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Economic Implications of Further Harmonisation of Electronic Communications Regulation in the EU

The European Commission's 2013 proposed Telecoms Single Market (TSM) legislative package sought to achieve a Single European Market for electronic communications solely by means of regulatory harmonisation.[1] This flawed approach was rejected by both the European Parliament and the European Council, leading to a more balanced set of Commission legislative proposals in 2016. These are currently the subject of intensive discussions in the course of the trialogue process.

Despite the ongoing discussion on the new proposals, the Commission's original 2013 proposal can nonetheless serve as the basis for important generic reflections on harmonisation at the European level:

- Why do we seek regulatory harmonisation?
- How does harmonisation differ from uniformity?
- What benefits flow from centralisation, and what benefits from decentralisation?
- Is the European Union in fact a union?
- To what extent do the member states differ from one another in ways that are not readily altered in the near term?
- What degree of harmonisation is desirable? What degree is realistically achievable?

Against this backdrop, our paper focuses on two aspects with particular relevance to the issue of harmonisation: market entry and spectrum regulation.[2] We begin by exploring the benefits and drawbacks to centralisation and harmonisation. We then consider interventions that might be undertaken to enhance harmonisation in two key telecommunications policy areas, market entry and spectrum management. Finally, we assess the relative merits of various options for achieving greater harmonisation at the European level in these two policy areas and then draw some conclusions.

Centralisation versus decentralisation, harmonisation versus uniformity

In this section, we consider the overall rationale for a European Single Market for electronic communications. We then seek to place the historical evolution of the EU in context. We continue with an exploration of the European Regulatory Framework for Electronic Communications (RFEC). Finally, we consider the degree to which *uniformity* (as distinct from *harmonisation*) is desirable or realistically achievable in the regulation of electronic communications in Europe.

What motivates the interest in consistency and centralisation?

While the many benefits of a European Single Market are well known, what advantages does a single market for electronic communications offer? Of particular importance is the ability to use the same communications services everywhere (e.g. roaming) and the increased efficiency for innovators.

Despite the advantages of a single centralised market, we Europeans also embrace cultural and linguistic pluralism,

* This project draws on the results of a research project conducted for the BNetzA, the German National Regulatory Authority. The views expressed, however, are solely those of the authors and do not necessarily reflect the views of the BNetzA. A more detailed version of this paper in German has been published as a WIK discussion paper. See J.S. Marcus, C. Wernick, T. Gantumur, C. Gries: Ökonomische Chancen und Risiken einer weitreichenden Harmonisierung und Zentralisierung der TK-Regulierung in Europa, WIK Diskussionsbeitrag No. 420, 21 June 2017.

1 See European Commission: Proposal for a regulation of the European Parliament and the Council laying down measures concerning the European single market for electronic communications and to achieve a Connected Continent, and amending Directives 2002/20/EC, 2002/21/EC and 2002/22/EC and Regulations (EC) No. 1211/2009 and (EU) No. 531/2012, COM(2013) 627 final, 11 September 2013.

2 In our discussion paper, we also address the issues of access to the last mile; NGA and broadband; interconnection, international calls and roaming; and media policy. See J.S. Marcus, C. Wernick, T. Gantumur, C. Gries: Ökonomische Chancen und Risiken einer weitreichenden Harmonisierung und Zentralisierung der TK-Regulierung in Europa, WIK Diskussionsbeitrag No. 420, 21 June 2017.

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which we rightly view as one of Europe's strengths, as well as a range of national prerogatives (pursuant to the principle of *subsidiarity*).

This debate about *centralisation* versus *decentralisation* is not a uniquely European discussion. It is a general theme in the discipline of political science. Centralisation brings consistency of treatment and economies of scale but at the cost of a limited ability to accommodate local preferences. There is no single right answer to the degree of centralisation that should be targeted. It is heavily dependent on the circumstances and on the preferences of those who govern and their electorates.

The European Union: A union or a confederation?

The creation of the European Union was inspired by the perceived need to rise above the intense nationalism that led to two catastrophic world wars during the first half of the 20th century. The membership of the EU (and its precursors) has progressively expanded over the years. This expansion has increased the diversity of telecommunications infrastructure among the member states. The six founding members were relatively homogeneous in terms of the quality and character of their telecommunications infrastructure; however, the accession of eight former Eastern Bloc countries in 2004, together with the incorporation of the former East Germany into the unified Federal Republic of Germany in 1990, injected a new element. These member states had telecommunications infrastructures that had been largely neglected during the years of USSR domination. The expansion process continued with the accession of Romania and Bulgaria in 2007 and of Croatia in 2013. Consequently, the diversity and complexity of the European Single Market for telecommunications has greatly increased over the years.

A comparison to the early history of the United States suggests that there are inherent limitations to what the EU can hope to achieve in its present form. The 13 British colonies in North America that declared independence in 1776 did not immediately form a centralised federal republic as we know it today. Instead, they initially formed a Congress that chartered the drafting of the Articles of Confederation, an arrangement with parallels to the structure of the EU today. The Articles of Confederation established a central government with the ability to conduct foreign policy; however, it lacked the ability to prevent the states from conducting their own foreign policy. It lacked a strong central executive. It had difficulty collecting taxes and managing conflicts among the states. The Americans quickly grew dissatisfied with such limitations and in 1789 replaced the Articles of Confederation with a Constitution which centralised more power.

Similar issues are explored in the recent "Juncker White Paper", which identifies five possible scenarios for the future evolution of the European Union, each corresponding to a different degree of European integration: carrying on, nothing but the single market, those who want more do more, doing less more efficiently, and doing much more together.[3] As is customary in Commission policymaking, the first option represents a "business as usual" baseline, while the last scenario represents a radical option presented for comparison.

The RFEC in context

Regulation is an important part of European electronic communications policy, but it is only one part.[4] Many other instruments are relevant, notably including investment policy, industrial policy, and state aid; research and innovation policy; standardisation policy; a range of policies which deal with applications that use the network, including e-government services, cloud services, and the Internet of Things (IoT);[5] and the multifaceted issues associated with intellectual property, especially regarding copyright issues in connection with online content. Some of these also constitute forms of regulation, even if they do not specifically regulate electronic communications, while others are not regulatory in nature at all.

Harmonisation versus uniformity in the RFEC

Throughout the RFEC, the word *harmonisation* is used – never *uniformity*. It was recognised from the start that European member states differ markedly from one another in terms of the evolution of their telecommunications markets, the coverage and quality of the networks deployed, the level of competition among networks and services within the country, and a range of network and service cost drivers. Under these conditions, it was feasible to implement common *processes* but unrealistic to expect that the detailed *outcomes* and rules could or should be identical.

Some of the differences among the member states represent the historic arc that brought them into the European Union in the first place. Most of the member states that entered the EU in 2004 had severely underdeveloped

3 See J.-C. Juncker: White Paper on the Future of Europe: Reflections and scenarios for the EU27 by 2025, European Commission, COM(2017)2025, 1 March 2017, available at https://ec.europa.eu/commission/sites/beta-political/files/white_paper_on_the_future_of_europe_en.pdf.

4 See J.S. Marcus et al.: How to Build a Ubiquitous EU Digital Society, Study on behalf of the European Parliament, November 2013, available at http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/518736/IPOL-ITRE_ET(2013)518736_EN.pdf.

5 The Internet of Things refers to objects, rather than people, communicating with one another.

networks due to neglect during their years behind the Iron Curtain. Some countries have ubiquitous cable coverage (e.g. the Netherlands, Belgium and Malta), while others have none at all (e.g. Italy and Greece).

Alongside these differences in the networks and services, substantial differences exist in disposable income, labour costs, average age, computer ownership levels and consumer willingness to pay for electronic communication services. All of these have impacts on market structure and on network costs, and thus on regulation. Consequently, "one size fits all" regulatory solutions are unlikely to work.

Candidate measures to facilitate harmonisation, uniformity or centralisation

In this section, we summarise the key regulatory measures in place at the European level for two policy areas: market entry and spectrum management. We identify changes that could be considered, especially those that shift the balance between European and national competence, and we comment briefly on the costs and benefits of the various approaches. Both of these policy areas were addressed, for better or for worse, in the Commission's failed 2013 TSM legislation.[6]

Market entry

In principle, market entry (and exit) should be governed by the market; nonetheless, it is to some extent inevitable that the National Regulatory Authority (NRA), the National Competition Authority and the European Commission's DG Competition will have roles to play.

Current policy

Explicit authorisation to operate public electronic communication networks or services is required in nearly all EU member states (Denmark and the UK are the only exceptions). The Authorisation Directive seeks to strengthen the internal market through the harmonisation and simplification of authorisation rules.[7] The Directive prohibits the use of individual licenses that would limit the number of operators within a market. Nonetheless, operation may depend on obtaining access to scarce resources, e.g. radio spectrum, numbers or land.

Authorisations must be granted promptly and automatically following a *notification*, and the conditions attached to general authorisations are restricted to those specified in a list in the Annex to the Authorisation Directive, such as:

- Payment of administrative charges and contributions to a universal service fund
- Interconnection and interoperability obligations
- Consumer protection rules
- Data and privacy protection
- Enabling of lawful intercept
- Requirements to provide information to the NRA
- Restrictions concerning the transmission of illegal content
- Environmental and planning requirements.

Potential changes

The Commission's TSM legislative package included complicated proposals to enable authorisation at the European level and to determine which member state NRA would then take responsibility. These measures were arguably unnecessary and disproportionate.[8] The Authorisation Directive as enacted in 2002 already accomplished the move from often complex and bureaucratic licensing systems to general authorisations for which only a notification was needed, thus reducing red tape and strengthening competition and cross-border market entry.

A public consultation by the Body of European Regulators for Electronic Communications (BEREC) found that the authorisation process is working reasonably well; nonetheless, there are opportunities for improvement.[9] Our interviews with operators small and large in studies for the Parliament[10] and the Commission[11] likewise suggest that red tape is not much of a problem today with regard to authorisation and is vastly overshadowed by the need to obtain scarce resources.

In a 2013 study for the European Parliament,[12] we made recommendations that align closely with those of BEREC. We proposed the adoption of a standard notification application form in two or three widely understood European languages, which would enable a prospective network

6 See European Commission, op. cit. Our analysis here draws heavily on our 2013 study on measures to promote the Single Market for electronic communications; see J.S. Marcus et al., op. cit.

7 European Union: 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), L 108/21, in: Official Journal of the European Communities, 24 April 2002.

8 See J.S. Marcus et al., op. cit.

9 See BEREC: BEREC Report on the Impact of Administrative Requirements on the Provision of Transnational Business Electronic Communication Services, BoR (11) 56, 8 December 2011.

10 See J.S. Marcus et al., op. cit.

11 See J.S. Marcus, D. Elixmann, C. Wernick: The Regulation of Voice over IP (VoIP) in Europe, Study for the European Commission, 19 March 2008, available at https://publications.europa.eu/de/publication-detail/-/publication/0ace30b5-561b-40c4-9ebe-3bded405640c.

12 See J.S. Marcus et al.: How to Build…, op. cit.

operator to submit identical authorisation forms to each member state.[13] We also proposed waiving fees and other payments for smaller network operators.[14]

Potential costs and benefits

The potential benefits of improved processes in these areas are quite modest, because existing practices are both effective and efficient, and cannot be greatly improved upon. The costs of a solution that overreached, however, as would have been the case with the Commission's 2013 proposals, might have been considerable.

Spectrum management

The management of scarce resources, notably including assignment of radio spectrum resources, is closely linked to market entry. The amount of spectrum that the Spectrum Management Authority (SMA) releases to the market for mobile voice and broadband use has a strong impact on competition at the national level.[15]

Current policy

Spectrum management reflects a complex division of responsibilities between the Commission and the member states. Historically, European spectrum management has been primarily the prerogative of the member states; however, the Commission has always had a coordinating role, especially in regard to the establishment of harmonised radio spectrum bands. In the course of the opening of the first "digital dividend",[16] in which broadcast spectrum in the valuable 800 MHz band was reassigned to more productive use for services such as mobile broadband, the Commission played a more active role.

Had each member state made its own decisions without taking into account the impact on its neighbours, high-power, high-antenna broadcasting would have been operating directly adjacent to medium-power mobile broadband services in neighbouring countries. Harmful interference would have been problematic.[17] The Commission instead called for stronger coordination favouring mobile broadband, thus mitigating interference problems.[18]

The revised framework directive of 2009 empowered the European Commission to implement a Radio Spectrum Policy Programme (RSPP), the first element of which was approved by the European Parliament and Council on 15 February 2012.[19] The RSPP sets out the guiding principles and the objectives to be followed by member states and EU institutions in the field of radio spectrum, and it indicates the initiatives that should be taken to enable the swift implementation of these principles and objectives.

Potential changes

A full centralisation of authority at the European level might prove problematic. European authorities tend not to have the knowledge of local conditions that the national SMAs do, nor do they have the same awareness of the path dependencies which led to current arrangements. Most notably, they do not have the same accountability to the local public in the event that a decision is taken that proves to have a negative impact within the member state.

This risk is already evident in the allocation of harmonised bands at the European level. The decision to make a harmonised allocation is fundamentally a "beauty contest" that is not subject to the sort of market test that an auction provides. For instance, many spectrum management experts consider the allocation of the MSS bands for Europe-wide satellite usage to have been a case in point.

Spectrum management plays an increasingly central role in light of EU objectives to make fast and ultra-fast broadband available to all Europeans. Mobile and (to a lesser degree) fixed wireless service can be used to reach parts of the national territory that cannot be cost-effectively served with fixed network solutions, and mobile may also serve as a complement to fixed wire service in denser areas. The

13 See BEREC, op. cit., p. 19. Among possible enhancements to the process, they identified "Possibility to file online notifications/declarations … Possibility to submit notifications in English language… Establishing a 'contact point'…"

14 See BEREC: BEREC Report on Universal Service – reflections for the future, BoR (10) 35, pp. 42-43. "Most of the BEREC countries have indicated that the least market distortion principle is safeguarded by exempting from contribution the small operators, identified by a variety of criteria such as threshold of turnover, time since market entry, market share etc. Also, in recognition of the fact that this principle could also be regarded as an expression of the proportionality principle, some respondents consider that the market distortion is minimised by the imposition of contributions in proportion to undertaking's position in the market, generally reflected by turnover."

15 This analysis once again draws on our previous work for the European Parliament; see J.S. Marcus et al.: How to Build… , op. cit.

16 See Analysys Mason: 'Exploiting the digital dividend' – a European approach, Report for the European Commission, 14 August 2009, available at http://www.analysysmason.com/contentassets/eb1ed9b98d7c4c569842a9f5cd7e8568/annexes-to-analysys-masons-final-report-exploiting-the-digital-dividend---a-european-approach-20090814.pdf.

17 Ibid.

18 See European Commission: Commission Decision of 6 May 2010 on harmonised technical conditions of use in the 790-862 MHz frequency band for terrestrial systems capable of providing electronic communications services in the European Union, in: Official Journal of the European Union, L 117, May 2010, pp. 95-101.

19 See European Union: Decision No. 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multi-annual radio spectrum policy programme, in: Official Journal of the European Union, L 81, March 2012, pp. 7-17.

Commission plays an important coordinating role in ensuring that spectrum is made available, and it has substantial moral authority. However, it has limited ability to enforce its decisions.

A conspicuous example where this has been problematic is the previously mentioned reassignment of the 800 MHz band.[20] A few member states (notably Germany, to its credit) promptly auctioned 800 MHz spectrum, but in many others, the process dragged on for years.[21] There are real costs associated with this delay.

Other problems in institutional design are manifest. The SMAs that oversee the spectrum management process in the member states usually adhere to a proper process, but occasionally they engage in badly flawed processes.[22] Conflicts of interest within member state governments are visible where SMAs artificially inflate the price paid for spectrum assignment to meet near-term budget needs, rather than meeting public and sectoral needs in the best interest of citizens and industry. Fixed network regulation is conducted by NRAs that are protected from government interference, with regulatory review by the Commission and in more serious cases by BEREC; spectrum management, however, has no equivalent protection.[23]

Potential costs and benefits

How do delays in making spectrum available to the market (mainly for the benefit of commercial operators) impact societal welfare? In general, two main effects should be anticipated.

First, each release of spectrum to the market improves the efficiency of the networks that use it, thus lowering their costs. In a competitive market, the networks will compete away most or all of these gains, thus benefitting consumers through lower prices. Consumers will tend to respond to lower prices by consuming more, thanks to the price elasticity of demand.

Second, a release of spectrum to the market may enable another market player to achieve entry, thus generating significantly greater societal gains.

Using this framework, Hazlett and Muñoz examined flawed spectrum auctions in Greece and Belgium in 2001 and 2002.[24] In each case, they identified substantial deadweight loss as a result of delays in assignment. Their analysis also makes clear that the societal benefits of releasing spectrum to market tend to greatly exceed the value of the revenue realised by the government. This is consistent with the general principle that the rationale for auctioning spectrum is not to generate government revenue but rather to ensure that spectrum promptly gets into the hands of the party that values it most and is therefore likely to use it most effectively.

Alternative paths forward and conclusions

We now explore possible changes to the European regulatory environment for electronic communications in terms of market entry and spectrum management in line with the methodology on impact assessment defined in the European Commission's Better Regulation Guidelines.[25]

The problem to be addressed is the identification of a set of (sector-specific) regulatory measures, and the allocation of roles and responsibilities, that strike an appropriate balance between European and member state responsibilities so as to avoid needless fragmentation and to promote the single market (consistent with the principle of subsidiarity).

Following the methodology that the Commission routinely employs in assessing potential policy interventions,[26] we offer five options, ranked from least to most intrusive:

- *Business as usual:* This is the baseline against which all other options are compared.
- *Modest evolutionary change (bottom up):* Minor enhancements to simplify authorisation in multiple member states, together with process improvements in spectrum management.

20 Under Article 6(4) of the RSPP, the band should have been available for wireless broadband years ago. "By 1 January 2013, Member States shall carry out the authorisation process in order to allow the use of the 800 MHz band for electronic communications services. The Commission shall grant specific derogations until 31 December 2015 for Member States in which exceptional national or local circumstances or cross-border frequency coordination problems would prevent the availability of the band…"

21 See European Commission: Europeans suffering because most Member States are too slow delivering 4G mobile broadband spectrum, Press release, 23 July 2013, available at http://europa.eu/rapid/press-release_IP-13-726_en.htm. By the end of 2012, the 800 MHz band was available in only 11 member states. An additional nine member states assigned licenses the following year. The remaining eight member states took even longer to make the spectrum available (2014: GR, HU, RO, SI; 2015: PL; 2016: CY, MT; in BG the issue is still pending).

22 For a discussion of recent examples in Poland and Austria, see J.S. Marcus et al.: Substantive issues for review in the areas of market entry, management of scarce resources and general end-user issues, Study for the European Commission, Final Report, forthcoming.

23 Ibid.

24 T.W. Hazlett, R.E. Muñoz: A welfare analysis of spectrum allocation policies, in: RAND Journal of Economics, Vol. 40, No. 3, 2009, pp. 424-454.

25 See European Commission: Better Regulation Guidelines, Commission staff working document, SWD (2015) 111 final, May 2015.

26 Ibid.

- *Active evolutionary change (top down):* Enhancements to simplify authorisation in multiple member states, together with transfer of some spectrum management capabilities from member state SMAs to NRAs (thus insulating regulatory functions from government interference).

- *Federal management:* Major enhancements to simplify authorisation in multiple member states, together with transfer of most spectrum management competencies from member state SMAs to the Commission.

- *Full centralisation:* Major enhancements to simplify authorisation in multiple member states, together with transfer of all spectrum management competence to a European body.

Based on our evaluation of the likely impacts of each option, solutions in the middle are to be preferred over those at either extreme. There are some aspects of the European RFEC and its implementation today that could benefit from increased harmonisation; there are others in which substantial accommodation to local, national or regional circumstances and preferences is desirable or required. Compared to business as usual, the second approach, modest evolutionary change, is likely to provide modest but distinct and unambiguous benefits. It is relatively unobtrusive, and thus it entails little risk of serious negative consequences.

The active evolutionary change option entails significantly greater gains than modest evolutionary change does, but it also carries the potential for more negatives. The Commission's harmonising powers would be enhanced, and key member state spectrum management decisions would be subject to review by BEREC or by the Radio Spectrum Policy Group, a group of national experts. Active evolutionary change in the field of market entry seems unnecessary, as existing practices appear effective and efficient.

The federal management option seems to go too far. The benefits in comparison to active evolutionary change are limited, while the disadvantages are significant both with regard to spectrum and market entry.

The final option, full centralisation, is disruptive to the point where few European policymakers would seriously put it forward today.

The approach to harmonisation needs careful consideration inasmuch as potential effects must be taken into account not only at the European level but also at the member state level, and these impacts tend to vary depending on the measure and the member state.

The benefits associated with stronger spectrum harmonisation need to be evaluated against likely damages to the status quo in member states such as Germany, where the allocation of spectrum is currently managed in a timely and effective manner. This example underlines the complexity of the issue and the need for careful and thorough decision-making.