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Refusals to deal – The role of long-term effects in the design of remedies

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I Introduction

In the field of EC competition law it is beyond question that the refusal of the holder of an indispensable input to share that input with a rival may constitute an abuse of his dominant market position according to Article 82 EC¹. The so called ‘essential facilities doctrine’ applies—albeit with some modifications—to raw materials, infrastructures, and intellectual property (IP)-protected resources, and thus has potential relevance for various economic sectors.² Certainly, there has long been widespread

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¹ Treaty establishing the European Community (Treaty of Rome 1957, as amended).

² On ‘essential facilities’ generally, see, eg, Phillip Areeda, ‘Essential Facilities: An Epithet in Need of Limiting Principles’ (1990) 58 *Antitrust Law Journal* 841; John Temple Lang, ‘Defining Legitimate Competition: Companies’ Duties to Supply Competitors and Access to Essential Facilities’ (1994) 18 *Fordham International Law Journal* 439; Derek Ridyard, ‘Essential Facilities and the Obligation to Supply

disagreement over the exact conditions for qualifying a refusal to supply as unlawful, even before the high-profile *Microsoft* case³.

The type of remedy typically applied by the Commission to terminate refusals to deal found abusive under Article 82 EC is an order to deal. According to basic economic theory, however, the imposition of compulsory dealing remedies introduces the risk of diminishing incentives to innovate and invest.⁴ In this paper I will attempt to explore which of the stages involved in responding to refusals to deal allow for—or necessitate—the consideration of long-term effects such as disincentives to innovate and invest. In particular I will examine whether dynamic efficiency considerations only play a role during the stage of identifying an abuse, or whether they can also be relevant during the subsequent stage of designing a remedy.

I will first introduce the subject matter by looking at remedies in general (part II). After outlining the purpose of remedies, I will consider the European Commission's spectrum of possible reactions to infringements of Article 82 EC. To this end, I will look at the classic typology of remedial instruments as provided by Article 7(1) of Regulation 1/2003⁵. In this context, I will explore the main characteristics of both behavioural and structural remedies. I will then examine the relevance of the principle of proportionality for the design of remedies.

In part III, I will present an illustrative survey of the relevant case law on refusals to deal. I will draw on cases where a refusal was actually found to be abusive and a remedy was consequently imposed by the Commission. In this context, I will analyse the imposition of remedies in terms of their long-term effects. In particular, I will inquire into whether there are opportunities or even necessities for considering potential disincentives to innovate and invest when assessing the nature of a refusal to deal or when designing an appropriate remedy.

Competitors under UK and EC Competition Law' (1996) 17 *European Competition Law Review* 438; J Gregory Sidak and Abbott B Lipsky, 'Essential Facilities' (1999) 51 *Stanford Law Review* 1187; and, more recently, Thomas Eilmansberger, 'The Essential Facilities Doctrine Under Art. 82: What is the State of Affairs after IMS Health and Microsoft?' (2005) 16 *King's College Law Journal* 329; Vassilis Hatzopoulos, 'The EC Essential Facilities Doctrine' in Giuliano Amato and Claus-Dieter Ehlermann (eds), *EC Competition Law: A Critical Assessment* (Hart Publishing, Oxford 2007) 333.

³ Case T-201/04 *Microsoft Corp. v Commission* (Judgment of 17 September 2007).

⁴ Massimo Motta, *Competition Policy: Theory and Practice* (CUP, Cambridge 2004) 66-68; Richard Whish, *Competition Law* (5th edn LexisNexis, London 2003) 670; European Commission, 'DG Competition discussion paper on the application of Article 82 EC to exclusionary abuses' (2005) paras 235-236 (available at <<http://ec.europa.eu/comm/competition/antitrust/art82/discpaper2005.pdf>>).

⁵ Council Regulation (EC) 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 EC [2003] OJ L1/1 (hereinafter 'Regulation 1/2003').

Based on the findings in part III, I will turn to consider the role of long-term effects at both stages of assessing refusals to deal (part IV) and designing remedies (part V). The role of dynamic efficiency in assessing refusals to deal may be of only indirect relevance to the objective of this paper; the close relationship between these two subjects makes it seem advisable, however, to take a closer look at both of them. I will end the contribution by drawing conclusions in part VI.

II Remedies in general

A The purpose of remedies

The primary purpose of any remedy against infringements of Article 82 EC must be the termination of the infringement detected in order to restore effective competition.⁶ Restoring effective competition should not be regarded as an end in itself though. Rather, the preservation of competition should be regarded as a means to

⁶ In economic theory, there are differing concepts of competition and differing views as to which concept should be adopted by competition policy. With regard to EC competition law, however, 'effective competition' (as opposed to 'perfect' or 'workable' competition) is predominantly referred to as the desirable standard of competition. See, eg, Case 27/76 *United Brands Company and United Brands Continentaal BV v Commission* [1978] ECR 207, para 65: 'The dominant position referred to in [Article 82 EC] relates to a position of economic strength enjoyed by an undertaking which enables it to prevent *effective competition* being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers' (emphasis added); Case 85/76 *Hoffmann-La Roche & Co KG v Commission* [1979] ECR 461, paras 38-39; Richard Whish, *Competition Law* (5th edn LexisNexis, London 2003) 17 *et seq.* However, among economists, there are different views again of how 'effective competition' should be defined in the end: Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application, and Measurement* (2nd edn Sweet & Maxwell, London 2002) paras 1.06 *et seq.*, and, particularly, paras 2.04 *et seq.* In this context, see also Robert H Bork, *The Antitrust Paradox: A Policy at War with Itself* (2nd edn Free Press, New York 1993) 58 *et seq.*

enhance consumer welfare⁷, which is itself one of the ultimate goals of both the European Union (EU) and the European Community (EC).⁸

However, the EU and the EC pursue a multitude of goals. This applies both to the policy of the Union and the Community as a whole on the one hand,⁹ and to the field of competition law and policy on the other.¹⁰ The existence of variety among the numerous goals creates the potential for conflicts among the different objectives. Thus, also in individual competition law cases, decisions and judgments that are barely comprehensive from a pure consumer welfare-oriented point of view are to be expected.¹¹ It might therefore be necessary to adopt a more ‘holistic’ view to understand decisions and judgments of such a kind. This applies all the more as competition authorities in charge, and especially the Community courts, often do not express the specific set of goals they seek to achieve in each case.

Finally, it seems important to point out that, in terms of their economic purpose, remedies should not go beyond what is necessary to restore effective competition. This follows from the fact that Article 82 EC does not seek to enhance competition to the greatest imaginable degree,¹² but instead aspires to assure ‘effective’ competition, as

⁷ For a discussion whether consumer or total welfare should serve as the welfare standard of competition policy see Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application, and Measurement* (2nd edn Sweet & Maxwell, London 2002) paras 2.22-27; Massimo Motta, *Competition Policy: Theory and Practice* (CUP, Cambridge 2004) 18 *et seq.* Besides this economic objective, the integration of the common market is commonly seen as an important aim of EC competition law as well. On this, as well as for further goals of EC competition policy, see, eg, Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application, and Measurement* (2nd edn Sweet & Maxwell, London 2002) paras 1.04 *et seq.*; Richard Whish, *Competition Law* (5th edn LexisNexis, London 2003) 17 *et seq.*; Massimo Motta, *Competition Policy: Theory and Practice* (CUP, Cambridge 2004) 15 *et seq.*; Paul Craig and Gráinne de Búrca, *EU Law: Text, Cases, and Materials* (4th edn OUP, Oxford 2007) 950 *et seq.*; Roger van den Bergh, ‘The ‘More Economic Approach’ and the Pluralist Tradition of European Competition Law’ in Dieter Schmidtchen, Max Albert and Stefan Voigt (eds), *The More Economic Approach to European Competition Law* (Mohr Siebeck, Tübingen 2007) 27. Also see European Commission, ‘DG Competition discussion paper on the application of Article 82 EC to exclusionary abuses’ (2005) paras 1, 4, 55-56 (available at <<http://ec.europa.eu/comm/competition/antitrust/art82/discpaper2005.pdf>>); Case T-201/04 *Microsoft Corp. v Commission* (Judgment of 17 September 2007) paras 646-647.

⁸ See Article 2 EU (Treaty on European Union [Treaty of Maastricht 1992, as amended]), and Article 2 EC. But compare Richard A Posner, *Antitrust Law* (2nd edn The University of Chicago Press, Chicago 2001) 29: ‘Efficiency is the ultimate goal of antitrust, but competition a mediate goal that will often be close enough to the ultimate goal to allow the courts to look no further.’

⁹ See, again, Article 2 EU, and Article 2 EC.

¹⁰ Note 7, above.

¹¹ For an overview of the political, economic, and institutional factors influencing EC competition law see Giorgio Monti, *EC Competition Law* (CUP, Cambridge 2007) 4 *et seq.*

¹² Compare, albeit primarily dealing with commitment decisions according to Article 9 of Regulation 1/2003, Case T-170/06 *Arosa Company Ltd v Commission* (Judgment of 11 July 2007) para 103: ‘It follows that the Commission cannot, without going beyond the powers conferred upon it both by the competition rules of the EC Treaty and by Regulation 1/2003, adopt on the basis of Article 7(1) of that regulation a

opposed to ‘perfect’ competition.¹³ In other words, as the Court of First Instance (CFI) put it in *Microsoft*: ‘The scope of the remedy must ... be assessed in the light of the abusive conduct’.^{14, 15}

B *Typology of remedies*

As undertakings show increasing creativity to gain an advantage over existing or potential competitors, abuses of dominance may occur in a variety of ways. It is therefore necessary for the Commission to consider the respective characteristics of a specific abuse before selecting the ideal remedy, as already stated by the European Court of Justice (ECJ) in *Commercial Solvents*.¹⁶ Following the classification of remedial instruments set out in Article 7(1) of Regulation 1/2003, the Commission can basically choose between behavioural and structural remedies.

1 *Behavioural remedies*

Not surprisingly, behavioural remedies against infringements of Article 82 EC can be characterized as being aimed at changing the commercial behaviour of undertakings. On the one hand, behavioural remedies may amount to no more than ordering a party to cease and desist from certain behaviour (negative behavioural remedies); on the other, if the abuse is caused by an unlawful omission, the remedies may also be positive in nature. Such positive orders are most likely to be imposed in refusal-to-deal cases.¹⁷ Examples of positive behavioural remedies include orders to inform third

decision prohibiting absolutely any future trading relations between two undertakings *unless such a decision is necessary to re-establish the situation which existed before the infringement*’ (emphasis added).

¹³ Note 6, above. Also compare Thomas O. Barnett, ‘Remedies: A Necessary Challenge’ in Barry E. Hawk (ed), *Annual Proceedings of the Fordham Competition Law Institute: International Antitrust Law & Policy* (Juris Publishing, New York 2008) 549, 551: ‘The ‘finding of a violation is not an unrestricted license for the plaintiff or court to restructure the industry.’

¹⁴ Case T-201/04 *Microsoft Corp. v Commission* (Judgment of 17 September 2007) para 152.

¹⁵ An interesting, but yet unsolved question, is addressed by John Temple Lang, ‘Commitment Decisions under Regulation 1/2003’ (Paper submitted at the Conference on ‘Alternative Enforcement Techniques – A New Paradigm of EC Competition Law?’, Brussels 5 June 2008) 21: ‘The usual answer is that [prohibition decisions] can do everything necessary to put an end to the infringement. However, it is not clear whether a prohibition decision can go further and take away some or all of the market power or advantages illegally obtained by the companies in question. This is important in particular in the case of exclusionary abuses, in particular if as a result of the abuses the markets has “tipped” in favour of the companies that have acted illegally. Merely stopping the infringement for the future may not do enough to make the market fully competitive again.’

¹⁶ Joined Cases 6 & 7/73 *Istituto Chemioterapico Italiano SpA and Commercial Solvents Corporation v Commission* [1974] ECR 223, para 45.

¹⁷ See Jonathan Faull and Ali Nikpay (eds), *The EC Law of Competition* (2nd edn OUP, Oxford 2007) para 4.429. The terms ‘essential facility cases’ and ‘refusal-to-deal cases’ are used synonymously in this

market participants about the ending of an infringement, or to make information available periodically to the Commission.¹⁸ Beyond this, the Commission possesses the power to order dominant undertakings infringing Article 82 EC to enter into contracts with third parties as a means to end the infringements.¹⁹

As behavioural remedies are designed to induce a certain course of action for a prolonged period they generally impose a *continuing* obligation on the undertakings concerned. As a consequence, constant compliance monitoring is often necessary.²⁰ In the past, the Commission has tried in part to outsource the potentially expensive task of overseeing compliance and effective implementation of its behavioural remedies by conferring this responsibility upon third-party monitoring trustees.²¹ In *Microsoft*, however, precisely this part of the Commission's decision was annulled by the CFI. The Court found that the Commission had exceeded its powers, firstly, by trying to establish a monitoring trustee independent not only of Microsoft, but also of the Commission, and, secondly, by making Microsoft responsible for all the costs associated with the appointment of the trustee.²²

2 *Structural remedies*

Unlike behavioural remedies, structural remedies bring about a one-off change intended to render subsequent monitoring unnecessary (the so-called 'clean break principle'). Yet the term 'structural remedies' covers a wide range of different measures, all of which affect the structure of the undertaking and, consequently, of the market

contribution. As Ashwin van Rooijen observes, a 'refusal to deal is illegal only if it relates to a facility indispensable to competition; hence, the element of essentiality is incorporated in both concepts'; 'The Role of Investments in Refusals to Deal' (2008) 31 *World Competition* 63, at note 5.

¹⁸ See, eg, *United Brands* [1976] L95/1; *ECS/AKZO* [1985] L374/1. Also compare Article 5(c) of the Commission's decision in the *Microsoft* case (n 55, below).

¹⁹ Without this competence being explicitly mentioned, this held true even under Regulation 17, First Regulation implementing Articles 81 and 82 of the Treaty [1962] OJ P13/204 (hereinafter 'Regulation 17'): Joined Cases 6 & 7/73 *Istituto Chemioterapico Italiano SpA and Commercial Solvents Corporation v Commission* [1974] ECR 223, para 45-46. Also see Joined Cases C-241 & 242/91P *Radio Telefis Eirann (RTE) and Independent Television Publications Ltd (ITP) v Commission ('Magill')* [1995] ECR I-793, paras 90 *et seq.*

²⁰ OECD, 'Competition Policy Roundtables: Remedies and Sanctions in Abuse of Dominance Cases' (2006) 187 (available at <<http://www.oecd.org/dataoecd/20/17/38623413.pdf>>): 'What is common with most behavioural remedies is that they do not change the incentives of the firms to engage in anti-competitive behaviour. A logical consequence is that compliance with behavioural remedies has to be *monitored* and that firms have a clear incentive to *circumvent* the remedy. In order to prevent circumvention of the remedy, it has to be designed in such a way that a strategy to comply with the letter of the obligation but not its spirit can be prevented' (emphasis added).

²¹ Compare, eg, *NDC Health/IMS Health* [2002] OJ L59/18.

²² Case T-201/04 *Microsoft Corp. v Commission* (Judgment of 17 September 2007) paras 1268 *et seq.*

concerned.²³ Hence, the most far-reaching structural remedy would be the break-up of a company convicted of unlawful unilateral behaviour. Less rigorous measures might include an order to dispose of a shareholding in a competing enterprise or to disintegrate a joint venture.²⁴

There is consensus within the jurisprudence and academic literature that Article 82 EC does not prohibit an undertaking from obtaining or holding a dominant market position as such. It is commonly stated that this rule only applies to the *abuse* of a dominant position.²⁵ However, as the Commission may also, under Article 7(1) of Regulation 1/2003, impose ‘any ... structural remedies which are proportionate to the infringement committed and necessary to bring the infringement effectively to an end’, it appears that there is no such thing as a right of continuance with respect to dominant market positions.²⁶

Having said that, it seems important to emphasize that structural remedies under Article 7(1) of Regulation 1/2003 have never been imposed by the Commission to date in relation to an infringement of Article 82 EC.²⁷ Nor is this likely to become common practice in future antitrust matters, particularly in view of the restrictions imposed by the requirement of proportionality (discussed below).²⁸ Structural remedies can rather be seen as *ultima ratio* instruments. Despite this characterisation, the use of structural remedies was actually considered in *United States v Microsoft*.²⁹

3 Conceptual overlaps

²³ Ariel Ezrachi, ‘Behavioural Remedies in EC Merger Control—Scope and Limitations’ (2006) 29 World Competition 459, 460.

²⁴ Jonathan Faull and Ali Nikpay (eds), *The EC Law of Competition* (2nd edn OUP, Oxford 2007) para 2.101, with exemplary reference to the Commission’s decision in *Gillette* [1993] OJ L116/21. In the latter case, the Commission obliged Gillette to dispose of its unlawfully acquired 22 % share of its competitor Wilkinson Sword. However, it seems important to note that this ‘merger control decision’ reflects the legal situation of EC competition law and its abuse of dominance provisions before the first merger regulation entered into force. In *Continental Can* [1972] OJ L7/25, the Commission required a dominant undertaking to dispose of a company the acquisition of which had allegedly infringed Article [82] EC. The order never took effect, though, because the ECJ quashed the decision on the merits; Case 6/72 *Europemballage Corporation and Continental Can Company Inc. v Commission* [1973] ECR 215.

²⁵ Case 322/81 *NV Nederlandsche Banden-Industrie Michelin v Commission* [1983] ECR 3461, para 57; Case C-250/92 *Götrrup-Klim v Dansk Landbrugs Grovareselskab* [1994] ECR I-5641, para 49. Also see, eg, Giorgio Monti, *EC Competition Law* (CUP, Cambridge 2007) 160.

²⁶ Ernst-Joachim Mestmäcker and Heike Schweitzer, *Europäisches Wettbewerbsrecht* (2nd edn C.H. Beck, Munich 2004) § 20 para 38.

²⁷ But compare n 24, above.

²⁸ See section II.C.

²⁹ See text to n 59, below.

At first sight, there appears to be a clear dividing line between behavioural and structural remedies. However, in some cases behavioural remedies (following the classic typology used within Regulation 1/2003 as presented above) can bear a resemblance to or have effects similar to those of one-off structural remedies. This might particularly be the case where a licensing obligation is imposed on a dominant undertaking. Equally, other access remedies might require permanent monitoring, thus resembling a more typical behavioural remedy.³⁰

C Remedies and the principle of proportionality

Every encroachment upon the fundamental right to property, including restrictions of individual property rights by the imposition of behavioural or structural remedies, must comply with the principle of proportionality.³¹ The provisions on proportionality enshrined in Regulation 1/2003 reflect this claim. At first, Article 7(1) of Regulation 1/2003 stipulates that the Commission may only impose behavioural or structural remedies which are proportionate to the infringement committed and necessary to bring the infringement effectively to an end. Furthermore, structural remedies can only be imposed either where there is no equally effective behavioural remedy or where any equally effective behavioural remedy would be more burdensome than the structural remedy for the undertaking concerned. Also of relevance in this context is Recital 12 of Regulation 1/2003 which explains that 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 deriving from the very structure of the undertaking.

With regard to the infringement of competition rules, the principle of proportionality requires that the ‘remedial burden’ imposed on an undertaking must not

³⁰ Ariel Ezrachi, ‘Behavioural Remedies in EC Merger Control—Scope and Limitations’ (2006) 29 *World Competition* 459, 460. Similar conceptual problems—albeit regarded from the angle of structural remedies—might occur in cases of removal of cross placement of directors on the board of directors, or in cases of remedies creating information firewalls within an undertaking: OECD, ‘Competition Policy Roundtables: Remedies and Sanctions in Abuse of Dominance Cases’ (2006) 185 (available at <<http://www.oecd.org/dataoecd/20/17/38623413.pdf>>). Also compare Antonio F. Bavasso, ‘*Gencor*: A Judicial Review of the Commission’s Policy and Practice: Many Lights and Some Shadows’ (1999) 22 *World Competition* 45, 56-59; François Lévêque, ‘The controversial choice of remedies to cope with the anti-competitive behaviour of Microsoft’ (2000) (available at <<http://repositories.cdlib.org/blewp/34>>).

³¹ See, regarding tangible property, Case 44/79 *Lieselotte Hauer v Land Rheinland Pfalz* [1979] ECR 3727, para 23, and, regarding intangible property, Case C-200/96 *Metronome Musik GmbH v Music Point Hokamp GmbH* [1998] ECR I-1953, para 21.

exceed what is appropriate and necessary in order to end the infringement detected.³² As proportionality is regarded as a *general* principle of EC law by virtue of its function as a ground for review of both legislative and administrative Community measures against individuals,³³ it can be assumed that the principle applies also in respect of EC competition rules in the sense that the term ‘appropriateness’ refers to the capability of a remedy to actually cure an infringement (test of suitability³⁴), whereas ‘necessity’ denotes a remedy which least affects the freedom of an undertaking party (least restrictive alternative test).³⁵

III Remedies in refusal-to-deal cases

A The case law

This part discusses relevant case law on refusals to deal. With regard to the objective of the paper, for illustrative reasons I will draw exclusively on cases where a refusal to deal was actually found to be abusive under Article 82 EC and where thus a remedy was imposed by the Commission.

1 Commercial Solvents

In *Commercial Solvents*, the dominant undertaking, CSC, had stopped supplying one of its customers, Zoja, with a raw material (the chemical amino-butanol) which was necessary for Zoja’s production of a derivative (the chemical ethambutol, an anti-tubercular drug). The termination of supply coincided with CSC’s decision to integrate vertically and to produce ethambutol itself. Based on these facts, the Commission came

³² See, eg, Joined Cases C-241 & 242/91P *Radio Telefis Eirann (RTE) and Independent Television Publications Ltd (ITP) v Commission* (*Magill*) [1995] ECR I-793, para 93; Case T-170/06 *Alrosa Company Ltd v Commission* (Judgment of 11 July 2007) para 98.

³³ Besides its inclusion in Article 5(3) EC, proportionality—itsself being derived from the rule of law—has been developed by the ECJ as a fundamental principle of EC law, requiring that ‘the individual should not have his freedom of action limited beyond the degree necessary in the public interest.’ See Takis Tridimas, *The General Principles of EU Law* (2nd edn OUP, Oxford 2006) 136 *et seq.*, with reference, among others, to Case 11/70 *Internationale Handelsgesellschaft mbH v Einfuhr- und Vorratsstelle für Getreide und Futtermittel* [1970] ECR 1125 at 1147 *per de Lamothe AG*.

³⁴ Suitability refers to the relation between the means (the remedies intended to impose) and the end (restoration of effective competition [section II.A, above]). Compare Takis Tridimas, *The General Principles of EU Law* (2nd edn OUP, Oxford 2006) 139 *et seq.*

³⁵ Compare, with further references (and also regarding ‘proportionality *stricto sensu*’ as a possible third aspect of proportionality), Paul Craig, *EU Administrative Law* (OUP, Oxford 2006) 655 *et seq.*; Takis Tridimas, *The General Principles of EU Law* (2nd edn OUP, Oxford 2006) 139 *et seq.*

to the decision that CSC's refusal to supply constituted an infringement of Article [82 EC].³⁶

Consequently, the Commission required CSC to cease the infringing conduct. To this end, the Commission obliged CSC to supply Zoja with 30.000 kg of amino-butanol immediately, at the maximum price applied by CSC at that time, and to submit a proposal, within two months, regarding the further supply of Zoja.³⁷

2 *Hugin*

In the *Hugin* case, a major manufacturer of cash registers and similar equipment, Hugin, had discontinued the supply of spare parts for its own cash register machines to Liptons, a UK firm that serviced cash registers. As Hugin intended to operate on the downstream market for servicing too, it had also prohibited its subsidiaries and distributors from selling its spare parts outside its own distribution network. The Commission, however, decided that, by refusing to supply Liptons with spare parts and prohibiting its subsidiaries and distributors from doing so, Hugin had committed infringements of Article [82 EC].³⁸

The Commission required Hugin to bring the infringements to an end without delay and to submit for the approval of the Commission, within one month, proposals relating to the resumption of supplies of spare parts for Hugin cash registers to Liptons.³⁹ Later, on appeal, the ECJ annulled the decision due to the Commission's failure to demonstrate sufficiently that trade between Member States had been affected by Hugin's conduct.⁴⁰

3 *Magill*

In *Magill*, three broadcasting companies, ITP, BBC and RTE, refused to supply Magill TV Guide Ltd ('Magill') in advance with their individual IP-protected weekly TV programme listings. Magill wanted to introduce a comprehensive weekly TV guide, a type of publication that did not exist in Ireland at that time. The Commission came to the

³⁶ *Zoja/CSC-ICI* [1972] OJ L299/51, Article 1.

³⁷ *Zoja/CSC-ICI* [1972] OJ L299/51, Article 2. The ECJ rejected CSC's application for annulment of the Commission's decision (Joined Cases 6 & 7/73 *Istituto Chemioterapico Italiano SpA and Commercial Solvents Corporation v Commission* [1974] ECR 223).

³⁸ *Hugin/Liptons* [1978] OJ L22/23, Article 1.

³⁹ *Hugin/Liptons* [1978] OJ L22/23, Article 3.

⁴⁰ Case 22/78 *Hugin Kassaregister AB and Hugin Cash Registers Ltd v Commission* [1979] ECR 1869, paras 15-26.

decision that the policies and practices of BBC, ITP and RTE constituted infringements of Article [82 EC] in so far as they prevented the publication and sale of comprehensive weekly TV guides in Ireland and Northern Ireland.⁴¹

Accordingly, the Commission ordered that ITP, BBC and RTE should bring the infringements to an end immediately by supplying each other and third parties—on request and on a non-discriminatory basis—with their individual advance weekly programme listings and by permitting reproduction of those listings by such parties. Any royalties requested by ITP, BBC and RTE should be reasonable. Moreover, the Commission held that ITP, BBC and RTE were allowed to include in any licences granted to third parties such terms as were considered necessary to ensure comprehensive high-quality coverage of all their programmes, including those of minority and/or regional appeal, and those of cultural, historical and educational significance. The Commission therefore ordered the parties, within two months, to submit proposals for approval by the Commission of the terms upon which they considered third parties should be permitted to publish the advance weekly programme listings.⁴²

4 *IMS Health*

In *IMS Health*, NDC, a company supplying database services in the pharmaceutical sector, lodged a complaint requesting the European Commission to determine whether there had been an infringement of Article 82 EC by IMS Health, the world's leading supplier of information to the pharmaceutical and healthcare industry. NDC believed that IMS Health was abusing its dominant position by refusing to grant NDC a licence to use the '1,860 brick structure', a copyright-protected segmentation of Germany into 1,860 geographical areas, which was used to report sales information. For the pharmaceutical manufacturers, this brick structure for data reporting was very important because they had organised their sales forces according to this structure. In addition, the brick structure had become the de facto industry standard. NDC claimed that without a licence it could not provide regional sales reports based on this structure

⁴¹ *Magill TV Guide/ITP, BBC and RTE* [1989] OJ L78/43, Article 1.

⁴² *Magill TV Guide/ITP, BBC and RTE* [1989] OJ L78/43, Article 2. The Commission's order was upheld on appeal as appropriate and necessary means to bring the infringement of Article 82 EC to an end. Consequently, a challenge on the grounds of proportionality was rejected by the Community courts: Case T-69/89 *Radio Telefis Eireann (RTE) v Commission* [1991] ECR II-485; Case T-70/89 *BBC v Commission* [1991] ECR II-535; Case T-76/89 *Independent Television Publications Ltd (ITP) v Commission* [1991] ECR II-575; and, on further appeal, Joined Cases C-241 & 242/91 P *Radio Telefis Eirann (RTE) and Independent Television Publications Ltd (ITP) v Commission ('Magill')* [1995] I-793.

for Germany, the largest pharmaceutical market of the EU, and that it would also be prevented from making contracts for multi-jurisdictional coverage because it would be unable to provide German reports. Therefore, NDC requested the Commission to issue, as an interim measure, an order compelling IMS to grant NDC a licence to the ‘1,860 brick structure’ and all of its derivatives, upon non-discriminatory, commercially reasonable terms.⁴³ The Commission came to the conclusion that IMS Health’s refusal to license constituted a *prima facie* breach of Article 82 EC.

As for interim measures, the Commission required IMS Health to grant a licence without delay to all undertakings currently present on the market for German regional sales data services, on request and on a non-discriminatory basis, for the use of the brick structure, in order to permit the use of and sales by such undertakings of regional sales data formatted according to this structure.⁴⁴ Moreover, in any licensing agreements relating to the brick structure, royalties should be determined by agreement between IMS Health and the undertaking requesting the licence. If an agreement could not be reached within two weeks of the date of the request for a licence, appropriate royalties should be determined by one or several independent experts chosen by agreement of the parties within one week of their failure to agree on a licence fee. If an agreement on the identity of the expert(s) could not be reached within this time, the Commission should appoint an expert or several experts from a list of candidates provided by the parties, or, if appropriate, choose one or several suitably qualified person(s). Furthermore, the Commission ordered that the parties should make available to the expert(s) any document which the expert(s) might consider necessary or useful to carry out their task. The expert(s) should be bound by professional secrecy and should not disclose any evidence or documents to third parties except to the Commission. Finally, the expert(s) should make a determination on the basis of transparent and objective criteria, within two weeks of being chosen to carry out their task. The expert(s) should communicate their determination without delay to the Commission for approval. The Commission’s decision should be final and take effect immediately.⁴⁵

⁴³ *NDC Health/IMS Health* [2002] OJ L59/18.

⁴⁴ *NDC Health/IMS Health* [2002] OJ L59/18, Article 1.

⁴⁵ *NDC Health/IMS Health* [2002] OJ L59/18, Article 2. One week later, reference was made to the ECJ by the Landgericht Frankfurt am Main for a preliminary ruling on related questions regarding the interpretation of Article 82 EC. This case was registered under the reference C-418/01, leading to the prominent *IMS Health* judgment given by the ECJ on 29 April 2004 (ECR I-5039). However, in its preliminary judgment under Article 234 EC the ECJ only answered the abstract questions posed by the Landgericht Frankfurt and consequently went neither into the question whether IMS Health had actually infringed Article 82 EC nor which remedies should be imposed against the undertaking.

Only four months later, the President of the CFI ordered that this decision be suspended pending a substantive determination by the court.⁴⁶ An appeal against that order was dismissed.⁴⁷ Subsequently, the Commission withdrew its own decision, arguing that it was no longer necessary for the Commission to intervene.⁴⁸

5 *Microsoft*

In *Microsoft*, the software producer Microsoft Corporation ('Microsoft') was accused by Sun Microsystems, Inc. ('Sun') of infringing Article 82 EC by reserving to itself information that work group server operating systems would need to be fully interoperable with Microsoft's 'Windows' domain architecture. According to Sun, the withheld information was necessary to compete viably as a work group server operating system supplier.⁴⁹ The Commission noted that Microsoft's position of market strength enabled it to determine to a large extent and independently of its competitors the set of communication rules that would govern the de facto standard for interoperability in work group networks. As such, the Commission held that interoperability with Microsoft's 'Windows' domain architecture would be necessary for a work group server operating system vendor in order to stay viably on the market. Microsoft's refusal to supply interoperability information would have the consequence of stifling innovation in the market for server operating systems and of diminishing consumers' choices by locking them into a homogeneous Microsoft solution. In conclusion, the Commission decided that Microsoft's refusal to supply interoperability information and to allow its use for the purpose of developing and distributing work group server operating system products violated Article 82 of the Treaty.⁵⁰ It is important to note, however, that the Commission emphasized that Microsoft's abusive refusal to supply did *not* consist of refusing the source code of its software programmes but only of refusing its interface specifications. Drawing this distinction is important insofar as disclosing the source code of a certain software product would enable competitors simply to copy Microsoft's

⁴⁶ Case T-184/01 R *IMS Health v Commission* [2001] ECR II-3193.

⁴⁷ Case C-481/01 P(R) *NDC Health v IMS Health and Commission* [2002] ECR I-3401.

⁴⁸ *NDC Health v IMSHealth* [2003] OJ L 268/69; IP/03/1159.

⁴⁹ Initially, Sun itself had made an application to the Commission which was registered as Case IV/C-3/37.345. Later, the Commission launched an investigation into Microsoft's conduct on its own initiative which was registered as Case COMP/C-3/37.792. The findings already set out in Case IV/C-3/37.345 merged into the new case. See Case COMP/C-3/37.792, paras 3-5. According to the focus of this paper, I will not deal with the abusive tying accusations brought up against Microsoft in the same case.

⁵⁰ Case COMP/C-3/37.792, paras 779-784; Article 2(a).

products, while disclosing interoperability information in the form of interface specifications only enables competitors to develop their very own—yet compatible—products.⁵¹

Accordingly, the Commission ordered Microsoft to bring the infringement of Article 82 EC to an end.⁵² Microsoft was required, within 120 days, to make the interoperability information available to any undertaking with an interest in developing and distributing work group server operating system products. Microsoft should, on reasonable and non-discriminatory terms, allow the use of the interoperability information by such undertakings for the purpose of developing and distributing work group server operating system products.⁵³ Furthermore, the Commission obliged Microsoft to ensure that the interoperability information it made available was kept updated on an ongoing basis and in a timely manner.⁵⁴ In addition, Microsoft was ordered to set up an evaluation mechanism within 120 days that would give interested undertakings a workable possibility of informing themselves about the scope and terms of use of the interoperability information. With regard to this evaluation mechanism, Microsoft was allowed to impose reasonable and non-discriminatory conditions to ensure that access to the interoperability information was granted for evaluation purposes only.⁵⁵ Moreover, Microsoft was requested to communicate to the Commission, within 60 days, all measures that it intended to take in order to comply with the Commission's orders named so far. That communication should be sufficiently detailed to enable the Commission to make a preliminary assessment as to whether the proposed measures would ensure effective compliance with the decision. In particular, Microsoft should outline in detail the terms under which it would allow the use of the interoperability information.⁵⁶ Eventually, it would be necessary for Microsoft to

⁵¹ Case COMP/C-3/37.792, paras 569-572. The Commission's reference to the difference in para 570 is especially illustrative: 'an interface specification describes *what* an implementation must achieve, not *how* it achieves it' (emphasis as in the original text).

⁵² Case COMP/C-3/37.792, Article 4.

⁵³ Case COMP/C-3/37.792, Article 5(a).

⁵⁴ Case COMP/C-3/37.792, Article 5(b). According to Article 1(3) of this Decision, the term 'timely manner' with respect to disclosure of protocol specifications means as soon as Microsoft has developed a working and sufficiently stable implementation of these specifications.

⁵⁵ Case COMP/C-3/37.792, Article 5(c).

⁵⁶ Case COMP/C-3/37.792, Article 5(d).

communicate, within 120 days, all the measures that it actually took in order to fulfil the Commission's order.⁵⁷

B Implications of the imposition of remedies as illustrated by the case law

In brief, all remedies so far imposed to cure refusals to deal found abusive under Article 82 EC have been behavioural remedies in the form of orders to deal. This should not come as a surprise though: it is certainly plausible to attempt to remedy an abusive omission (eg, Microsoft's refusal to supply interoperability information) by a corresponding order to act exactly according to the existing provisions of the neglected legal rule (in Microsoft's case, by supplying the requested interoperability information). With regard to the purpose of remedies⁵⁸ and the principle of proportionality (or, more precisely, to its component requirement of appropriateness), remedies less burdensome than compulsory dealing remedies could not provide for an effective termination of the infringement committed and seem far from feasible. In that sense, abusive refusals to deal and compulsory dealing remedies embody two sides of one coin.

Aside from orders to deal, the only remedial alternative worth considering—at least theoretically, given the requirement of appropriateness—would be structural remedies. According to Recital 12 of Regulation 1/2003, however, changes to the structure of an undertaking as it existed before the infringement was committed would only conform to the principle of proportionality (or, more precisely, to its component requirement of necessity) where there is a substantial risk of a lasting or repeated infringement that derives from the very structure of the undertaking. In comparison, structural remedies were seriously taken into consideration in *United States v Microsoft*, where a United States District Court ordered, by way of injunction, that Microsoft's operating systems and application businesses should be broken up into independent entities. The order was later reversed by the Court of Appeals for the District of Columbia for several reasons.⁵⁹ As already stated above, however, structural remedies

⁵⁷ Case COMP/C-3/37.792, Article 5(e). On appeal, the CFI largely upheld the Commission's decision, including the qualification of the refusal to supply interoperability information as abusive and the imposition of the remedies named above, Case T-201/04 *Microsoft Corp. v Commission* (Judgment of 17 September 2007).

⁵⁸ See section II.A, above.

⁵⁹ Cases No 00-5212 consolidated with No 00-5213, *United States v Microsoft Corp.*, 253 F.3d 34 (DC Cir. 2001). Compare, eg, Robert H Lande, 'Why are we so reluctant to 'execute' Microsoft?' (2001) 1 *Antitrust Source* 1; John E Lopatka, 'Devising a Microsoft remedy that serves consumers' (2001) 9 *George Mason Law Review* 691; Robert O'Donoghue and A Jorge Padilla, *The Law and Economics of Article 82 EC* (Hart Publishing, Oxford 2006) 738 *et seq.*

have neither been imposed nor seriously been considered so far under EC competition law.⁶⁰ This remains so even after the Commission's scrutiny of the conduct of 'superdominant'⁶¹ Microsoft Corporation.

Based on these findings, it seems that every appropriate remedy imposed against an unlawful refusal to deal can be characterised at least as encroaching upon the fundamental right to property to a similar extent as an order to deal. In this sense, refusal-to-deal cases do not offer much actual scope for choosing or designing remedies. In the end, however, it is exactly the encroachment upon the fundamental right to property that raises concerns on a long-term perspective, since interference with property rights representing a specific investment necessarily carries the risk of undermining an undertaking's or an industry's incentives to innovate and invest.⁶² Consistently, as every effective remedial consequence of qualifying a refusal to deal as abusive introduces the risk of diminishing incentives to innovate and invest, it is essential to factor in these incentives already on the stage of assessing refusals to deal. In other words, incentives to innovate and invest should be treated as an integral part of the concept of abuse as such.

As a further consequence—and as will be explained with regard to content in greater detail below—only limited scope remains for considering such long-term effects when designing remedies. Detrimental effects on dynamic efficiency caused by qualifying a refusal to deal as abusive and by imposing an (appropriate) remedy cannot be recouped later. On the contrary, when it comes to the task of designing remedies, the potential for creating detrimental effects can only grow.

IV Excursus: The role of long-term effects in assessing refusals to deal

Prima facie, a compulsory dealing order will in most cases be an appealing remedy against abusive refusals to deal as it will most likely promote competition immediately. Given the requirement of proportionality for the imposition of structural remedies, this generalisation would probably hold true for that type of remedy as well. Taking into account economic theory, however, the mere imposition of remedies—necessarily constituting an encroachment upon the fundamental right to property—might under certain circumstances turn out to be detrimental to consumer welfare (being the ultimate purpose of remedies) and, therefore, be inappropriate in the long run:

⁶⁰ See text to n 27, above.

⁶¹ On the concept of 'superdominance', see Robert O'Donoghue and A Jorge Padilla, *The Law and Economics of Article 82 EC* (Hart Publishing, Oxford 2006) 166-168.

⁶² See, in greater detail, Part IV, below.

competition must not only be seen from a static point of view (ie, in terms of allocative and productive efficiency), but also from a temporal perspective (ie, in terms of dynamic efficiency).⁶³ It appears that EC competition policy is aware of the concept of dynamic efficiency, at least to a certain degree: granting access to essential facilities⁶⁴ might not only lead to lower prices and better services (these static efficiency gains rather apply to facilities such as infrastructures or spare parts), but also to new products giving rise to new markets (such dynamic efficiency gains can particularly be expected in relation to IP-protected ‘facilities’⁶⁵).

However, to serve consumer welfare sustainably, long-term concerns should be taken into account more fully than they are now. By so doing, it might turn out that a loose policy of qualifying a refusal to deal as abusive and thus of granting access to essential facilities brings about negative incentives to innovate and invest. After all, as indicated above, ordering the holder of an essential facility to grant third parties access to that facility contains an ‘element of expropriation’.⁶⁶ A development like this might have chilling effects on dynamic efficiency, which might prove to be more detrimental to consumer welfare than a certain amount of dominance over a limited period of time.⁶⁷ In its judgments, though, the ECJ has, when granting mandatory access, so far largely ignored the nature of an essential facility, the funds invested in it, and so too any possible negative incentives for future investments deriving from a duty to deal. Instead, when the Court has assessed whether refusals to deal are abusive, it has adhered to a list of criteria which largely disregard the nature of an essential facility, the investments made therein, and, consequently, any possible long-term disincentives.⁶⁸ It should however be an important factor in this assessment whether a duty to deal is imposed on the holder of an infrastructure facility created with public funding, the holder of a facility protected by

⁶³ Regarding the terms ‘allocative’, ‘productive’ and ‘dynamic efficiency’, see, eg, Massimo Motta, *Competition Policy: Theory and Practice* (CUP, Cambridge 2004) Chapter 2; Christian R Fackelmann, ‘Dynamic efficiency considerations in EC merger control. An intractable subject or a promising chance for innovation?’ (2006) The University of Oxford Centre for Competition Law and Policy Working Paper (L) 09/06 (available at <<http://denning.law.ox.ac.uk/lawvle/users/ezrachia/CCLP%20S.%2009-06.pdf>>) 3 *et seq.*

⁶⁴ See n 2, above.

⁶⁵ Regarding the ‘new product requirement’ within the EC essential facilities doctrine, applicable exclusively to IP-protected resources, see Giorgio Monti, *EC Competition Law* (CUP, Cambridge 2007) 228 *et seq.*

⁶⁶ Richard Whish, *Competition Law* (5th edn LexisNexis, London 2003) 670. Also compare section III.B, above.

⁶⁷ See AG Jacobs in Case C-7/79 *Oscar Bronner Gesellschaft mbH & Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag Gesellschaft mbH & Co KG and Others* [1998] ECR I-7791, paras 56-57.

⁶⁸ See, with further references, Ashwin van Rooijen, ‘The Role of Investments in Refusals to Deal’ (2008) 31 *World Competition* 63, 76 *et seq.*

weak intellectual property rights, or the holder of an essential facility created with a considerable amount of private funds.⁶⁹ Admittedly, taking such concerns into account does not yet ‘offer a useful legal test for determining the legal conditions under which a duty to deal is appropriate’.⁷⁰ However, as long as such economics-based concepts are not taken into account to an adequate degree, it is safe to assume that the assessment of the abusiveness of refusals to deal will rarely lead to sustainable results in terms of consumer welfare.⁷¹

V *The role of long-term effects in designing remedies against abusive refusals to deal*

As explained above, with respect to possible disincentives to innovate and invest arising from the mere imposition of remedies, it is of utmost importance to integrate dynamic efficiency considerations yet into the concept of abuse as such. After identifying an abusive refusal, the scope for actually choosing or designing remedies, and for considering long-term disincentives, is generally limited. At first glance, one might even think that there is no point in considering long-term effects beyond the finding of an abuse and the subsequent imposition of a compulsory dealing remedy. Rather, on closer examination there appears some scope, albeit limited, for paying attention to dynamic efficiency concerns also in the context of designing remedies: when compulsory dealing remedies are typically ordered against abusive refusals to deal, those orders, crucially, do not usually address the *terms* on which access to the essential resource should be mandated. Such terms, however, can be a vital factor affecting the effectiveness and the sustainability of the remedy as a whole.

Against this background, a ‘surprising feature of decisions in which a duty to deal has been imposed or considered under Article 82 EC is the absence of any detailed or

⁶⁹ Ashwin van Rooijen, ‘The Role of Investments in Refusals to Deal’ (2008) 31 *World Competition* 63 *et seq*; Richard Whish, *Competition Law* (5th edn LexisNexis, London 2003) 670; Massimo Motta, *Competition Policy: Theory and Practice* (CUP, Cambridge 2004) 66 *et seq*. In turn, no general difference should be made between tangible and intangible property, since duties to deal may in both cases create disincentives detrimental to consumer welfare. Likewise, Robert O’Donoghue and A Jorge Padilla, *The Law and Economics of Article 82 EC* (Hart Publishing, Oxford 2006) 421-423.

⁷⁰ Robert O’Donoghue and A Jorge Padilla, *The Law and Economics of Article 82 EC* (Hart Publishing, Oxford 2006) 463.

⁷¹ Compare John Temple Lang, ‘Defining Legitimate Competition: Companies’ Duties to Supply Competitors and Access to Essential Facilities’ (1994) 18 *Fordham International Law Journal* 439, 478; Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application, and Measurement* (2nd edn Sweet & Maxwell, London 2002) para 6.123. For a general argument against an overly interventionist approach see Thomas O. Barnett, ‘Remedies: A Necessary Challenge’ in Barry E. Hawk (ed), *Annual Proceedings of the Fordham Competition Law Institute: International Antitrust Law & Policy* (Juris Publishing, New York 2008) 549, 550-554.

principled discussion’ of these terms.⁷² As is apparent from the case law discussed earlier, the Commission has consistently left the parties to a case to agree both the quantity of the resources to be provided (as in *Commercial Solvents* [after an initial supply of 30.000 kg of amino-butanol] and in *Hugin*) and the prices or royalties applicable (as in *Commercial Solvents*, *Hugin*, *Magill*, *IMS Health*, and *Microsoft*). While in *Commercial Solvents* and in *Hugin* the dominant undertakings were ordered to submit proposals regarding the further supply of their resources, in *Magill*, *IMS Health*, and *Microsoft*, the compulsory dealing orders were additionally accompanied by the specification that access should be granted—more or less explicitly—on ‘fair, reasonable, and non-discriminatory’ (FRAND) terms.

In fact, mandating access without additionally specifying reasonable terms appears somewhat pointless: at one extreme, the holder of the essential facility could apply terms so onerous that the party advocating the duty to deal would have to abstain from it anyway. Thus, by implementing a profit maximising pricing strategy, the facility holder could achieve the same result as by continuing his conduct previously found to be abusive according to Article 82 EC. At the other extreme, long-term effects come into play: forcing the holder of an essential facility to allow access thereto on terms under which he could not recoup his investments made therein would clearly bear the risk of diminishing (ex ante) incentives to innovate and invest. Given the fact that commercial life is, in principle, based on advance planning, uncertainties about future profits might discourage valuable investment from the outset.⁷³ Then again, competition authorities and courts usually have difficulties in acting as price regulators, as can be seen in the context of excessive pricing cases.⁷⁴ Accordingly, some commentators argue that it should primarily be incumbent upon the parties to a case to try to agree on terms on a voluntary basis. In case the parties fail, however, there are some alternative (economics-based) options for the imposition of access terms. Whichever option is implemented eventually by a competition authority, the task of setting the terms of access creates, even necessitates, a role for the consideration of long-term effects in the design of remedies.⁷⁵

⁷² Robert O’Donoghue and A Jorge Padilla, *The Law and Economics of Article 82 EC* (Hart Publishing, Oxford 2006) 723.

⁷³ On the relevance of legal certainty particularly regarding economic and commercial life, see Takis Tridimas, *The General Principles of EU Law* (2nd edn OUP, Oxford 2006) 242 *et seq.*

⁷⁴ Compare, with further references, Richard Whish, *Competition Law* (5th edn LexisNexis, London 2003) 688 *et seq.*

⁷⁵ Basically, there are four options for defining access terms, each of them having different implications regarding dynamic efficiency: (1) royalty-free or costless access; (2) cost-based access; (3) terms that

Clearly, dynamic economic disincentives caused by unjustifiably qualifying a refusal to deal as abusive cannot be recouped afterwards by implementing even the best pricing strategy. On the other hand, after correctly qualifying a refusal to deal as abusive, a wrong pricing strategy could have effects as detrimental on long-term consumer welfare as the unjustified establishment of abusive behaviour.

VI Conclusions

It seems that, in view of the purpose of remedies and the principle of proportionality (and its constituent elements of ‘appropriateness’ and ‘necessity’), compulsory dealing orders might in most cases be the only remedial consequence possible in instances where refusals to deal are found to be abusive under Article 82 EC. In any case, it is difficult to suggest remedies which do not encroach upon the fundamental right to property to some extent. This means, in turn, that each remedy imposed against abusive refusals to deal bears the risk of creating disincentives to innovate and invest. The risk is particularly imminent in cases where essential facilities have been established using large amounts of private funds instead of public spending. Disincentives against innovation and investment would result from ‘partial expropriations’ like these. Due to such far-reaching implications arising already from the finding of an abuse and the concomitant imposition of a remedy, it is the stage of assessing refusals to deal for being abusive where accounting for possible long-term effects is of utmost importance. Dynamic efficiency concerns should thus be regarded as an integral part of the concept of abuse as such.

As soon as a refusal to deal is qualified as abusive and an order to deal is made to remedy this abuse, only few opportunities remain for consideration to be given to possible long-term effects on competition: in particular, the task of specifying the conditions for access to essential facilities (usually the terms of ‘fair, reasonable, and non-discriminatory’ [FRAND] access) offers at least some scope for the consideration of dynamic economic (dis)incentives. These FRAND terms are particularly relevant in the context of pricing. Once a refusal to deal has correctly been found to be unlawful, a wrong pricing strategy could, in principle, produce effects which are just as detrimental on dynamic efficiency as those produced by unjustified orders to deal. On the other

compensate the dominant firm for lost profits or ‘opportunity cost’; and (4) *ex ante* construction of a ‘competitive’ access price. See, in detail, Robert O’Donoghue and A Jorge Padilla, *The Law and Economics of Article 82 EC* (Hart Publishing, Oxford 2006) 726 *et seq.* With respect to dynamic economic incentives, O’Donoghue and Padilla advocate the fourth option (*ibid*, 730).

hand, if a refusal is found to be abusive without regard for negative long-term effects, the best pricing strategy cannot cure the adverse effects on dynamic efficiency caused by imposing an order-to-deal remedy.