are accessible to end-users. In practice, it will therefore be very difficult to make a distinction between access to the EPG and the presentational arrangement.

Access obligation

The further details are unclear. The Directive leaves it open as to whether NRAs are restricted to imposing an access obligation modelled on Article 6, or whether Article 5 opens the way for the application of the more flexible and varied toolbox of measures contained in Articles 8-13 (e.g. to impose such obligations as the disclosure of technical information and specifications or the implementation of a common APIs standard, if this is necessary to ensure accessibility). As Oftel correctly observed in its response to the Commission's decision on relevant product markets: "it may be more appropriate to use Article 8 of the Conditional Access Directive, rather than Article 5 of the Conditional Access Directive, given that this route would allow the imposition of the obligations set out in Articles 8-13 of the Conditional Access Directive on operators with SMP". The need for a broader, more flexible approach under Articles 8-13 becomes particularly evident in the case of "access to the API": here, "access" to the middleware could simply mean that the set-top box is able to receive the signal but not process it, due to software incompatibilities. Instead, application designers must have identified before the application is sent to the set-top box the specifications of the API, the language used, etc., or the API must be based on a common or open standard. Such obligations clearly fall within the ambit of Article 12, whereas Article 6 is restricted to "access" in the narrow sense of the word.

Interoperability

The EC stressed in its Working Document on Barriers to Widespread Access to New Services and Applications of the Information Society through Open Platforms in Digital Television and Third Generation Mobile Communications, that "the openness of a service delivery platform is determined by its APIs, which may use open standards, open source software or proprietary technology".[9] Article 18(1) of the Framework Directive should be seen against this background. It reads:

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6) See European Commission, The development of the market for digital television in the European Union, Report in context of Directive 95/47/EC of the European Parliament and of the Council of 24 October 1995 on the use of standards for the transmission of television signals, 9 November 1999, COM(1999)540, pp. 18-20 and country reports.
7) Article 6 (2), 14 (3) Access Directive, Articles 5,7 and 8 of the Decision 1999/468 of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the EC, OJ L 184, 17 July 1999, p. 23.
8) Article 5(1)b Access Directive.
9) European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, on Barriers to widespread access to new services and applications of the information society through open platforms in digital television and third generation mobile communications, Brussels, 9 July 2003, COM(2003)410 final, p. 11.

"In order to promote the free flow of information, media pluralism and cultural diversity, Member States shall encourage …

a) providers of digital interactive TV services for distribution to the public in the Community on digital interactive TV platforms, regardless of the transmission mode, to use an open API;

b) providers of all enhanced digital TV equipment deployed for the reception of digital interactive TV services on interactive digital TV platforms to comply with an open API in accordance with the minimum requirements of the relevant standards or specifications".[10]

The Commission reserved the right to take action and make the implementation of standards compulsory for the API (only), according to the procedure laid down in Articles 18(3) and 17(3) and (4) of the Framework Directive. In this context, the EC has included the MHP standard in the list of standards under Article 17 of the Framework Directive.[11] This also means that the new regulatory framework for electronic communications requires an examination of the extent to which interoperability and freedom of choice have been achieved in Member States by no later than July 2004 (Article 18(3) Framework Directive). It should be noticed, however, that the revision clause focuses exclusively on APIs for digital interactive TV services – further evidence that the Access Directive is still far short of its declared goal of a technology-independent approach; for example, APIs for mobile communication devices are not covered. Also, the Directive mentions enhanced TV services, thus maintaining a reference to TV services rather than referring more generally to electronic information services, including IS services. As a result, it is unclear whether the providers of clearly Internet-oriented IS services (e.g. provision of Internet access via digital TV platforms) can rely on the openness of the API to the same extent as the providers of interactive TV services can. Another question is whether such action will come in time, or whether market developments will render further initiatives obsolete.

Articles 8-13 - Access to Bottlenecks Other than Those Mentioned in Articles 5 and 6

The remaining technical bottlenecks may fall under Articles 8-13 of the Directive. This category is broadly referred to as "electronic communications networks and associated facilities", and basically comprises all facilities at the communications infrastructure level that can be involved in the process of transmitting signals. The term "communications networks" refers to all resources at the network level which permit the transmission of signals by wire, radio, optical or other electromagnetic means, including satellite networks, fixed and mobile terrestrial networks, the local loop, Internet, networks used for radio and TV broadcasting, and cable TV networks.[12] "Associated services" refers to the enhanced services at the upper levels of the technical distribution chain that support the provision of communications services[13] via networks.[14] These can be, for example, operational support systems, number translation systems, roaming and switching services.

As far as the openness of digital TV platforms is concerned, Articles 8-13 might become relevant to three categories of bottlenecks:

- Bottlenecks that do not fall under Articles 5 and 6 of the Directive, such as the broadband network, the return channel, access to CA systems that control access to enhanced, interactive services that no longer fall under the traditional definition of broadcasting, the non-CA-related functions of the set-top box or set-top boxes designed exclusively for the reception of free-to-air services (digital converter, operating system, set-top box memory), the encoder and the multiplex, etc.;
- All services that do not clearly fall under Article 6 of the Directive, or for which the two regulations might overlap (e.g. CA systems that control access to both digital broadcasting and IS services). Here, individual NRAs might choose to interpret Article 6 in a narrow sense as to cover only CA

10) See also Recital 31 Framework Directive. Article 24, Annex VI of the Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services, OJ L 108, 24 April 2002, p. 51 (Universal Service Directive) which addresses more generally the issue of the interoperability of consumer equipment and a common European scrambling algorithm for free-to-air reception as well as interoperability solutions for analogue and digital TV sets.

11) EC, List of standards and/or specifications for electronic communications networks, services and associated facilities and services in accordance with article 17 of Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, OJ C 331, 31 January 2002, p. 32, Chapter VIII.

12) Framework Directive, Article 2(a).

13) The Framework Directive defines "communications services" as services normally provided for remuneration which consist wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but excluding services providing or exercising editorial control over content transmitted using electronic communications networks and services;.., Article 2(c) Framework Directive.

14) Framework Directive, Article 2(e).

devices that exclusively control access to broadcasting services, and apply Articles 8-13 to the remaining bottlenecks;
- Access for players that do not fall under Articles 5 and 6, notably providers of IS services and non-broadcasters that provide broadcasting or similar contents (e.g. operators of telecom or cable networks with own enhanced service offers).

Access obligation

Articles 8-13 implement a flexible concept for the regulation of access to technical bottlenecks. Instead of predefined bottlenecks and obligations, it is the task of NRAs to identify critical bottlenecks in the light of an actual market situation and to choose effective and proportionate remedies. Furthermore, the new flexible approach stipulates that individual NRAs are to impose specific *ex ante* access obligations only where these are necessary to ensure adequate access and interoperability in a certain market situation, as opposed to the absolute access obligation in Article 6. The nature of the obligation will again depend on the requirements of the actual market situation (flexible or toolbox approach). The set of optional initiatives clearly exceeds the scope of Article 6, as it is not restricted to access to the facility itself, but also covers access to technical interfaces or operational support systems and initiatives that actively promote the interoperability/compatibility of competing facilities and services. Some of the envisaged initiatives are meant to open access to the upstream market of consumer services, while others will stimulate competition in the facility market itself (particularly those obligations that require access to technical specifications and key technologies needed to provide own services).

As applied in practice to the digital TV sector, this might be the obligation to provide access to specified network elements, such as to level four of national cable networks (access to consumer households), if this is still in the hands of the dominant cable operator (as for example is the case with Deutsche Telekom in Germany), or to broadband cable facilities. Provided that the EC defines a market for ancillary wholesale technical broadcasting services (including CA for non-broadcasting services), this could be the obligation to provide to developers of enhanced TV applications information about the specific software capabilities of a set-top box that is needed to apply specific content formats outside the basic content formats (*e.g.* ShockWave or Dynamic HTML) in order to be able to develop sophisticated multimedia applications for a set-top box environment. The obligation to provide access to operational support systems might be applicable to access to the operating system of a set-top box, smartcard or the remote control.

Scope

Unlike the former open network provisions (ONP) concept, open access regulation is no longer restricted to certain predefined specific bottlenecks (with the exception of CA for digital broadcasting services). Articles 8-13 of the Access Directive have introduced a new, flexible approach: NRAs are entitled to determine in what circumstances which facilities are considered potential bottlenecks to market entry and competition. Conceptually, this means that Articles 8-13 do not automatically label certain facilities as bottleneck facilities, as was done under the former ONP approach and is still done under Article 6. Instead, Articles 8-13 evaluate the question of bottleneck control in the light of a certain market situation, and make the final assessment conditional upon the effect of a denial of access on competition or end-users' interests. This means that, in principle, it is left to individual NRAs to identify critical bottleneck situations, probably including access conflicts for the digital TV sector, notably those that do not fall under Articles 5 and 6. Having said this, in order to be able to apply Articles 8-13, the Commission must have set out markets for ancillary digital broadcasting facilities. This is because the Commission's market definitions establish the limits for the regulatory activity of NRAs.

The only digital broadcasting services market the Commission has so far included in its decision on relevant product markets is a "wholesale market for broadcasting transmission services and distribution networks, to deliver broadcast content to end users". Arguably, this opens the way for NRAs to monitor access to transmission networks (broadband cable, satellite transponder, etc.) and the multiplex as an integral part of the general transmission infrastructure for digital TV. The return channel does not come under this definition, as it is not used to transport broadcasting services. As already mentioned, nor are the associated services and facilities that are needed to deliver digital free-to-air or subscription broadcasting services (ancillary or associated services[15]) listed in the Commission's decision.

15) Article 2(e) Framework Directive defines associated facilities as facilities associated with an electronic communications network and/or an electronic communications service that enable and/or support the provision of services via that network and/or service, including CA systems and EPGs.

Apparently, the Commission considers Articles 5 and 6 as being sufficient to deal with bottlenecks in digital TV.[16] The consequence is that there is a considerable regulatory gap for all existing and potential gateway services and facilities in digital TV that do not fall under Articles 5 and 6. This concerns in particular the important sector of IS services that are delivered via digital TV platforms.

Interoperability

One important element of the new Directive is the possibility of imposing an access obligation with respect to key technologies if such technologies become a bottleneck to the provision of interoperable services. With the new software orientation of many modern bottlenecks in digital TV (former "traditional bottlenecks" were mainly hardware oriented, such as transmission networks), interoperability issues must extend to the harmonisation of different software standards: where the key technology is a matter of software rather than hardware, the access obligation will probably include the requirement to licence the technology to a third party. Such key technologies for the digital TV sector could be media players and plug-ins that are needed to stream contents to consumers (e.g. Realplayer from Realnetworks), the rights to intelligent personalisation software for set-top boxes, an e-payment system to be imbedded in the smartcard, or a typical EPG design that is the most popular among consumers. The importance of compatibility obligations is accentuated where network effects come into play, as consumers are likely to favour services that are compatible with the most popular platform.

16) EC Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services, OJ L 144, 8 May 2003, p. 45 and Explanatory Memorandum, p. 37.

Overview of the New Access Directive

Article 6	*Article 5 (1) b*	*Articles 8-13*
Conditional access	APIs and EPGs	Communications networks and associated facilities
Mixed competencies of national legislators, courts, NRAs and competition authorities	Like Article 6?	Wide scope of judgement and interference for NRAs
Ex post control Predefined bottlenecks	Like Article 6? Like Article 6?	*Ex ante* obligations Flexible definition of bottlenecks, dependent on actual market structure and subject to timely technological change
Absolute access obligation for all CA providers, in principle irrespective of degree of market power and level of vertical integration	Obligations on operators to provide access on fair, reasonable and non-discriminatory terms	Specific initiatives also with view to/as consequence of vertical concentrated structures
Principle of mandated access prevails	Like Article 6?	Principle of negotiated access prevails
Predefined access obligation, further definition of conditions left to interpretation of the general notion of "fair, reasonable and non-discriminatory"	Like Article 6?	Actual obligations depend on the nature of the problem
Accompanying measures restricted to the obligation to keep separate financial accounts regarding activity as CA provider	Not applicable	Catalogue of possible *ex ante* obligations exceeds actual access provision and extends to initiatives with the intention to prepare the ground for fair access negotiations in a competitive environment (e.g. transparency obligations and price control)
Goals: • Competition at the service level • Continuity and stability with respect to existing systems at the CA level • (Deregulation)	Goals: To ensure end-users' access to digital radio and TV broadcasting Services	Goals: • Competition at service level • Competition at infrastructure level • Innovation, investment at infrastructure level • Deregulation
Questions of interoperability left exclusively to industry	Commission reserves the right to take action and make the implementation of standards compulsory for the API (only), according to the procedure laid down in Articles 18 (3) and 17 (3) and (4) of the Framework Directive	Possibility for NRAs to impose obligations regarding interoperability and compatibility
Focus: open access to established CA system	Focus: end-users' access to digital radio and TV broadcasting	Focus: overall competition

Workshop: Vertical Limits – New Challenges for Media Regulation?

Saturday, 27 September 2003

Organised by the
Institute for Information Law and the European Audiovisual Observatory
with the support of the EMR

Chair: Nico van Eijk (IViR)

Agenda

Word of Welcome & Introduction
Susanne Nikoltchev for the Observatory & Nico van Eijk for IViR

Accessing Digital Television: Technical Requirements and Their Implications for Viewers, Consumers, End Users and Citizens
Speaker: Alexander Scheuer, EMR

Discussion

Technical Bottlenecks in the Hands of Vertically-integrated Dominant Players – Problem or Driver behind the Knowledge-based Economy?
Speaker: Natali Helberger, IViR

Discussion

Economic Perspectives
Speaker: Jules Theeuwes, ENCORE, WRR

Discussion

Possible Solutions I: Extending the Access Obligation to EPGs and Service Platforms
Speaker: Wolfgang Schulz, HBI

Discussion

Possible Solutions II: Control over Technical Bottlenecks – a Case for Media Ownership Law?
Speaker: Tom Gibbons, University of Manchester

Discussion

Possible Solutions III: The US Example
Speaker: Jim Speta, Northwestern University School of Law

Discussion

Conclusions

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With the support of the EMR from

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Previous editions of IRIS Special:

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- **What role can it play in the audiovisual media sector?**
- **Is there a European legal framework for it?**
- **What are the concrete examples for the implementation of co-regulation in the audiovisual field?**

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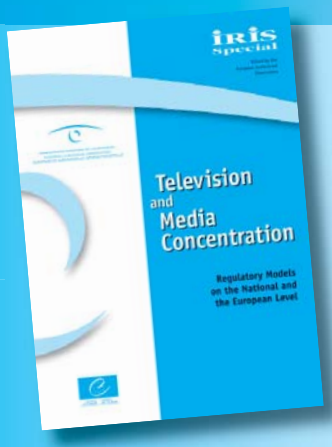

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