



REPORTS

Report on Experiences with Structural Separation 2011

Introduction

The OECD Competition Committee held several discussions on structural separation which resulted in a report approved in 2011. These discussions also led to a revision in December 2011 of the 2001 Council Recommendation Concerning Structural Separation in Regulated Industries.

Overview

This report reviews the experience of structural separation ten years after the adoption of the 2001 OECD Council Recommendation Concerning Structural Separation in Regulated Industries with a focus on four sectors: electricity, gas, railways and telecommunications. It shows that structural separation remains a relevant remedy to advance the process of market liberalisation. However, the impact of separation policies on investment incentives has been an issue throughout the sectors. Corporate incentives to invest require full consideration in the assessment of whether structural separation may be appropriate for a sector. As a result, the 2001 Recommendation was amended by the OECD Council on 13 December 2011 to address the role that corporate incentives to invest can play in assessing the desirability of structural separation in regulated industries.

Related Topics

Report on Experiences with Structural Separation (2006)
Recommendation of the Council concerning structural separation in regulated industries (2001)
Restructuring Public Utilities for Competition (2001)



Report on Experiences with Structural Separation

COMPETITION COMMITTEE

JANUARY 2012

This work is published on the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

© OECD 2012

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) contact@cfcopies.com

FOREWORD

On 26 April 2001, the OECD Council adopted a Recommendation Concerning Structural Separation in Regulated Industries suggesting to Member countries that when regulated firms have activities that are potentially competitive and that are linked to non-competitive activities, such as natural monopoly activities, governments should consider the benefits and costs of structural measures separating two activities. The Recommendation was accompanied by a detailed report, and both advocated careful consideration of the potential pros and cons of structural separation versus the potential pros and cons of behavioural measures. In 2006, the Competition Committee reported to Council on the implementation of the Recommendation. This report focused on five topics: benefits of structural separation, costs of structural separation, balancing benefits and costs, experiences with separation in energy, railways, telecommunications and postal services and government actions with respect to structural separation in OECD countries. It concluded that the Recommendation was important and relevant and should remain in its current form. The Council endorsed these conclusions and invited the Competition Committee to continue reporting back on the implementation of the Recommendation.

This third report reviews the experience of structural separation ten years after the adoption of the Recommendation with a focus on four sectors: electricity, gas, railways and telecommunications. It shows that structural separation remains a relevant remedy to advance the process of market liberalisation. However, the impact of separation policies on investment incentives has been an issue throughout the sectors and the 34 member countries surveyed in the report. Corporate incentives to invest require therefore full consideration in the assessment of whether structural separation may be appropriate for a sector. As a result, the 2001 Recommendation was amended by the OECD Council on 13 December 2011 to address the role that corporate incentives to invest can play in assessing the desirability of structural separation in regulated industries. The revised Council Recommendation is appended to this Report.

TABLE OF CONTENTS

REPORT ON EXPERIENCES WITH STRUCTURAL SEPARATION	7
1. Introduction	7
2. Structural separation as a remedy	16
3. Developments in gas.....	27
3.1 Gas sector in Chile.....	27
3.2 Gas sector in Estonia	28
3.3 Gas sector in the European Union	28
3.4 Gas sector in Greece	40
3.5 Gas sector in Ireland	41
3.6 Gas sector in Israel.....	42
3.7 Gas sector in Portugal.....	42
3.8 Gas sector in the Netherlands	43
3.9 Gas sector in Poland	44
3.10 Gas sector in Slovenia	45
3.11 Gas sector in Turkey.....	45
4. Developments in electricity	46
4.1 Electricity sector in Australia	46
4.2 Electricity sector in Chile	48
4.3 Electricity sector in Estonia	49
4.4 Electricity sector in the European Union.....	50
4.5 Electricity sector in Finland.....	56
4.6 Electricity sector in Germany	57
4.7 Electricity sector in Greece.....	58
4.8 Electricity sector in Ireland.....	59
4.9 Electricity sector in Israel	60
4.10 Electricity sector in Italy.....	60
4.11 Electricity sector in Mexico.....	61
4.12 Electricity sector in New Zealand.....	62
4.13 Electricity sector in the Netherlands.....	64
4.14 Electricity sector in Portugal.....	65
4.15 Electricity sector in Switzerland.....	66
4.16 Electricity sector in Slovenia	67

5.	Developments in telecommunications.....	68
5.1	Telecommunications sector in Australia.....	68
5.2	Telecommunications sector in Chile.....	71
5.3	Telecommunications sector in Estonia.....	71
5.4	Telecommunications sector in the European Union.....	72
5.5	Telecommunications sector in Finland.....	75
5.6	Telecommunications sector in Israel.....	75
5.7	Telecommunications sector in Italy.....	76
5.8	Telecommunications sector in New Zealand.....	78
5.9	Telecommunications sector in Poland.....	79
5.10	Telecommunications sector in Slovenia.....	81
5.11	Telecommunications sector in Sweden.....	82
5.12	Telecommunications sector in Switzerland.....	82
5.13	Telecommunications sector in the United Kingdom.....	83
6.	Developments in rail.....	85
6.1	Rail sector in Australia.....	85
6.2	Rail sector in Belgium.....	88
6.3	Rail sector in Canada.....	88
6.4	Rail sector in Chile.....	91
6.5	Rail sector in Estonia.....	92
6.6	Rail sector in the European Union.....	93
6.7	Rail sector in France.....	96
6.8	Rail sector in Germany.....	98
6.9	Rail sector in Israel.....	98
6.10	Rail sector in Italy.....	99
6.11	Rail sector in the Netherlands.....	100
6.12	Rail sector in Slovenia.....	101
6.13	Rail sector in Spain.....	102
6.14	Rail sector in Sweden.....	102
6.15	Rail sector in the United Kingdom.....	105
6.16	Rail sector in the United States.....	107
7.	Corporate Incentives to Invest and Structural Separation.....	108
8.	Conclusion.....	112
	ANNEX: RECOMMENDATION OF THE COUNCIL CONCERNING STRUCTURAL SEPARATION IN REGULATED INDUSTRIES.....	118

REPORT ON EXPERIENCES WITH STRUCTURAL SEPARATION

1. Introduction

In 2001, the OECD Council adopted its “Recommendation of the Council Concerning Structural Separation in Regulated Industries”,¹ suggesting to Member countries that they consider the implementation of structural measures in regulated sectors in appropriate circumstances. This report provides an update on Member countries’ experiences in applying the Recommendation.

The Recommendation was accompanied by a detailed report that considered the benefits and the costs associated with the adoption of structural separation policies.² The main body of the Recommendation takes a similar approach, advocating careful consideration of both the potential pros and cons of structural separation versus the potential pros and cons of behavioural measures. It reads as follows:

When faced with a situation in which a regulated firm is or may in the future be operating simultaneously in a non-competitive activity and a potentially competitive complementary activity, Member countries should carefully balance the benefits and costs of structural measures against the benefits and costs of behavioural measures.

The benefits and costs to be balanced include the effects on competition, effects on the quality and cost of regulation, the transition costs of structural modifications and the economic and public benefits of vertical integration, based on the economic characteristics of the industry in the country under review.

The benefits and costs to be balanced should be those recognised by the relevant agency(ies) including the competition authority, based on principles defined by the member country. This balancing should

¹ [Structural Separation in Regulated Industries \(2001\)](#).

² OECD, [Restructuring Public Utilities for Competition](#) (2001) and OECD, [Structural Separation in Regulated Industries \(2001\)](#).

occur especially in the context of privatisation, liberalisation or regulatory reform.

A “Report on Experiences with Structural Separation” was published by the Competition Committee in 2006. The report considers the costs and benefits of structural separation, examines in detail a selected set of examples of structural separation in five sectors and provides a summary of country experiences across the OECD as a whole. The 2006 report concludes that:

- The Recommendation is still important and relevant;
- Its suggestion to balance the costs and benefits of structural separation still holds, as does the view that the costs and benefits will differ based on the economic characteristics of the industry in the country under review; and
- The Council Recommendation should remain in place as it is.³

This second report provides an update on experiences with structural separation in Member countries with respect to four industries: gas, electricity, telecommunications and rail.⁴ Ten years on from the adoption of the Recommendation, the conclusions remain broadly the same. Structural separation is a remedy of continued relevance, which can both advance the process of market liberalisation and address some of the difficulties inherent to behavioural remedies and more complex and intensive sector regulation. Nevertheless, structural separation may not be necessary or appropriate in all industries or markets. In particular, the impact of structural separation or the lack thereof on corporate incentives to invest in network industries has become a prominent issue. The choice of structural versus behavioural measures, in a given set of circumstances, therefore remains a matter that requires careful evaluation.

Structural solutions to competition problems differ from behavioural measures insofar as structural policies modify the incentives, whereas behavioural remedies try to redress specific conduct in a context where

³ OECD Competition Committee, [Report on Experiences with Structural Separation](#), published 7 June 2006, p.6.

⁴ With respect to Member countries that have joined the OECD since the publication of the 2006 report, information of a more general nature is provided, not being limited to recent developments.

incentives remain essentially unchanged.⁵ The Recommendation elaborates upon this distinction, noting that “*behavioural policies, unlike structural policies, do not eliminate the incentive of the regulated firm to restrict competition*” and that “*despite the best efforts of regulators, regulatory controls of a behavioural nature, which are intended to control the ability of an integrated regulated firm to restrict competition, may result in less competition than would be the case if the regulated firm did not have the incentive to restrict competition*”. It further emphasizes that “*certain forms of partial separation of a regulated firm (such as accounting separation or functional separation) may not eliminate the incentive of the regulated firm to restrict competition and therefore may be less effective in general at facilitating competition than structural policies*”. While structural remedies are frequently viewed as more intrusive upon property rights than behavioural remedies,⁶ in the longer run the “clean break” offered by structural solutions may prove to be less intrusive than requiring a firm to adhere to detailed, prescriptive behavioural commitments that are unending in nature.

In regulated infrastructure industries, structural separation typically divides a formerly integrated company into competitive and non-competitive parts. The crux of separation is not merely a wholesale/retail divide; rather, the objective is

⁵ The 2001 report describes the distinction between these two types of measures as “*those that primarily address the incentives on the incumbent to restrict competition (“structural”) approaches, and those that primarily control the ability of the incumbent to restrict competition (“behavioural” approaches)*”, and emphasises that “[u]nder behavioural approaches, the regulator must struggle against the incentives of the incumbent to deny, delay or restrict access. Compared to the incumbent firm the regulator is usually at a disadvantage with respect to information and to the possible instruments of control. As a result, the level of competition under behavioural approaches is less than if the incumbent did not have the incentive to restrict competition. Certain tools, such as accounting separation, management separation or corporate separation, are not effective on their own, but may support other approaches, such as access regulation”; see OECD, [Restructuring Public Utilities for Competition](#) (2001), at p.53. See also P. Hellström, F. Maier-Rigaud & F. Wenzel Bulst, “Remedies in European Antitrust Law” (2009) 76 *Antitrust law Journal* 43 for further discussion of the incentive-based distinction between behavioural and structural remedies. Of course, structural remedies may not only change the incentives but may simply take away the ability of the firm to influence the network.

⁶ Under EU competition law, for example, structural remedies can be imposed for breaches of the competition rules only where there are no equally effective behavioural remedies available, or where any equally effective behavioural remedy would be more burdensome than the structural remedy.

to isolate only those assets that cannot be replicated.⁷ This separation can take a variety of forms ranging from behavioural to structural measures. Accounting separation constitutes the weakest form of separation available, and ownership separation the strongest. In between these poles, “*six degrees*” of functional (or operational) separation options have been identified: creation of a wholesale division; virtual separation; business separation; business separation with localised incentives; business separation with separate governance arrangements; and legal separation involving separate legal entities under the same ownership.⁸ While ownership separation clearly is a structural measure, separation measures falling short of ownership separation, such as for example the Independent Transmission Operator (ITO) concept in energy, are typically considered to be behavioural measures⁹, with the exception of certain types of functional separation, that is, the separation of ownership and control that has sometimes been considered a hybrid form between the two, for example the Independent System Operator (ISO) in energy.¹⁰

The extent to which separation of a vertically integrated firm is viewed as economically and commercially desirable, and the form of separation preferred, tends to vary from sector to sector. As “forcing” competition via structural separation can have significant costs—both financial and efficiency-based—it is important to determine whether increased competition in the market concerned actually brings with it increased benefits for consumers. In the European Union (EU), for example, Member States are required to implement either ownership or functional separation in the electricity and gas sectors, whereas functional separation in telecommunications markets is presented as an exceptional measure for implementation only in cases of persistent market failure. Factors of relevance to the determination as to whether and what form of separation may be appropriate in a particular sector include the presence of economies of

⁷ European Regulators Group, *Opinion on Functional Separation* (ERG (07) 44) 2007, p.8.

⁸ M. Cave, “Six Degrees of Separation: Operation Separation as a Remedy in European Telecommunications Regulation” 64 *Communications and Strategies* (4th quarter 2006), p.1-15.

⁹ See the Recommendation, in particular the passages quoted above.

¹⁰ See for example OECD, [Restructuring Public Utilities for Competition](#) (2001), p. 14. In contrast to this, others such as the French telecommunications regulator, l’Autorité de Régulation des Communications Électroniques et des Postes (ARCEP), would expressly categorise legal separation falling short of full ownership separation as a form of structural separation; see ARCEP, *La Lettre de l’Autorité*, No.55 – March/April 2007, p.4.

scale and scope, the likely impact on levels of investment, the rate of technological innovation in a sector and the effectiveness of other forms of regulatory intervention. Moreover, the costs and benefits associated with each form of separation differ. While accounting separation, the least intrusive form of separation, may help to eliminate price discrimination against downstream competitors, non-price discrimination may necessitate a more intensive solution such as functional or even ownership separation.

Although the Recommendation is directed at OECD Member countries, experience to date suggests that the decision to implement structural separation is often taken by the vertically integrated firm itself, rather than by the national regulatory agencies or competition authority. A firm may decide to separate voluntarily in order to pre-empt more complete forms of separation being imposed by legislation or in the framework of competition proceedings; it may prefer structural measures as a means by which to escape demanding behavioural regulation; or separation may present the most attractive business option for the profit-maximising firm. It is unusual for a vertically integrated firm to drive the separation process entirely of its own initiative—typically, the issue is first introduced by regulators or other government bodies. Nevertheless, once separation has been placed on the policy agenda, “voluntary” compliance by firms is not uncommon. This has been the experience in the telecommunications sector in Sweden, for example, where the incumbent’s decision to adopt functional separation voluntarily has thus far negated the need for the regulator to exercise its statutory power to impose compulsory functional separation on the firm. Voluntary commitments involving structural separation play an important role in competition law practice. While it is common practice that structural commitments (business divestitures) are offered to obtain regulatory clearance in the field of merger control, voluntary structural separation commitments are increasingly offered also in the field of antitrust enforcement in recent years. Notably the European Commission has accepted binding commitments with respect to structural separation when settling antitrust investigations without a formal finding of breach.¹¹

On the other hand, in certain circumstances separation is an involuntary process for the vertically integrated firm, being a remedy imposed upon it under statute, or by regulators or competition law enforcers. For legislators and sector regulators, structural separation offers a more durable resolution in cases of persistent market failure. Structural separation can provide the means by which to remedy market problems that behavioural regulation alone may fail to

¹¹ See the RWE, ENI and E.ON cases discussed below. Structural commitments were also applied in EU State Aid cases.

prevent, the classic example being non-price discrimination. Separation may also be preferred in circumstances where the alternative behavioural regulation would prove complex or difficult to design, follow and enforce. Structural solutions bring the benefit of legal certainty, and typically, a simplified regulatory regime. Compulsory separation imposed by regulation has been common in the energy sector, particularly within the EU, where Member States must comply with the requirements of the European Commission's energy markets liberalisation programme.

Structural separation is occasionally imposed by competition authorities for similar reasons. Where a breach of the competition rules is on-going and linked to a vertically integrated market structure, separation can provide an effective and durable remedy. Moreover, solutions of a structural nature require comparatively little *ex post* monitoring, unlike behavioural remedies, which frequently require competition authorities to engage in supervisory activities of a quasi-regulatory nature.¹² The break-up of AT&T in 1984, on foot of an antitrust lawsuit brought by the Department of Justice in the United States, is a prominent example of the use of competition law enforcement powers to effect structural separation of an integrated firm.¹³

It is generally accepted that structural separation may involve a trade-off between efficiency and competition. Since the Recommendation was issued in 2001, a voluminous literature has been produced that considers the value of structural separation in view of its associated costs and benefits. There is significant evidence that profit maximising vertically integrated firms typically make efficient decisions, from the point of view of both, the firm and of consumers, but where the vertically integrated firm controls a bottleneck monopoly, foreclosure can be a problem.¹⁴ Others argue that discrimination by a vertically integrated firm is never a rational strategy, on the basis that any gains

¹² For a discussion of the behavioural-versus-structural remedies debate in the EU context, see P. Lowe & F. Maier-Rigaud, Chapter 20, "*Quo Vadis Antitrust Remedies*" in B.E. Hawk (ed.), *Annual Proceedings of the Fordham Competition Law Institute* (2008, New York), pp.597-611.

¹³ *United States v. AT&T* 552 F. Supp. 131 (D.D.C. 1982).

¹⁴ See F. Lafontaine & M. Slade, "Vertical Integration and Firm Boundaries: The Evidence" (2007) 45(3) *Journal of Economic Literature* 629-685, and P.L. Joskow, Chapter 11, "Vertical Integration" in ABA Section of Antitrust Law, *Issues in Competition Law and Policy*, Volume I (2008, Chicago), pp.273-292.

at the retail level will be negated by concomitant losses at the wholesale level,¹⁵ yet, plausible theories of anticompetitive leverage and foreclosure of upstream, downstream and even related retail markets can be found in both literature and case law.¹⁶ Within the literature addressing specifically structural separation and its effects, one finds both work that supports and work that criticises the use of such policies in order to address competition problems. There is no clear consensus among scholars as to the objective value of structural separation in the abstract. Separation can be costly, both in terms of one-off costs of implementation and longer term efficiency losses.¹⁷ Nonetheless, within assessments of specific examples of structural separation, it is clear that economic benefits have been observed.¹⁸ It is important to note the strong

¹⁵ See, for example, D.W. Carlton, “Should “Price Squeeze” be a Recognized Form of Anticompetitive Conduct?” (2008) 4 *Journal of Competition Law & Economics* 271, at p.275, for a clear statement of the Chicago School “one monopoly profit” precept.

¹⁶ See, for example, N. Economides, “Vertical Leverage and the Sacrifice Principle: Why the Supreme Court Got *Trinko* Wrong” (2005) 61 *NYU Annual Survey of American Law* 379 and D. Geradin & R. O’Donoghue, “The Concurrent Application of Competition Law and Regulation: The Case of Margin Squeeze Abuses in the Telecommunications Sector” (2005) 1 *Journal of Competition Law & Economics* 355 for discussion of potential harms to competition.

¹⁷ See OECD, [Restructuring Public Utilities for Competition](#) (2001) at p.24, for a discussion of the economics of scope associated with vertical integration: “Vertical integration may enhance the availability of information (allowing more efficient incentive contracts); may reduce transactions costs and improve investment in relationship specific assets by overcoming hold-up problems; and may reduce the distortions associated with market power at one or both of the two levels.” While many of these potential sources of cost efficiencies can, alternatively, be exploited through contractual arrangements between separate firms, in practice contractual arrangements often prove to be impractical. However, the 2001 report argues that while the theoretical possibility of economies of scope may be recognised, assessing their magnitude in practice is very difficult (*ibid.*, pp.24-26).

¹⁸ For a sample of the broad range of positions on the topic, see R.W. Crandall, J.A. Eisenach & R.E. Litan, “Vertical Separation of telecommunications Networks: Evidence from Five Countries” (2010) 62(3) *Federal Communications Law Journal* 493-539; M.G. Pollitt, “Electricity Liberalisation in the European Union: A Progress Report” *EPRG Working paper* 0929, published December 2009; M. de Nooij & B. Baarsma, “Divorce comes at a price : An *ex ante* welfare analysis of ownership unbundling of the distribution and commercial companies in the Dutch energy sector” (2009) 37 *Energy Policy* 5449-5458; T. Tropina, J. Whaley & P. Curwen,

influence of industry sponsorship on this particular issue, which raises some questions with regards to the impartiality of work dealing with the topic.¹⁹

An issue of increasing importance, in the context of the debate regarding structural separation, is the impact of such arrangements on investment incentives, in particular relating to infrastructure development. On the one hand, uncertainty regarding the possible implementation of structural separation or misaligned incentives for the infrastructure operator where separation has already been implemented may deter otherwise desirable investment in the network. Given that many regulated industries will require significant

“Functional separation within the European Union: Debates and Challenges” (2010) 27 *Telematics and Informatics* 231-241; R. Cadman, “Means not Ends: Deterring Discrimination through Equivalence and Functional Separation” (2010) 34 *Telecommunications Policy* 366-374; S. Dorigoni & F. Pontoni, “Ownership Separation of the Gas Transportation Network: Theory and Practice” *IEFE Working Paper Series* No.9, published March 2008; R. Gonçalves & A. Nascimento, “The Momentum for Network Separation: A Guide for Regulators” (2010) *Telecommunications Policy* 355-365; B. Howell, R. Meade & S. O’Connor, “Structural Separation versus Vertical Integration: Lessons for Telecommunications from Electricity Reforms” (2010) 34 *Telecommunications Policy* 392-403; A. Prandini, “Good, BETTA, Best? The Role of Industry Structure in Electricity Reform in Scotland” (2007) 35 *Energy Policy* 1628-1642; M.G. Pollitt, “The Arguments For and Against Ownership Unbundling of Energy Transmission Networks” (2008) 36 *Energy Policy* 704-713; M.A. Jamison & J. Sichter, “Business Separation in Telecommunications : Lessons from the US Experience” (2010) 9(1) *Review of Network Economics*, Article 3 (available at www.bepress.com/rne); R.W. Crandall, “The Remedy for the “Bottleneck Monopoly” in Telecom: Isolate It, Share It or Ignore It” (2005) 72 *University of Chicago Law Review* 3; S. Everett, “Deregulation and Reform of Rail in Australia: Some Emerging Constraints” (2006) 13 *Transport Policy* 74; B. Moselle & D. Black, “Vertical Separation as an Appropriate Remedy” (2001) 2(1) *Journal of European Competition Law & Practice* 84; and F. Kirsch & C. von Hirschhausen, “Regulation of NGN: Structural Separation, Access Regulation, or No Regulation at All?” (2008) 69 *Communications & Strategies* 63. A report issued recently by the Berkman Center for Internet & Society, *Next Generation Connectivity: A review of broadband Internet transitions and policy from around the world* (February 2010) Final Report, contains a comprehensive review of the available literature assessing the effectiveness of “open access” policies, including functional separation, in the telecommunications sector.

¹⁹ Berkman Report, cited fn. 18 above.

investments in the coming years,²⁰ the claimed negative effects of structural separation on investment incentives and the cost of capital is an issue of general relevance. On the other hand, where vertical integration remains in place, there is a risk that the integrated firm will engage in strategic under-investment in its infrastructure, in a bid to circumvent access obligations. In such circumstances, the decision to separate may lead to greater investment in infrastructure development. Implementation of structural separation can also result in increased investment by new entrants into the competitive portions of the sector. Even with respect to vertically integrated firms, the effects of uncertainty on investment incentives can be over-exaggerated—in particular, where the sale of the separated asset is conducted in such a manner as to secure its full market value. Thus, the impact of structural separation on investment incentives remains an open yet critically important issue to be considered.

The Recommendation on structural separation incorporates the various aspects of this lively debate. It asks Member countries to evaluate both the likely costs and benefits of structural separation within regulated sectors. These costs and benefits are then weighed against each other, in order to assess whether and what form of separation should be mandated for vertically integrated firms in that market. Structural separation is not always the necessary or best response to vertical integration of firms that operate in both competitive and non-competitive markets, but it can be an economically efficient one in both the short and longer terms. The following sections of the report consider the availability of structural separation as a remedy and experiences in implementing structural separation in Member countries since the publication of the 2006 report, examining four regulated sectors: gas, electricity, telecommunications and rail. Information is also included regarding the structure of these markets in the four countries that have joined the OECD since 2006, namely Chile, Estonia, Israel and Slovenia. The report concludes with a discussion of the major themes emerging from the evidence on experiences with structural separation.

²⁰ In the EU, for example, energy investments in the order of €1 trillion will be required over the course of the next ten years; see Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Energy 2020: A Strategy for Competitive, Sustainable and Secure Energy*, SEC(2010) 1346, COM(2010) 639 final, published 10 November 2010, at p.2. The transition to high speed fibre telecommunications networks is another area where very substantial investments are required to fund socially-desirable infrastructure development.

2. Structural separation as a remedy

Structural separation remedies are not available in all OECD countries and the conditions for structural separation differ: while structural separation is usually imposed as a remedy for a competition violation, some competition authorities can impose structural separation remedies merely to preserve a competitive market structure, without finding an infringement of competition law (“objective structural separation”).²¹ The table below identifies those where such remedies are available. Note that the revised EU competition law regime introduced by Regulation 1/2003²² made the application of the EU competition provisions by national competition authorities and national courts compulsory, irrespective of national sector regulation, to the extent that the conduct “may affect trade between Member States”.²³ Based on Article 5 of Regulation 1/2003 this does, however, not extend to procedural law, so that structural remedies are available to competition authorities in EU Member States only to the extent that they are foreseen under national law.²⁴ Moreover, further sector-specific powers may in the future be introduced at the domestic level as EU Member States implement EU Directives relating to the sectors under consideration.

²¹ See e.g. the powers of the Competition Commission in the U.K. under the Enterprise Act 2002.

²² Regulation (EC) 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty (OJ L 1/1, 2003), hereafter “Regulation 1/2003”. See E. de Smijter and L. Kjølbje “*The Enforcement System Under Regulation 1/2003*” (2007), p. 87-180 in J. Faull and A. Nikpay (eds.), *The EC Law of Competition*, 2nd edition, Oxford University Press, for a good overview.

²³ See in particular Article 3 of Regulation 1/2003.

²⁴ To the extent that national competition law provisions do not foresee structural remedies but the conduct in question “may affect trade between Member States” of the EU, it can be argued that such measures may still be required under EU law if alternative remedies would threaten effective enforcement of competition law in the EU. In addition, again conditional upon trade between EU Member States possibly being affected, the EU Commission is always in a position to relieve the national competition authority and initiate proceedings under Article 11(6) of Regulation 1/2003 itself, thereby allowing structural remedies to be imposed.

Table 1. Structural separation remedies available under national law

Country	Structural measures available under national competition law	Structural measures under national law specifically for telecommunications	Structural measures under national law specifically for energy
Australia	---	---	---
Austria	X	X	X
Belgium	---	---	X
Canada	X	X	---
Chile	X	X	---
Czech Republic	---	---	X
Denmark	---	---	X
Estonia	---	---	X
Finland	---	---	X
France	---	---	X
Germany	X	---	X
Greece	X	---	X
Hungary	---	---	X
Iceland	X	X	X
Ireland	X	X	X
Israel	X	X	X
Italy	---	---	X
Japan	X	---	---
Korea	X	X	---
Luxembourg	---	---	X
Mexico	X	X	---
Netherlands	X	---	X
New Zealand	---	---	---
Norway	X	X	X
Poland	---	---	X
Portugal	X	---	X
Slovak Republic	---	---	---
Slovenia	X	X	X
Spain	X	X	X
Sweden	---	---	X
Switzerland	---	---	---
Turkey	X	---	X
UK	X	X	X
US	X	X	---

Date: August 2010

Country	Competition Law Provisions
Australia	Divestiture (which would include structural separation) is not available as a remedy under the abuse of dominance provisions in Australian law. ²⁵
Austria	Section 26 of the Cartel Act 2005 empowers the Cartel Court to order measures intended to weaken or even eliminate the dominant position, which presumably could encompass structural separation where appropriate. ²⁶ Competition law applies in the telecommunications sector. ²⁷
Belgium	Under Belgian competition law, it appears that there is no power to impose structural remedies – instead, only fines or cease & desist orders can be imposed. ²⁸
Canada	Structural separation can be ordered by the Canadian Competition Tribunal (under section 79(2) of the Competition Act) where a breach of the abuse of dominance provision has been established and there is no alternative suitable remedy. ²⁹ Competition law applies in the telecommunications sector. ³⁰
Chile	Structural separation is a remedy that may be granted by Chile's competition law court, the Antitrust Commission, if it finds a violation of the competition rules. Cases are brought before the Antitrust

²⁵ OECD Country Studies, *Australia – The Role of Competition Policy in Regulatory Reform* (2009), p.20 available on the OECD's website at <http://www.oecd.org/dataoecd/55/44/45170413.pdf>.

²⁶ Global Competition Review, *The European Antitrust Review 2010: Austria*, available on GCR's website at www.globalcompetitionreview.com.

²⁷ International Comparative Legal Guide, *Telecommunications Laws and Recommendations 2010: Austria*, available at ICLG's website at www.iclg.co.uk.

²⁸ Belgian Act on the Protection of Economic Competition (APEC) consolidated on the 15th of September 2006 (Belgian Official Gazette 29/9/2006) and amended by the act of 6/5/2009 (Belgian Official Gazette 19/5/2009), available at statbel.fgov.be/en/binaries/apec-new_tcm327-56301.pdf.

²⁹ See Competition Bureau, *Enforcement Guidelines on the Abuse of Dominance Provisions*, available at www.competitionbureau.gc.ca.

³⁰ International Comparative Legal Guide, *Telecommunications Laws and Recommendations 2010: Canada*.

Country	Competition Law Provisions
	<p>Commission by the state enforcement agency or by private parties.³¹</p> <p>Competition law applies to the telecommunications sector.³²</p>
Czech Rep.	<p>The only penalties available under Czech competition law are fines, criminal sanctions for hard core cartels and order to terminate anti-competitive behaviour.³³</p> <p>There is overlapping jurisdiction between the competition authority and the telecommunications regulator in the Czech Republic.³⁴</p>
Denmark	<p>While the Danish Competition Commission can issue orders to put an end to breaches of the competition rules, it appears not to have the express power to impose structural measures on firms that are found to have breached Danish competition law.³⁵</p>
Estonia	<p>Upon finding a violation of the competition rules, the Estonian competition authority can issue mandatory and prohibitory injunctions in addition to cease and desist orders and fines. However, the authority can only make non-binding recommendations (to government, business etc.) regarding measures that can be taken to improve competition in the market—which would mean that it cannot impose compulsory structural separation itself as a competition law remedy under Estonian competition law.</p> <p>Following a merger of several agencies in 2008, the activities of the telecommunications regulator are now included within the competition authority.³⁶</p>

³¹ OECD, [Peer Review of Competition Law & Policy – Chile](#) (2004), pp.26-27.

³² OECD, [Peer Review of Competition Law & Policy – Chile](#) (2004), pp.48-50.

³³ Global Competition Review, *The European Antitrust Review 2010: Czech Republic*. See also OECD, [Czech Republic – Peer Review of Competition Law & Policy](#) (2008).

³⁴ Note that the telecommunications sector was excluded from the ambit of Czech competition law between 2005 and 2007; see OECD, [Czech Republic – Peer Review of Competition Law & Policy](#) (2008).

³⁵ International Comparative Legal Guide, *Enforcement of Competition Law 2010: Denmark*.

³⁶ International Comparative Legal Guide, *Enforcement of Competition Law 2010: Estonia*.

Country	Competition Law Provisions
Finland	As a general rule, structural separation is not available under the Finnish Competition Act. However, a special provision exists with regard to certain electricity market concentrations. ³⁷
France	Structural measures appear to be available under French competition law only following a merger, where, if the merged entity abuses a dominant position that it acquired through the merger, the competition authority can order divestitures etc. ³⁸
Germany	<p>The Bundeskartellamt can impose any remedy that is necessary to effectively end the breach.³⁹</p> <p>In the telecommunications sector – as far as it is regulated by the <i>Bundesnetzagentur</i> within the framework of specific telecommunications law – the <i>Bundeskartellamt</i> can apply only EU competition law, and not the general domestic competition law.⁴⁰</p>
Greece	<p>Under general Greek competition law, structural measures can be imposed after there has been an abuse of dominance. Structural measures can be imposed only if there is no suitable behavioural remedy available, or if the appropriate behavioural remedy would be more onerous than the structural solution.⁴¹</p> <p>All competition issues with regards to telecommunications fall within the remit of the sector regulator, the Hellenic Communications and Post Commission (EETT), and so are outside the ambit of Greek competition law. However, EU competition law applies in the sector.</p>

³⁷ According to the Finnish Competition Act, the Market Court in Finland may, upon the proposal of the Finnish Competition Authority, prohibit a concentration in the electricity market if the combined market share of the transmission operations of the parties exceeds 25% on a national level (concerning electricity transmitted at 400V in the transmission grid).

³⁸ International Comparative Legal Guide, *Enforcement of Competition Law 2010: France (Dominance)*. See also Global Competition Review, *The European Antitrust Review 2010: France*.

³⁹ See the Bundeskartellamt's website at www.bundeskartellamt.de.

⁴⁰ See Bundeskartellamt's website at www.bundeskartellamt.de.

⁴¹ International Comparative Legal Guide, *Enforcement of Competition Law 2010: Greece*.

Country	Competition Law Provisions
Hungary	There does not appear to be any power to impose structural separation as a competition law remedy under Hungarian competition law. ⁴²
Iceland	Structural measures can be imposed under competition law where they are proportionate and suitable, and provided that there is no suitable behavioural remedy available or where the available behavioural remedy is more burdensome than the equivalent structural remedy. ⁴³ Competition law applies in the telecommunications sector.
Ireland	Under section 14(7) of the Competition Act 2002, where an abuse of dominance has been established by a court, one remedy available to the court is to order a variation of the dominant position in whatever way may be required, which could include structural separation. Under the Communications Regulation (Amendment) Act 2007, the telecommunications regulator, ComReg, and the Irish competition authority have concurrent jurisdiction over competition offences in the telecommunications sector. Thus, court proceedings leading to a civil order to vary a dominant position in the sector can be initiated by either agency.
Israel	Structural separation is available under Article 31 of the Restrictive Trade Practices law for firms that have been declared to be a monopolist in a sector. Under this provision, the Antitrust Tribunal may, at the application of the general director of the Israeli Antitrust Authority, order the separation of a monopoly, the separation of legal entities and the sale of the ownership and control of such entities to third parties. ⁴⁴
Italy	There is no power to order structural separation under Italian competition law. ⁴⁵ Competition law applies to the telecommunications sector. ⁴⁶

⁴² See the Hungarian Competition Act (Act LVII of 1996), available at www.gvh.hu. See also OECD, *Hungary – Updated Report on Competition Policy & Institutions* (2004), p.12.

⁴³ Article 16 of Law No. 44 19th May 2005 with later amendments, No 52/2007 and No 94/2008, available on the Icelandic competition authority's website at www.samkeppni.is.

⁴⁴ Global Competition Review, *The European Antitrust Review 2010: Israel*.

⁴⁵ The Italian legislation on competition is available on the website of the competition authority, AGCM, along with further information on the authority's powers under competition law, at www.agcm.it.

⁴⁶ See the AGCM's website at www.agcm.it.

Country	Competition Law Provisions
Japan	<p>Divestiture or other forms of structural relief may be imposed by the JFTC as a remedy for an infringement of the competition law. Structural separation is also available as a remedy in cases where a monopolistic situation has been found to exist under Japanese competition law.⁴⁷</p> <p>Competition law applies to the telecommunications and the energy sector.⁴⁸</p>
Korea	<p>Following a finding of a violation of the competition rules, the competition authority (the KFTC) can impose a corrective order and/or a fine. Corrective orders can mandate structural remedies, including structural separation.⁴⁹</p> <p>With respect to telecommunications, the sectoral regulator, the KCC, has primary jurisdiction over regulatory matters, but the KFTC retains residual jurisdiction over competition matters in the sector. There are provisions in place in the relevant regulations to ensure that undertakings are not fined twice under both sets of legislation for the same conduct.⁵⁰</p>
Luxembourg	<p>Structural measures are not available under national competition law—only fines and cease and desist orders can be issued for breaches of the competition rules.</p> <p>The Luxembourg competition authority has jurisdiction over telecommunications matters.⁵¹</p>
Mexico	<p>Structural remedies may be imposed by the Mexican competition authority (CFC), but only in response to repeated competition law violations by the same offender (i.e. not as a measure of first resort).⁵²</p>

⁴⁷ Article 8-4 of the Act on Prohibition of Private Monopolization and Maintenance of Fair Trade (Act No. 54 of April 14, 1947), as amended, available on the JFTC's website at www.jftc.go.jp.

⁴⁸ OECD, *Japan – Monitoring Review of Competition Law & Policy* (2004).

⁴⁹ International Comparative Legal Guide, *Enforcement of Competition Law 2009: Korea*, and Global Competition Review, *The Asia-Pacific Antitrust Review 2010, Korea: Overview*.

⁵⁰ International Comparative Legal Guide, *Telecommunications Law and Regulations 2010: Korea*.

⁵¹ International Comparative Legal Guide, *Enforcement of Competition Law 2010: Luxembourg*.

Country	Competition Law Provisions
---------	----------------------------

Competition law applies to the telecommunications sector.⁵³

Netherlands The NMa has the power to impose fines and to accept commitments regarding structural changes. While under Article 58 (a) of the Dutch Competition Act the NMa also has the power to impose structural measures (which could include structural separation) on firms, such power is subject to strict conditions, and could only be used as a last resort.

Although there is a specific sectoral regulator for telecommunications, the OPTA, the NMa's competition jurisdiction covers activities within this sector as well.⁵⁴

New Zealand There is no power under the Commerce Act 1986 (as amended) for either the Commerce Commission or the courts to order structural separation in response to a violation of competition law.⁵⁵

Under the Telecommunications Act 2001 (amended by the Telecommunications Amendment Act 2006) there is an express power under telecommunications regulatory law for the relevant Minister to impose "robust operation separation" of the telecommunications incumbent, which was implemented in March 2008.⁵⁶

Norway Under section 12 of Norway's Competition Act of 2004, structural measures may be ordered to remedy a breach of the prohibition of anti-competitive co-ordinated or unilateral behaviour, but only if there are no suitable behavioural remedies available or if available behavioural remedies are more onerous than the equivalent structural measures.⁵⁷

⁵² Global Competition Review, *The Handbook of Competition Enforcement Agencies 2010*, p.200.

⁵³ Mexico's contribution to the Fourth Annual Latin American Competition Forum Roundtable on *Improving Relationships between Competition Policy and Sectoral Regulation* (2006), available at www.oecd.org/competition/latinamerica.

⁵⁴ International Comparative Legal Guide, *Enforcement of Competition Law 2010: The Netherlands*. See also the NMa's website at www.nmanet.nl.

⁵⁵ The Commerce Act 1986 is available at www.legislation.govt.nz.

⁵⁶ The Telecommunications Act 2001 is available at www.legislation.govt.nz.

⁵⁷ The text of the Competition Act is available (also in English) on the website of the Norwegian competition authority at www.konkurransetilsynet.no.

Country	Competition Law Provisions
	Competition law applies in the telecommunications sector.
Poland	Structural separation is not possible under current Polish competition law (although it was available under earlier competition law). ⁵⁸
Portugal	According to Article 28, 1 (b) of the Portuguese Competition Act structural measures are available if necessary to remedy a breach of the prohibition of anti-competitive coordinated or unilateral behaviour.
Slovak Rep.	Slovak competition law provides the competition authority with the power to order undertakings to “remedy an unlawful state of affairs”—this does not, however, extend to imposing structural remedies on parties. ⁵⁹
	Pursuant to an amendment to the Slovak competition law in force since June 2009, restrictions on the application of competition law in markets also subject to specific sector regulation have been lifted. Thus, the Slovak competition authority, the AMO, now has the power to apply competition law in parallel with actions by sector regulators, including the telecommunications regulator.
Slovenia	Structural separation may be imposed under Slovenian competition law as a remedy for both anti-competitive co-ordinated and unilateral behaviour. ⁶⁰
	Competition law applies in the telecommunications sector.
Spain	Where there is a finding of breach of the competition rules (anti-competitive co-ordinated or unilateral conduct), the CNC has the power to impose structural measures on the guilty undertaking(s).

⁵⁸ The Act of 16 February 2007 on competition and consumer protection is available at www.uokik.gov.pl. See OECD, *The Role of Competition Policy in Regulatory Reform – Poland* (2002), p.17, for a description of the previous legislative framework.

⁵⁹ Act of 27 February 2001 on Protection of Competition and on Amendments and Supplements to Act of the Slovak National Council No. 347/1990 Coll. on Organization of Ministries and Other Central Bodies of State Administration of the Slovak Republic as amended, available on the website of the Slovak Antimonopoly Office at www.antimon.gov.sk.

⁶⁰ Article 37 of the Prevention of the Restriction of Competition Act (ZPOmK-1), available on the website of the Slovenian Competition Protection Office at www.uvk.gov.si.

Country	Competition Law Provisions
Sweden	<p>Competition law applies in the telecommunications sector.⁶¹</p> <p>There is no power to impose structural separation under Swedish competition law—only fines and orders to terminate anti-competitive conduct are available on a finding of breach.⁶²</p>
Switzerland	<p>There is no power to impose structural measures under Swiss law—only to fine or to order termination of the competition law violation.</p> <p>Competition law applies to anti-competitive conduct in the telecommunications sector falling outside the purview of sector specific legislation.⁶³</p>
Turkey	<p>The Turkish Competition Authority has the power to impose sanctions in the form of fines, behavioural and structural remedies in cases where the Turkish Competition Act has been violated.⁶⁴</p> <p>The Turkish Competition Act applies to all sectors within Turkey, and so the Competition Authority has jurisdiction over anti-competitive conduct occurring in the telecommunications sector.⁶⁵</p>
UK	<p>The Enterprise Act 2002 gives the Competition Commission the power to impose a wide range of remedies (including structural separation where appropriate) if, at the conclusion of a market inquiry, there is a finding that a feature of the market has an adverse effect on competition. Market inquiries are undertaken by the Competition Commission following a reference by the OFT, relevant Minister or certain sector regulators.</p> <p>Ofcom (the telecommunications regulator) can make a reference to the Competition Commission, requesting that it conduct a sector inquiry, which may lead to the imposition of structural remedies if a</p>

⁶¹ International Comparative Legal Guide, *Enforcement of Competition Law 2010: Spain*.

⁶² The text of the Swedish Competition Act is available (also in English) on the website of the Swedish Competition Authority at www.konkurrensverket.se. See also the OECD Country Study, *Sweden - The Role of Competition Policy in Regulatory Reform* (2006).

⁶³ OECD Country Studies, *Switzerland - The Role of Competition Policy in Regulatory Reform* (2005).

⁶⁴ See in particular Articles 9(1), 11(1)(b), 16(3), 17(1)(a) and 27(1)(a) of the Turkish Competition Act.

⁶⁵ OECD, *Turkey – Peer Review of Competition Law and Policy* (2005).

Country	Competition Law Provisions
US	<p>competition problem is identified. It was the prospect of this occurring that prompted BT to voluntarily put in place functional separation in 2005.</p> <p>US regulatory laws allow the use of various forms of structural separation where appropriate to implement statutory non-discrimination requirements and for other public interest purposes. In addition, in order to remedy and prevent the recurrence of alleged violations of the antitrust laws, including violations of §1 of the Sherman Act (agreements in restraint of trade), §2 of the Sherman Act (monopolization), and §7 of the Clayton Act (anticompetitive mergers), divestiture or other forms of structural relief may be imposed by consent decree or litigated judgment. To remedy the discrimination and cross-subsidization alleged in the government's complaint against AT&T, the 1982 AT&T consent decree required divestiture of AT&T's local Bell operating company subsidiaries (BOCs), and imposed "equal access" requirements and line-of-business restrictions on the divested BOCs (552 F. Supp. 131 (D.D.C. 1982)).</p>

The 1996 Telecommunications Act expressly retains the application of antitrust law in the telecommunications sector. Note, however, that the subsequent Supreme Court judgments in *Trinko*⁶⁶ and *LinkLine*⁶⁷ have created some uncertainty regarding the scope of application of antitrust in sectors already subject to *ex ante* telecommunications regulation, in spite of the preservation provisions in the 1996 Act.⁶⁸

⁶⁶ 540 U.S. 398 (2004).

⁶⁷ 129 S.Ct. 1109 (2009).

⁶⁸ For a flavour of the debate regarding the scope of the claimed *Trinko/LinkLine* exemption, see for example J.L. Rubin, "The Truth about *Trinko*" (2005) 50(4) *The Antitrust Bulletin* 725; N. Economides, "Vertical Leverage and the Sacrifice Principle: Why the Supreme Court Got *Trinko* Wrong" (2005) 61 *NYU Annual Survey of American Law* 379; J.G. Sidak, "Abolishing the Price Squeeze as a Theory of Antitrust Liability" (2008) 4(2) *Journal of Competition Law & Economics* 279; E.N. Hovenkamp & H. Hovenkamp, "The Viability of Antitrust Price Squeeze Claims" (2009) 51 *Arizona Law Review* 273; S.L. Dogan & M.A. Lemley, "Antitrust Law and Regulatory Gaming" (2009) 87(4) 685 *Meriwether*, "Putting the "Squeeze" on Refusal to Deal Cases: Lessons from *Trinko* and *linkLine*" (2010) 24 *Antitrust* 65; C.Cavaleri Rudaz, "Did *Trinko* Really Kill Antitrust Price Squeeze Claims? A Critical Approach to the *LinkLine* Decision Through a Comparison of E.U. and U.S. Case Law" (2010) 43 *Vanderbilt Journal of Transnational Law* 1077 and A. Heimler, "Is a Margin Squeeze an Antitrust or a Regulatory Violation?" (2010) 6(4) *Journal of Competition Law & Economics* 879.

Country	Competition Law Provisions
European Union	Under Article 7 of Regulation 1/2003, there is an explicit power to impose structural remedies where there has been a finding of breach of the EU competition rules. This is subject to several limitations, <i>inter alia</i> that the remedy must be proportionate to the breach committed, and 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 for the undertaking concerned than the structural remedy. ⁶⁹ Structural remedies in the form of binding undertakings, given by a firm voluntarily in order to bring an investigation to an end without a finding of breach, can also be accepted under Article 9 of Regulation 1/2003, and this latter power is not subject to the same limitations as remedies imposed under Article 7. ⁷⁰

EU competition rules apply in all sectors to conduct having an effect on trade between EU Member States, including the energy and telecommunications sector, regardless of the concurrent presence of national or EU sector-specific regulation.

3. Developments in gas

The following section of this report provides a non-exhaustive overview of developments with respect to structural and behavioural separation in the gas sector in OECD Member countries and the EU. While the focus of the Recommendation is on structural separation, experiences with behavioural separation such as accounting or functional separation are included as well. In order to focus on the most significant developments, not all countries are listed

3.1 Gas sector in Chile

The development of the natural gas market in Chile has taken place on a regionalised basis, with separate gas transmission systems and distribution networks operating across the regions. It is necessary to obtain a government concession in order to build either a transmission pipeline or a distribution network, which requires the concessionaire to adhere to certain service

⁶⁹ See also recital 12 of 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.

⁷⁰ See the Court of Justice's decision in C-441/07 P *European Commission v Alrosa* (Judgment of 29 June 2010) for a discussion of the distinction between the Commission's powers under Article 7 and Article 9 of Regulation 1/2003.

conditions. In particular, transmission operators are required to grant open access to their pipelines to distribution companies on non-discriminatory terms, while distribution operators are obliged to provide universal service to customers within their catchment areas. While there is no price regulation within the Chilean gas sector, instead the competition authority has jurisdiction over anti-competitive practices that may occur in the sector.⁷¹

3.2 *Gas sector in Estonia*

The Estonian market for natural gas is relatively small, isolated and highly concentrated.⁷² Currently, the formerly State-owned gas company, Eesti Gaas, has an effective monopoly on both gas transmission and supply in Estonia.⁷³ A separate transmission division, AS EG Võrguteenus, began operations from 1 January 2006 in order to comply with Estonia's requirements under EU law.⁷⁴ Due to the continuing lack of competition in the natural gas sector, however, full ownership unbundling of Eesti Gaas has been proposed by the government. The plan would see Eesti Gaas separated into two distinct companies with respect to its trading and transmission activities.⁷⁵

3.3 *Gas sector in the European Union*

Structural separation within the EU gas sector has been pursued under a two-pronged strategy which utilises both *ex ante* regulatory measures and *ex post* competition law enforcement.

3.3.1 *Energy sector inquiry*

Energy reforms in the EU began in the late 1990s, with the adoption of the first liberalisation directive for electricity in 1996,⁷⁶ and gas in 1998.⁷⁷ The

⁷¹ International Comparative Legal Guide, *Gas Regulation 2010*, Chapter 9: Chile.

⁷² Herbert Smith, *European Energy Review 2010: Estonia*, available at www.herbertsmith.com, p.40.

⁷³ Herbert Smith – *Estonia*, cited fn. 72 above, p.41.

⁷⁴ See the company information on Eesti Gaas's website at www.gaas.ee.

⁷⁵ See *Baltic Reports*, "Estonia to reform gas sector", published 29 July 2010, and *Baltic Reports*, "Eesti Gaas lambastes government break-up proposal", published 30 July 2010, available at www.balticreports.com.

⁷⁶ Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity (OJ L 27/20, 30.1.1997), hereafter the "First Electricity Directive".

second liberalisation directives for both sectors were adopted in 2003,⁷⁸ deepening the reform process for electricity and gas. Nevertheless, by 2005 the European Commission was of the view that the energy markets in some EU Member States were “*open only on paper*”,⁷⁹ and so it initiated an inquiry in the energy sector, in order to ascertain the underlying reasons why the market did not fully function in the sector.⁸⁰

The Final Report of the energy inquiry, published on 10 January 2007,⁸¹ found that, in Member States in which liberalisation efforts have been introduced successfully, consumers have benefitted in the form of the widest choice of suppliers and services, as well as more cost-reflective prices on average.⁸² Throughout the Common Market taken as a whole, however, significant competition problems and barriers to the creation of single markets in gas and electricity remain. These include: a high level of concentration in both sectors; insufficient unbundling leading to vertical foreclosure; and a lack of cross-border sales due to insufficient gas import pipeline capacity and electricity interconnector capacity combined with inadequate incentives among

⁷⁷ Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas (OJ L 204/1, 21.7.1998), hereafter the “First Gas Directive”.

⁷⁸ Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC (OJ L 176/57, 15.7.2003), hereafter the “Second Gas Directive”, and Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC (OJ L 176/37, 15.7.2003), hereafter the “Second Electricity Directive”.

⁷⁹ European Commission, *Working together for growth and jobs – A new start for the Lisbon Strategy* COM(2005) 24, published 2 February 2005, p.8.

⁸⁰ Commission Decision of 13 June 2005 initiating an inquiry into the gas and electricity sectors pursuant to Article 17 of Council Regulation (EC) No 1/2003 in Cases COMP/B-1/39.172 (electricity) and 39.173 (gas).

⁸¹ European Commission, *Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and Electricity sectors (Final Report)* COM(2006) 851, published 10 January 2007, hereafter the “*Energy Inquiry Report*”. See also Neelie Kroes, “Improving Competition in European Energy Markets through Effective Unbundling” (2008) 31 *Fordham Journal of International Law* 1387.

⁸² *Energy Inquiry Report*, cited fn. 81 above, p.2.

incumbents to expand existing capacity.⁸³ The Report outlined a bilateral approach to addressing market problems within the energy sector, combining further regulatory measures with competition law enforcement.⁸⁴

3.3.2 Regulatory measures—third liberalisation package

Concurrently with publication of the Final Report on the energy inquiry, the Commission issued its proposals for regulatory reforms of the EU energy markets.⁸⁵ In these proposals, the Commission argued that, “[i]nherently, legal unbundling does not suppress the conflict of interest that stems from vertical integration, with the risk that networks are seen as strategic assets serving the commercial interest of the integrated entity, not the overall interest of network customers.”⁸⁶ The evidence collected by the Commission indicated that the lack of full unbundling had created various problems in the Member States:

- Non-discriminatory access to information could not be guaranteed;
- The existing unbundling rules did not remove the incentives for discrimination with respect to third party access; and
- Investment incentives were distorted.⁸⁷

The Commission concluded that “only strong unbundling provisions would be able to provide the right incentives for system operators to operate and

⁸³ *Energy Inquiry Report*, cited fn. 81 above, pp.5-9. Other markets problems include a lack of transparency on the markets, particularly with regard to price formation; limited competition at the retail level; balancing markets that favour incumbents and thus create barriers to entry; and the need to develop the liquefied natural gas (LNG) sector.

⁸⁴ *Energy Inquiry Report*, cited fn. 81 above, p.9.

⁸⁵ European Commission, *Communication from the Commission to the Council and the European Parliament. Prospects for the Internal Gas and Electricity Market* COM(2006) 841, published on 10 January 2007.

⁸⁶ *Prospects for the Internal Gas and Electricity Market*, cited fn. 85 above, p.10.

⁸⁷ *Prospects for the Internal Gas and Electricity Market*, cited fn. 85 above, p.10-11.

develop the network in the interest of all users.”⁸⁸ Two options for further transmission system operator (TSO) unbundling were foreseen:

- *Fully (ownership) unbundled TSO*, whereby the TSO would both own the transmission assets and operate the network. It would be independently owned, meaning that supply/generation companies could no longer hold a significant stake in the TSO; *and/or*
- *Separate system operators without ownership unbundling*, whereby system operation would be separated from ownership of the assets. Supply/generation companies could no longer hold a significant stake in the independent system operators (ISOs), but ownership of the transmission assets could remain within a vertically integrated group.⁸⁹

The Commission expressed its preference for the first option—full ownership unbundling—over the ISO model in the following terms:

Economic evidence shows that ownership unbundling is the most effective means to ensure choice for energy users and encourage investment. This is because separate network companies are not influenced by overlapping supply/generation interests as regards investment decisions. It also avoids overly detailed and complex regulation and disproportionate administrative burdens.

*The independent system operator approach would improve the status quo but would require more detailed, prescriptive and costly regulation and would be less effective in addressing the disincentives to invest in networks.*⁹⁰

Both of the options presented by the Commission proved too intrusive for some Member States, however, although the Commission’s approach was strongly supported by others.⁹¹ In July 2009, the Parliament and Council

⁸⁸ *Prospects for the Internal Gas and Electricity Market*, cited fn. 85 above, p.11.

⁸⁹ *Prospects for the Internal Gas and Electricity Market*, cited fn. 85 above, p.11.

⁹⁰ *Prospects for the Internal Gas and Electricity Market*, cited fn. 85 above, p.12.

⁹¹ See R. Boscheck, “The EU’s Third Internal Energy Market Legislative Package: Victory of Politics over Economic Rationality” (2009) 32(4) *World*

adopted an unbundling programme for both the gas⁹² and electricity⁹³ sectors which allows a Member State to adopt any of three potential unbundling models: ownership unbundling, an ISO model and an independent transmission operator (ITO) model.⁹⁴ Member States are required to transpose and bring into force the unbundling provisions of the Third Gas and Electricity Directives by 3 March 2011.

Under *ownership unbundling*, the owner of a gas or electricity transmission system is required to act as the TSO,⁹⁵ being the natural or legal person with responsibility for operation, maintenance and development of a transmission system, plus its interconnections with other systems, as well as ensuring the long-term ability of the system to meet reasonable demand for the transmission of gas and electricity respectively.⁹⁶ Under this model, the same person is not permitted, directly or indirectly, to exercise control over both the TSO and an undertaking performing any of the functions of generation or supply (or exercise control over one party and any right over the other).⁹⁷ The concept of a right includes a majority shareholding in either the TSO or the undertaking performing generation or supply function,⁹⁸ so that this model requires, in

Competition 593 for a discussion of some of the political issues surrounding the adoption of the Third Liberalisation Package.

⁹² Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (OJ L 211/94, 14.8.2009), hereafter the “Third Gas Directive”.

⁹³ Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211/55, 14.8.2009), hereafter the “Third Electricity Directive”.

⁹⁴ See European Commission Staff Working Paper, *Interpretative Note on Directive 2009/72/EC concerning common rules for the internal market in electricity and Directive 2009/73/EC concerning common rules for the internal market in natural gas: The Unbundling Regime*, published 22 January 2010, for a more detailed account of the Commission’s interpretation of these provisions.

⁹⁵ Article 9(1)(a) of both the Third Gas and Electricity Directives.

⁹⁶ Article 2(4) of the Third Gas and Electricity Directives.

⁹⁷ Article 9(b)(i)&(ii) of the Third Gas and Electricity Directives.

⁹⁸ Article 9(2)(c) of the Third Gas and Electricity Directives.

essence, majority ownership unbundling of any vertically integrated gas or electricity firm.

The *ISO model* may be applied by a Member State where a transmission system belonged to a vertically integrated gas⁹⁹ or electricity¹⁰⁰ company on 3 September 2009. In this case, the owner of the transmission system proposes a candidate ISO, which must be entirely separate from the vertically integrated utility company. The proposed ISO must be approved and designated by the Member State, and any such designation is subject to approval by the Commission.¹⁰¹ The ISO takes responsibility for operation, maintenance, development and long-term investment planning for the transmission system, as well as responsibility for granting and managing third-party access including collection of payments.¹⁰² Where an ISO is appointed, legal and functional unbundling is mandated for the transmission system owner.¹⁰³

The *ITO model* may alternatively be applied by a Member State where a transmission system belonged to a vertically integrated gas or electricity company on 3 September 2009.¹⁰⁴ Under this approach, an ITO is established, which, although it remains part of the vertically integrated company, must be autonomous and have, *inter alia*, its own personnel.¹⁰⁵ The ITO has responsibility for, amongst other tasks, the operation, maintenance and development of the transmission system; investment planning; the granting of third-party access on non-discriminatory terms; and the collection of all transmission system related charges.¹⁰⁶ While the model requires the introduction of safeguards to ensure that the transmission and supply functions are performed separately, the ITO continues to be a part of the vertically integrated gas or electricity firm. The ITO model can therefore be distinguished from the ISO model: while under both models the transmission assets remain

⁹⁹ Article 14(1) of the Third Gas Directive.

¹⁰⁰ Article 13(1) of the Third Electricity Directive.

¹⁰¹ Article 14(1) of the Third Gas Directive and Article 13(1) of the Third Electricity Directive.

¹⁰² Article 14(4) of the Third Gas Directive and Article 13(4) of the Third Electricity Directive.

¹⁰³ Article 15(1)&(2) of the Third Gas Directive and Article 14(1)&(2) of the Third Electricity Directive.

¹⁰⁴ Articles 9(8)(b) and Chapter V of the Third Gas and Electricity Directives.

¹⁰⁵ Article 19 of the Third Gas and Electricity Directives.

¹⁰⁶ Article 17(2) of the Third Gas and Electricity Directives.

part of the vertically integrated company, under the ITO model the service operations functions also remain within the vertically integrated utility, whereas under the ISO model these functions are performed by an entirely independent entity.

Common Article 26 of the Third Gas and Electricity Directives contains provisions relating to the unbundling regime for distribution system operators, which remain substantially unchanged from the preceding regime. Notably, the Third Gas Directive contains an exemption from the regulatory regime for a defined period of time for “major new gas infrastructure” (defined as interconnectors, LNG and storage facilities) which fulfils various criteria: the investment enhances competition in gas supply and security of supply; the level of risk attached to the investment is such that the investment would not take place unless an exemption is granted; if built by a vertically integrated firm, legal separation must be in place; charges must be levied on infrastructure users; and the exemption cannot be detrimental to competition or the effective functioning of the internal market in natural gas, or the efficient functioning of the regulated system to which the infrastructure is connected.¹⁰⁷ No equivalent provision for regulatory holidays is contained in the Third Electricity Directive.

It must be borne in mind that, when both of the Third Energy Directives have been fully transposed into domestic law by the Member States, this is likely to have a significant impact on the structure of the electricity and gas markets in many of the countries concerned. Therefore, consideration of existing markets structures should take into account likely future developments prompted by the EU framework.

3.3.3 *Antitrust enforcement*

The Commission’s dual strategy for the development of integrated, competitive pan-EU markets in gas and electricity depends equally on the enforcement of EU competition law provisions against instances of anti-competitive behaviour in these markets. The use of competition law and regulatory policy as a combined instrument in the EU energy sector has differed significantly from their application in other network industries: while in other sectors, for example telecommunications, antitrust enforcement kick-started the liberalisation process and was followed by *ex ante* regulation, in the energy

¹⁰⁷ Article 36 of the Third Gas Directive. See M. Szydło, “Regulatory Exemptions for New Gas Infrastructure. A Key Challenge for European Energy policy” (October 2009) *European Energy and Environmental Law Review* 254 for a more detailed discussion of the exemption provisions.

sector the process began with the liberalisation Directives, which have been supplemented subsequently with antitrust enforcement actions.¹⁰⁸

Use of the Commission's recently introduced formal commitment decision procedure¹⁰⁹ has been prominent in its energy sector cases. This mechanism allows the Commission to accept undertakings from firms under investigation to the effect that they will adopt structural or behavioural changes to modify alleged anti-competitive restraints going forward, in lieu of a finding of infringement of the competition rules.¹¹⁰

The following section outlines briefly a number of Commission cases in which structural separation issues have arisen, in both merger practice and competition law enforcement. Although the remedies in these cases were considered structural by the European Commission, they were not of an "unbundling" nature. The *RWE Gas Foreclosure* and *ENI* commitment decisions, where unbundling types of structural remedies were applied are summarised in greater detail subsequently.¹¹¹

- In the *Distrigaz* decision, which concerned the dominant supplier of natural gas for industrial use in Belgium, the Commission accepted commitments from Distrigaz to modify its long term supply contracts so as to reduce the extent to which industrial customers are tied to Distrigaz for long periods, thereby aiding the liberalisation of the Belgian gas market.¹¹²

¹⁰⁸ L. Hancher & A. de Hauteclocque, *Manufacturing the EU Energy Market: the Current Dynamics of Regulatory Practice*, EUI Working Paper RSCAS 2010/01, published January 2010, p.2.

¹⁰⁹ Introduced by Article 9 of Regulation (EC) 1/2003.

¹¹⁰ See S. Rab, D. Monnoyeur & A. Suktankar, "Commitments in EU Competition Cases: Article 9 of Regulation 1/2003, its Application and the Challenges Ahead" (2010) 1(3) *Journal of European Competition Law & Practice* 171-188 for further discussion of the commitment decision procedure.

¹¹¹ See U. Scholz & S. Purps, "The Application of EC Competition Law in the Energy Sector" (2010) 1(1) *Journal of European Competition Law & Practice* 37-51 for additional discussion of competition cases in the electricity and gas sectors.

¹¹² Commission Decision of 11 October 2007 in Case COMP/B-1/37966 – *Distrigaz*.

- In the *E.ON gas foreclosure* decision, the Commission accepted commitments from E.ON, an integrated dominant player in the gas transmission and downstream supply markets in Germany, to release large capacity volumes at the entry points to its gas networks.¹¹³
- In the *Gaz de France/Suez* merger in 2006 between two energy companies both active mainly in France and Belgium, one of the remedies proposed by the parties and accepted by the Commission was the relinquishing of control over Fluxys, the operator of the natural gas transmission grid and storage infrastructure in Belgium.¹¹⁴
- *E.ON/MOL*: In order to gain approval for its acquisition of the storage and wholesale & trading divisions of MOL, the incumbent oil and gas company in Hungary, E.ON offered, *inter alia*, to accomplish full ownership unbundling of gas production and transmission activities, which were to be retained by MOL, from gas wholesale and storage activities, which were acquired by E.ON.¹¹⁵ The Commission, taking the view that “*the ownership unbundling and the gas and contract release offered as remedies in the E.ON/MOL case are good examples of efficient ways to support the development of competition in a number of energy markets in Europe*”,¹¹⁶ approved the merger in December 2005. Hungary now has one gas TSO, FGSZ Zrt., which is a fully owned but legally unbundled subsidiary of MOL. This current

¹¹³ See European Commission, *Notice published pursuant to Article 27(4) of Council Regulation (EC) No 1/2003 in Case COMP/B-1/39.317 – E.ON gas* (OJ C 16/42, 22.1.2010) and European Commission press release, IP/10/494 *Antitrust: E.ON’s commitments open up German gas markets to competitors*, published 4 May 2010.

¹¹⁴ See European Commission press release, IP/06/1558 *Mergers: Commission approves merger of Gaz de France and Suez, subject to conditions*, published 14 November 2006.

¹¹⁵ See European Commission press release, IP/05/1658 *Mergers: Commission approves acquisition by E.ON of MOL’s gas business, subject to conditions*, published 21 December 2005.

¹¹⁶ See European Commission memo, MEMO/05/492 *Mergers: Commission’s conditional approval of E.ON’s acquisition of MOL’s gas business – frequently asked questions*, published 21 December 2005.

structure complies almost entirely with the requirements of the independent transmission operator model.¹¹⁷

3.3.4 RWE Gas Foreclosure

In the *RWE Gas Foreclosure* commitment decision,¹¹⁸ the Commission addressed alleged anti-competitive behaviour in the German gas transmission markets. RWE AG is a Germany-based energy and utility company. Prior to the decision, RWE's gas sector operations were fully integrated, with activities in the production and import of gas, in gas transmission and storage and in downstream gas distribution. The Commission on 15 October 2008 adopted a preliminary assessment in which it asserted that RWE may have abused its dominant position on the transmission market in Western Germany, contrary to Article 102 TFEU (*ex* Article 82 EC) through two forms of anti-competitive behaviour:

- *Refusal to supply* access to RWE's gas transmission network, by understating the capacity on its network available for third customers, and by managing existing capacity in an inefficient manner so as to further exclude third parties, *and*
- *Margin squeeze*, charging artificially high prices for access to its transmission network, coupled with asymmetric network tariffs (including rebates and balancing fees) which further raised costs for its downstream competitors compared with the prices paid by RWE's own gas supply subsidiary.

Although RWE did not accept the contentions set out in the preliminary assessment, it offered a number of commitments in order to address the Commission's competition concerns, which would result essentially in the divestment of its entire Western German high-pressure gas transmission network:

1. *RWE will divest its current German gas transmission system business to a suitable purchaser which must not raise prima facie competition concerns. RWE notably committed to divest:*

¹¹⁷ See Herbert Smith, *European Energy Review 2010: Hungary*, available at www.herbertsmith.com.

¹¹⁸ Commission Decision of 18 March 2009 in Case COMP/39.402 – *RWE Gas Foreclosure*.

- a) *RWE's German high-pressure gas transmission network, with a total length of approx. 4 000 km. This corresponds to RWE's entire current German high-pressure gas transmission network, with the exception of some network parts in the area of Bergheim (length: approx. 100 km). For parts of the network which are currently not exclusively owned by RWE but co-owned with other parties, RWE commits to divest its entire share;*
 - b) *auxiliary equipment necessary for the operation of the transmission network (such as the gas conditioning facilities in Broichweiden and Hamborn, a dispatching centre [Prozessleitsystem] etc.);*
 - c) *intangible assets necessary for the operation of the transmission network (such as software for the dispatching centre, contracts and licenses);*
2. *RWE also commits to supply the purchaser for a limited period of up to five gas years following the closing of the divestiture with auxiliary services necessary for the operation of the transmission network, such as the provision of gas flexibility services.*
 3. *The business will be endowed with personnel and key personnel necessary for the operation of the transmission network.¹¹⁹*

Following a market testing process by the Commission,¹²⁰ RWE offered revised commitments on 2 February 2009, which *inter alia* made explicit RWE's obligations to co-operate with other network operators and to continue the process of further market integration. The final commitments were made binding on RWE on 18 March 2009, at which point the infringement case against the company was brought to an end without any finding of violation of the competition rules.

¹¹⁹ *RWE Gas Foreclosure*, paragraph 38. The original commitment text and schedules are contained in the German version of the decision.

¹²⁰ Under Article 27(4) of Regulation 1/2003, the Commission is required to "market test" proposed commitments prior to acceptance: it publishes a summary of the proposed commitments in the Official Journal, so that interested third parties may submit their observations on the proposals.

RWE sold its network to an approved buyer under the supervision of a trustee. The network could only be divested to purchasers that do not give rise to *prima facie* competition concerns.¹²¹

3.3.5 *ENI case*

The Commission has also concluded a commitment procedure with ENI SpA, an Italian multinational energy company.¹²² Having taken the view that ENI is a dominant player on the market(s) for the transport of natural gas to and into Italy as well as on the downstream gas markets for the supply of gas, the Commission on 6 March 2009 issued a formal Statement of Objections (SO) to the company. In the SO, the Commission outlined its preliminary view that ENI may have abused its dominant position, in breach of Article 102 TFEU, by refusing to supply transportation capacity on its natural gas pipelines. Three types of possible anti-competitive behaviour, in particular, were identified:

- *Capacity hoarding*: a refusal to grant access to capacity available on ENI's transport network;
- *Capacity degradation*: an offer of capacity in a less useful manner; *and*
- *Strategic underinvestment*: strategic limitation of investment in ENI's international transmission pipeline system.¹²³

ENI did not accept the Commission's position as set out in the Statement of Objections. Nevertheless, subsequent to a hearing that took place at the end of 2009, it offered various commitments to the Commission in order to address its competition concerns. Specifically, ENI offered to divest its international gas transmission system businesses in Germany (the TENP pipeline), Switzerland

¹²¹ See European Commission press release IP/09/410 *Antitrust: Commission opens German gas market to competition by accepting commitments from RWE to divest transmission network*, published on 18 March 2009.

¹²² Commission Decision of 29 September 2010 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement (Case COMP/39.315 – *ENI*). An informative discussion of the case is available in F. Maier-Rigaud, F. Manca & U. von Koppenfels "Strategic Underinvestment and Gas Network Foreclosure – the ENI case", *EU Competition Policy Newsletter*, Issue 1, 2011.

¹²³ *ENI* commitment decision, paragraphs 39-60.

(the Transgas pipeline) and Austria (the TAG pipeline). While the German and Swiss pipelines are each to be sold to a suitable purchaser that does not raise *prima facie* competition concerns, the Austrian pipeline, through which 30% of the natural gas used in Italy is transported from Russia, is to be sold to an Italian State entity. ENI also committed to supplying the purchasers of these pipelines with the auxiliary services necessary for the operation of the transmission network for a limited period following the closing of the divestiture, plus to endow the businesses with the personnel necessary for the operation of the transmission network.

The Commission issued a market test notice on 5 March 2010, seeking comments on the proposed commitments.¹²⁴ On 29 September 2010, the Commission accepted and made legally binding the commitments offered to it by ENI, thus bringing to an end the infringement proceedings without any finding of breach.¹²⁵

3.4 Gas sector in Greece

On 27 December 2005, the Law for the Liberalisation of the Gas Market came into force, which resulted in the unbundling of the gas transmission system in Greece. A new company, DESFA SA, was established to act as owner and operator of the gas transmission system.¹²⁶ DESFA is a wholly owned subsidiary of DEPA SA, the vertically integrated public gas company.¹²⁷ Under the 2005 Law, however, the Board of Directors of DESFA SA is appointed by the State rather than by DEPA SA.

The medium and low pressure gas distribution networks are owned and operated by three regional monopoly companies—EPA Thessalonikis SA, EPA Thessalias SA and EPA Attikis SA—that act as network operators and single suppliers in their respective regions. For these areas, as well as for three other regions where new distribution and supply companies are to be established by

¹²⁴ European Commission, *Notice published pursuant to Article 27(4) of Council Regulation (EC) No 1/2003 in Case COMP/B-1/39.315 – ENI* (OJ C 55/13, 5.3.2010).

¹²⁵ See European Commission press release IP/10/1197 *Antitrust / ENI case: Commission opens up access to Italy's natural gas market*, published on 29 September 2010.

¹²⁶ Further information on DESFA SA is available on its website at www.desfa.gr.

¹²⁷ Further information on DEPA SA is available on its website at www.depa.gr.

2012, Greece requested and has been granted a limited derogation from EU law requirements relating to the liberalisation of the gas sector.

Current legislative proposals for the implementation of the Third Energy Package in the gas sector in Greece foresee the adoption of the ITO model for the gas transmission operator DESFA SA.

3.5 *Gas sector in Ireland*

On 4 July 2008, the transmission system and distribution system assets of Bord Gáis Éireann (BGÉ), the vertically integrated State-owned gas company in Ireland, were transferred to Gaslink, an independent subsidiary of BGÉ. Gaslink is the combined transmission and distribution systems operator for the national gas network, while BGÉ remains the asset owner and gets a reasonable return on its investment. This structural change came about in order to comply with the requirements of the Second Gas Directive.¹²⁸

Under the unbundling regime, BGÉ has been separated into several components. Bord Gáis Energy is the gas supply unit, providing gas to industrial, commercial and residential customers. Bord Gáis Networks (BGN) is the regulated systems owner. Gaslink contracts with BGN to perform a number of functions on Gaslink's behalf related to construction, operation and maintenance of the gas distribution and transmission systems in Ireland. Bord Gáis Energy and BGN are separate and distinct business units within BGÉ that are ring-fenced through their respective licences issued by the regulatory body, the Commission for Energy Regulation (CER).

Competition in the retail gas market in Ireland for industrial and commercial customers has been in place since 2004, and there are now three suppliers active in this segment. Full market opening in the Irish natural gas market took place on 1 July 2007. All gas customers are now eligible to switch supplier, including residential customers, although this sector is still in the process of development. All retail gas suppliers must be licensed by CER.¹²⁹

¹²⁸ Directive 2002/55/EC, transposed into Irish law by S.I. No. 760 of 2005 European Communities (Internal Market in Natural Gas) (BGÉ) Regulations 2005.

¹²⁹ The material in this section is taken from the website of the Commission for Energy Regulation, available at www.cer.ie. Further information is also available on Bord Gáis' website, available at www.bordgais.ie.

3.6 *Gas sector in Israel*¹³⁰

The on-going development of the natural gas sector in Israel has taken place along largely unbundled lines. A State-owned company, Israel Natural Gas Lines Ltd. (INGL), has been established in order to construct and operate the high pressure gas transmission system. The INGL grid operates as an open access system and is intended to transport gas to large customers and to distribution systems. INGL is not permitted to engage in the sale of gas except for operational needs.

Two upstream pipelines deliver gas to the INGL grid, although it is anticipated that a third pipeline will be constructed in order to transport gas from offshore. Both of the existing upstream pipelines have been constructed and are operated by the owners of the gas.

Low pressure regional distribution systems are to be constructed by private sector (non-governmental) companies, who must obtain licences to do so through a tendering process. Licences have been granted through such process for two of the contemplated distribution regions. The regional distribution systems will also operate on an open access basis, and are intended to transport gas from the INGL grid to customers and marketing companies.

3.7 *Gas sector in Portugal*

Unbundling of the Portuguese gas market began in 2006, in order to comply with the requirements of the Second Gas Directive. The principle legislation involved was Decree-Law no. 30/2006, of February 15 2006, and Decree-Law no. 140/2006 of July 26 2006. Pursuant to these provisions, the national natural gas system is divided into seven major segments: reception, storage and re-gasification of LNG; underground storage; transportation of natural gas; distribution of natural gas; supply of natural gas; operation of the natural gas market; and logistic operations for switching suppliers of natural gas.

Under the new regime, natural gas transmission activity is legally unbundled from other activities within the gas system. The independent operator of the gas transmission system, Redes Energéticas Nacionais (“REN”),

¹³⁰

This information is taken from International Comparative Legal Guide, *Gas Regulation 2010*, Chapter 15: Israel, *The International Comparative Legal Guide to Gas Regulation 2010*, available at www.iclg.co.uk. See also the natural gas section of the website of the Ministry of National Infrastructures of Israel at www.mni.gov.il/mni/en-US/Gas.

through its subsidiary REN Gasodutos, holds an exclusive 40-year concession granted by the Portuguese government. Other companies in the REN group operate in other segments of the natural gas market, including underground storage, and reception, storage and re-gasification of LNG. REN Gasodutos is subject to a regulatory obligation to grant access to the transmission network on a non-discriminatory basis, while access tariffs are determined by the regulatory agency, Entidade Reguladora dos Serviços Energéticos (ERSE).

Legal separation has also been introduced with respect to natural gas distribution activities. Distribution is carried out through concessions or licenses granted by the Portuguese government. The entities operating the distribution grid at the date of enactment of Decree-Law no. 30/2006 maintained their right to operate the grid as concessionaires or licensed entities under an exclusive territorial public service regime. As with the transmission system operator, distribution companies are under a regulatory obligation to grant access to the distribution grid under non-discriminatory terms, with access tariffs being set by ERSE.¹³¹

3.8 *Gas sector in the Netherlands*

On 7 June 2007, the Unbundling Act¹³² came into effect in the Netherlands, requiring full ownership unbundling of vertically integrated energy companies. Under this legislation, companies carrying out network activities in the Netherlands are not permitted to be part of the same group as companies carrying out production, trading and/or supply activities. Furthermore, network companies are not allowed to hold any shares, directly or indirectly, in production, trading and/or supply companies, and vice versa. The Act directs that unbundling must be completed by 1 January 2011.¹³³

¹³¹ See Herbert Smith, *European Energy Review 2010: Portugal*, available at www.herbertsmith.com, as well as the website of the EDP Group, available at www.edp.pt, and the REN Group, available at www.ren.pt. See also International Comparative Legal Guide, *Gas Regulation 2010*, Chapter 28: Portugal, available at www.iclg.co.uk.

¹³² Amendment to the Electricity Act 1998 and Gas Act in connection with further rules concerning Independent Network Management, or *Splitsingswet*. See L. Bouchez & B. de Man, “Recent developments in the Netherlands energy market” *FW International M&A Review 2007*, p.24.

¹³³ See Herbert Smith, *European Energy Review 2010: The Netherlands*, available at www.herbertsmith.com, and International Comparative Legal Guide, *Gas Regulation 2010*, Chapter 21: The Netherlands, available at www.iclg.co.uk.

The two largest Dutch utility companies, Essent NV and Nuon NV, have both already unbundled their production and supply arms from their network divisions. Essent sold off its production and supply operations to RWE AG of Germany, while Nuon sold its operations to Vattenfall AB of Sweden. The network arms of both Essent and Nuon were spun off and remain in public hands.¹³⁴

Concurrently, the Unbundling Act was challenged before the Court of Appeal of The Hague, by three vertically integrated Dutch public utility companies, Eneco, Essent and Delta. By decision of 22 June 2010, the Court of Appeal took the view that the rule prohibiting network operators from remaining part of the same company group as an entity involved in production, trading or supply of energy constituted an obstacle to the free movement of capital, contrary to Article 63 TFEU. Accordingly, the provisions concerned were declared to be inapplicable.¹³⁵ The Dutch government has announced its plans to appeal the ruling to the Supreme Court of the Netherlands.¹³⁶

3.9 Gas sector in Poland

In Poland, structural separation of the gas market began in 2004, when gas transmission was legally unbundled from other activities of the State-controlled natural gas incumbent company, Grupa Kapitałowa Polskie Górnictwo Naftowe i Gazownictwo S.A (PGNiG), with the establishment of the gas transmission operator, Gaz-System S.A. In 2005, ownership of Gaz-System passed to the State Treasury, thereby effecting full ownership unbundling of the gas TSO in Poland.¹³⁷

In 2007, legal unbundling of the gas distribution sector in Poland took place. Under the Energy Law, PGNiG was required to separate trade activities

¹³⁴ See *Reuters*, “Court says Dutch Utility Unbundling Breaks EU law”, published 22 June 2010, and *Bloomberg Businessweek*, “Dutch Court says Unbundling Conflicts with EU Law”, published 22 June 2010.

¹³⁵ See cases Hof Gravenhage, 22 June 2010, rolnr. HA ZA 07-2538 *Delta N.V./De Staat der Nederlanden*; Hof Gravenhage, 22 June 2010, rolnr. HA ZA 07-3089 *Eneco Holding N.V./De Staat der Nederlanden*; Hof Gravenhage, 22 June 2010, rolnr. HA ZA 08-756 *Essent N.V. & Essent Nederland B.V./De Staat der Nederlanden*.

¹³⁶ See press articles cited at fn. 134 above.

¹³⁷ See Gaz-System’s website, at www.gaz-system.pl, and International Comparative Legal Guide, *Gas Regulation 2010*, Chapter 27: Poland, available at www.iclg.co.uk.

from technical distribution activities, creating six new companies in the distribution sector (DSOs) and six new companies in the retail trade sector. As PGNiG has retained ownership of these companies, as well as its gas and oil production operations, full ownership unbundling of the distribution sector has not yet taken place.¹³⁸

3.10 Gas sector in Slovenia

The liberalisation of the gas sector in Slovenia is at a relatively advanced stage.¹³⁹ The natural gas transmission network is owned and operated by a single entity, Geoplin, d.o.o., which is also active in the gas trading market. Nevertheless, there is full legal and functional unbundling of the two wholly-owned subsidiary companies that comprise the Geoplin group, namely Geoplin plinovodi, d.o.o., which is the transmission system operator, and Geocom, d.o.o., whose main activity is natural gas trading.¹⁴⁰

Natural gas distribution in Slovenia is organised on a regional basis, according to which gas distribution system operators (DSOs) operate the distribution networks of individual local communities. As each gas DSOs in Slovenia supplies fewer than 100,000 customers, accounting separation rather than functional separation is required for these companies.¹⁴¹ Together, the 18 DSOs are connected to a network comprising approximately 125,000 final customers in 71 local communities.

3.11 Gas sector in Turkey

The Natural Gas Market Law (No.4646, adopted on 18 April 2001, hereafter NGML) seeks to liberalise and vertically separate the natural gas market in Turkey. Currently, gas transmission is carried out by the State-owned transport company, BOTAS, while gas distribution is carried out by local municipalities and private distribution companies. Prior to 2001, BOTAS had monopoly rights over gas imports, trade, transmission and storage in Turkey.

¹³⁸ Herbert Smith, *European Energy Review 2010: Poland*, available at www.herbertsmith.com, p.102.

¹³⁹ Herbert Smith, *European Energy Review 2010: Slovenia*, available at www.herbertsmith.com, p.121.

¹⁴⁰ Geoplin d.o.o. Ljubljana, *Business Report 2009*, available on Geoplin's website at www.geoplin.si.

¹⁴¹ This information is taken from the website of the Slovenian energy regulator, the Energy Agency (Javna agencija Republike Slovenije za energijo), available at www.agen-rs.si.

The NGML removes BOTAS's monopoly rights over all activities apart from national transmission lines, and requires it to be legally unbundled, starting in 2009, to form separate companies for transmission, storage, import and trade. The act also required that BOTAS divest itself of least 10% of its total gas purchase quantity under take-or-pay contracts every year, to reach a 20% market share by 2009.¹⁴²

Nevertheless, the implementation of the liberalisation framework has proceeded slowly. BOTAS's gas importation monopoly was not actually broken until 2007, by the entry of Royal Dutch Shell into the Turkish market.¹⁴³ In practice, many gas distribution companies still do not have the option of purchasing gas from competitive producers, wholesalers or importers, even though they have a *de jure* right to do so under the NGML.¹⁴⁴

4. Developments in electricity

The following section of this report provides a non-exhaustive overview of developments with respect to structural and behavioural separation in the electricity sector in OECD Member countries and the EU. While the focus of the Recommendation is on structural separation, experiences with behavioural separation such as accounting or functional separation are included as well. In order to focus on the most significant developments, not all countries are listed.

4.1 Electricity sector in Australia

The electricity sector in Australia is organised primarily at the state level. Structural separation was introduced between network activities involving a natural monopoly (transmission and distribution) and those open to competition (electricity generation and retailing) in the 1990s. This gave rise to the creation

¹⁴² Summaries of the requirements of the liberalisation legislation are contained in E. Erdogdu, "A Review of Turkish natural gas distribution market" (2010) 14 *Renewable and Sustainable Energy Reviews* 806-813; EDAM & CEPS, *Second Generation Structural Reforms: Deregulation and Competition in Infrastructure Industries. The evolution of the Turkish telecommunications, energy and transport sectors in light of EU harmonisation*, published November 2007, pp.115-118; B. Hacisalihoglu, "Turkey's natural gas policy" (2008) 36 *Energy Policy* 1867-1872 and T. Çetin & F. Oguz, "The reform in the Turkish natural gas market: A critical evaluation" (2007) 35 *Energy Policy* 3856-3867.

¹⁴³ Reuters, "Shell first to end Botas gas Monopoly in Turkey", published 2 February 2007.

¹⁴⁴ Erdogdu, cited fn.142 above, 811.

of companies controlled by the states which play a large role. In Victoria and South Australia, these industries have been largely privatised, and substantial privatisations of particular assets have occurred in most other states. Where state governments retain ownership of electricity assets, these are held and managed as commercial enterprises and new private sector energy infrastructure has been built. Regulated, non-discriminatory network access is in place for all companies operating in the electricity sector.¹⁴⁵

A national wholesale electricity market, the National Electricity Market (NEM), was created in Australia in 1998, to provide a wholesale electricity market covering the south and east of the country. (The states of Western Australia and the Northern Territory are too remote for inclusion.)¹⁴⁶

The NEM is regulated by the Australian Energy Regulator (AER), an independent legal entity established on 1 July 2005, administratively part of the Australian Competition & Consumer Commission (ACCC).

The Australian Energy Market Commission (AEMC), established in 2005, is the rule making body for Australia's energy markets. It is responsible for making and amending the detailed rules for the NEM. The wholesale market operator, the Australian Energy Market Operator (AEMO) established in July 2009, manages the wholesale and retail energy markets and oversees the system operation of Australia's NEM.

In January 2008, the AER's remit was expanded to include the regulation of electricity distribution networks. Within the NEM the transmission distances are such that the investments in interconnection infrastructure have not been sufficient to remove all capacity constraints, and trade within the market is frequently segmented into regions. Similar issues arise in the wholesale electricity market that has been established in Western Australia.¹⁴⁷ Investment in the sector has therefore become a key policy issue, in particular in order to stimulate greater use of renewable energy sources.¹⁴⁸

¹⁴⁵ [OECD Economic Surveys: Australia](#), Volume 2010/21 – November 2010, Supplement 3, p.94.

¹⁴⁶ *OECD Economic Surveys: Australia*, cited fn.145 above, p.94.

¹⁴⁷ *Economic Surveys: Australia*, cited fn.145 above, p.94.

¹⁴⁸ See for example *The Australian*, —Electricity Sector Needs Investors, published 17 November 2010.

4.2 *Electricity sector in Chile*

Chile was the first country to institute a comprehensive liberalisation of its electricity sector, and it is widely regarded as a successful example of electricity market reform.¹⁴⁹ Structural unbundling and privatisation of the electricity sector in Chile began at an early stage, with the passage of the *General Law of Electric Services* in 1982. Reflecting the geography of the country, the Chilean electricity sector comprises four distinct systems, although the two largest, the SING in the north of Chile and the SIC supplying the central regions, account for the vast majority of installed generation capacity.¹⁵⁰ Under the reforms, the largest State-owned vertically integrated electricity company, Endesa, was split into 14 companies: six generation companies, six distribution companies and two vertically integrated electricity companies serving isolated areas in the south. Chilectra, the second largest State-owned electricity company, was similarly separated into a generation company and two distribution companies. These horizontally unbundled companies were subsequently privatised, and generation, transmission and distribution infrastructure in Chile remain entirely privately owned. On the other hand, vertical re-integration has occurred, so that some generators also own transmission and distribution assets.¹⁵¹

The 1982 legislation designated two types of customers: free customers and regulated customers. Free customers are large industrial who contract directly with generators, and are not subject to price regulation. Regulated customers are those who contract with local distribution companies, the prices for which are regulated by the State.¹⁵² Transmission tariffs are also regulated.¹⁵³

¹⁴⁹ See M.G. Pollitt, *Electricity Reform in Chile: Lessons for Developing Countries*, Cambridge Working Papers in Economics CWPE 0448, published January 2005, and International Energy Agency (IEA), *Chile: Energy Policy Review 2009*. For further discussion of Chilean electricity market reforms, see P. del Sol, “Responses to electricity liberalization: the regional strategy of a Chilean generator” (2002) 30 *Energy Policy* 437, and L.B. Pascal, “South American Electricity – 2006: Year in Review” (2007) 13 *Law & Business Review of the Americas* 335, pp.342-350.

¹⁵⁰ IEA – *Chile*, cited fn. 149 above, p.136.

¹⁵¹ IEA – *Chile*, cited fn. 149 above, p.142.

¹⁵² See Pollitt and IEA, both cited fn. 149 above.

¹⁵³ IEA – *Chile*, cited fn. 149 above, p.149.

While Chile provides a successful example of electricity market reform—for example, attracting high levels of investment—it has faced a number of challenges in the years following liberalisation that have had a negative effect on market performance. These include severe droughts that significantly reduced hydro generation capacity (Chile’s primary electricity source), as well as substantial reductions in natural gas imports from Argentina, which had similarly effects on generation. Concerns have also been raised about the continuing high market concentration in the generation sector, as well as the lack of independence of the transmissions system operators of the SING and SIC from other market actors.¹⁵⁴

4.3 *Electricity sector in Estonia*

The electricity sector in Estonia is governed by the Electricity Markets Act, adopted in 2003 in order to implement the EU laws relating to electricity in preparation for Estonian accession to the EU.¹⁵⁵ Under exemptions contained in the electricity directives, Estonia was required to open 35% of the electricity market (the large industrial customer segment) to competition by 2009, and the remainder of the market to competition by 2013. Following amendments to the Estonian Electricity Market Act of January 2010, large industrial customers have lost the option to purchase electricity at the regulated price and are instead required to do so at the open market price.¹⁵⁶ Additionally in 2010, Estonia joined the Nord Pool Spot, the transnational electricity market for the Nordic countries, creating the NPS Estlink price area with day-ahead trading in the power exchange. As of 1 June 2010, there were 11 market participants in the NPS Estlink price area, including companies from Latvia and Lithuania.¹⁵⁷ The Estonian Competition Authority acts as the regulatory agency for the energy sector in Estonia, including the electricity sector.¹⁵⁸

¹⁵⁴ IEA – *Chile*, cited fn. 149 above, pp.153-157.

¹⁵⁵ The full text of the Electricity Markets Act, as amended, is available in both English and Estonian on the website of the Estonian Competition Authority, at www.konkurentsiamet.ee.

¹⁵⁶ Konkurentsiamet/Estonian Competition Authority, *Estonian Electricity and Gas Market: Report 2009*, available at www.konkurentsiamet.ee, p.12.

¹⁵⁷ *Estonian Electricity and Gas Market: Report 2009*, cited fn. 156 above, at p.13.

¹⁵⁸ See also Ministry of Economic Affairs and Communications, *Development Plan of the Estonian Electricity Sector until 2018*, available at www.mkm.ee, setting out government policy in relation to the rapidly evolving nature of the electricity sector in Estonia.

The largest energy company in Estonia is the State-owned, vertically integrated Eesti Energia Group. The company is responsible for the large majority of the electricity generated in Estonia (92 % of total production in 2009),¹⁵⁹ as well as electricity distribution and trading, and was also previously the owner of the sole transmission system operator in the country, Elering ÖÜ.¹⁶⁰ The Group is now subject to legal separation with respect to its various electricity market activities. Amendments to the Electricity Markets Act in 2010 introduced full ownership unbundling of the transmission system operator, in line with the requirements of the Third Electricity Directive. Thus, in January 2010 the Estonian State purchased the shares of Elering ÖÜ from Eesti Energia, removing it from the Group entirely.¹⁶¹ (Note, however, that both Elering ÖÜ and the Eesti Energia Group remain, ultimately, in State ownership.) Within Estonia, there are also 38 undertakings that provide distribution network services.¹⁶² At the retail level, the largest market operator is a subsidiary of Eesti Energia, Eesti Energia Jaotusvõrk OÜ, which had an 87% market share in 2009.¹⁶³

4.4 *Electricity sector in the European Union*

Liberalisation of the electricity sector in the EU has been on-going since the mid-1990s, in parallel with the opening of the natural gas sector. The European Commission's Energy Sector Inquiry, considered in detail above, examined the functioning of both the electricity and natural gas markets in the EU, taking stock of the effectiveness of liberalisation efforts to that point. Its conclusions in relation to electricity mirror those relating to natural gas: electricity markets in the EU, in general, remain highly concentrated at the wholesale level, while competition at the retail level is also limited; vertical foreclosure, stemming from the high degree of vertical integration persisting in the sector, continues to restrict competition; there is a lack of transparency and information available with respect to price formation and market conditions,

¹⁵⁹ *Estonian Electricity and Gas Market: Report 2009*, cited fn. 156 above, at p.49.

¹⁶⁰ Further information on the Eesti Energia Group is available on its website at www.energia.ee.

¹⁶¹ *Estonian Electricity and Gas Market: Report 2009*, cited fn. 156 above, at p.44.

¹⁶² *Estonian Electricity and Gas Market: Report 2009*, cited fn. 156 above, at p.27.

¹⁶³ *Estonian Electricity and Gas Market: Report 2009*, cited fn. 156 above, at p.52.

which hinders new entry and limits consumer choice; and cross-border sales between EU Member States do not yet pose any significant competitive constraint, in part due to a lack of interconnector capacity coupled with insufficient incentives to invest in new capacity.¹⁶⁴ The report also highlighted the complexity and potential for anti-competitive effects stemming from the operation of the balancing markets for electricity transmission networks,¹⁶⁵ such as the disproportionately high costs for small market players.¹⁶⁶

Accordingly, in parallel with its proposals for a Third Gas Directive, the Commission advocated the enactment of a Third Electricity Directive, which would introduce essentially the same reforms as were proposed for the natural gas sector.¹⁶⁷ Full ownership unbundling of electricity transmission systems was presented as the Commission's preferred option for market liberalisation, with the independent system operator approach viewed as a less effective alternative.¹⁶⁸ In the end, however, the Commission's proposals for electricity reform suffered the same fate as its proposal relating to natural gas. Thus, the final version of the Third Electricity Directive,¹⁶⁹ as enacted, allows Member States to choose between any of three options for unbundling of transmission system operators: full ownership unbundling,¹⁷⁰ the independent system

¹⁶⁴ *Energy Inquiry Report*, cited fn. 81 above. See in particular the Executive Summary at pp.7-11.

¹⁶⁵ Balancing services, in the context of electricity, are used to ensure equilibrium between supply (i.e. quantity of electricity entering the network) and demand (i.e. quantity of electricity being taken off the network). As electricity cannot be stored, the provision of balancing services requires the facility to increase or decrease generation at short notice, so as to secure the correct tension on the network. The *Energy Inquiry Report* (cited at fn. 81 above, at p.295) defined balancing services as including all activities that transmission services operators engage in order to ensure system stability and accordingly all costs charged to network users for these services.

¹⁶⁶ *Energy Inquiry Report*, cited fn. 81 above, at pp.295-322.

¹⁶⁷ *Prospects for the Internal Gas and Electricity Market*, cited fn. 85 above. A more detailed discussion of the Commission's initial proposals for reform of both the electricity and natural gas sectors is set out in the portion of this report reviewing developments in the gas sector, along with a description of the unbundling options contained in the Third Energy Directives as eventually enacted by the Council and European Parliament.

¹⁶⁸ *Prospects for the Internal Gas and Electricity Market*, cited fn. 85, p.12.

¹⁶⁹ Third Electricity Directive (2009/72/EC), full citation at fn. 93 above.

¹⁷⁰ Third Electricity Directive, Article 9.

operator approach,¹⁷¹ or the independent transmission operator approach.¹⁷² (These three options are explained in detail in the portion of the report addressing developments in the natural gas sector in the EU, above.) As in the gas sector, the Third Electricity Directive maintains the requirement of legal unbundling of distribution system operators.¹⁷³ It also contains specific provisions relating to interconnection and balancing, requiring the allocation of interconnection capacity, balancing rules and procurement of balancing services on a non-discriminatory basis.¹⁷⁴

4.4.1 *Antitrust enforcement*

The enforcement of competition law in the electricity sector comprises the second limb of the Commission's two-pronged strategy to improve the functioning of EU energy markets—market opening via regulation being the other aspect. The following provides a summary of the Commission's competition enforcement activities in the electricity sector, which have involved, principally, remedies offered under the merger control rules and structural and behaviour remedies offered by dominant undertakings under the commitment decision procedure, in order to address competition problems identified during the course of antitrust investigations.

- In March 2010, Commission accepted commitments from *EDF*, the vertically integrated, incumbent electricity undertaking in France, relating to EDF's contracts with large industrial customers.¹⁷⁵ The Commission had raised concerns that the scope, duration and exclusive nature of these contracts, plus restrictions relating to the resale of electricity by industrial customers, amounted to an abuse of dominance by EDF, insofar as it foreclosed this portion of the electricity market in France. In order to address these concerns, EDF committed to ensuring: (i) at least 60% and on average 65% of the electricity for large industrial customers will be returned to the market each calendar year; (ii) the maximum duration of new contracts for large industrial customers will not exceed five years; (iii) industrial

¹⁷¹ Third Electricity Directive, Articles 9(8) and 13.

¹⁷² Third Electricity Directive, Articles 9(8) Chapter V.

¹⁷³ Third Electricity Directive, Article 26.

¹⁷⁴ Third Electricity Directive, Article 15.

¹⁷⁵ Commission Decision relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement (Case COMP/39.386 – *Long-term contracts in France*).

customers will be offered the option of non-exclusive contracts; and (iv) removal of resale restrictions from all contracts with industrial customers.

- In the *Vattenfall/Nuon Energy* merger clearance decision,¹⁷⁶ the Commission approved with conditions the acquisition of Dutch energy company N.V. Nuon Energy—active in the electricity and gas markets in the Netherlands, with some activities in Belgium and Germany—by Vattenfall AB, the vertically integrated State-owned Swedish electricity incumbent, which also had electricity sector activities in Germany, Finland, Denmark and Poland.¹⁷⁷ Approval was subject to divestment of Nuon Energy’s retail electricity business in Berlin and Hamburg, as these were markets in which both parties had been active with high market shares prior to the merger. Approval of the merger was also premised on the basis that Vattenfall planned to divest its electricity transmission business in Germany, which took place in March 2010.
- In the *Swedish Interconnectors* commitment decision,¹⁷⁸ the State-owned operator of the electricity transmission network in Sweden, Svenska Kraftnät (SvK), agreed to subdivide the Swedish system into two or more bidding zones and to operate it on that basis by 1 November 2011 at the latest. SvK also committed to building and operating a new 400 kV transmission line on a portion of the network that could not be operated in an efficient manner by a bidding zones system. The commitments were offered by SvK to address competition concerns identified by the Commission relating to the alleged curtailment of capacity on the Swedish interconnectors, also operated by SvK, which, it was claimed, restricted exports and thus kept electricity prices in Sweden artificially low, while electricity prices in neighbouring Denmark remained, conversely, artificially high.

¹⁷⁶ Merger Procedure Article 6(1)(b) Decision in conjunction with Article 6(2) of 22 June 2009 in Case No COMP/M.5496 – *Vattenfall/Nuon Energy* (C(2009) 5111).

¹⁷⁷ Vattenfall acquired a 49% shareholding plus operational control of Nuon Energy in 2009, and will increase its ownership to a 100% shareholding by 2015.

¹⁷⁸ Commission Decision of 14 April 2010 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement (Case 39.351 – *Swedish Interconnectors*).

4.4.2 E.ON commitment decision¹⁷⁹

The E.ON commitment decision relating to the German electricity wholesale and balancing markets represents perhaps the most far-reaching use of the Commission's competition law powers in the electricity sector to date. The decision involved two areas of the electricity sector in Germany in which the vertically integrated German energy company, E.ON AG, was active:

- On the German *wholesale electricity market*, the Commission in its preliminary assessment took the view that E.ON held a collectively dominant position together with RWE and Vattenfall Europe. In this market, the Commission was concerned that E.ON might have followed a strategy of limiting or withdrawing available generation capacity in the short term, and also of deterring investment in generation capacity by third parties, both of which had the effect of raising wholesale electricity prices and, ultimately, prices for final consumers.
- On the market for *secondary balancing power* in Germany, the Commission in its preliminary assessment took the view that E.ON held a dominant position in the E.ON transmission network area, where the TSO (E.ON Netz, a subsidiary of E.ON) acted as a monopsonist.) In this market, the Commission was concerned that E.ON Netz had systematically purchased balancing power from other E.ON subsidiary companies, rather than more competitively priced services from non-affiliated companies, and also that E.ON Netz had prevented the import of lower priced balancing power from other Member States by refusing prequalification for the generators concerned.

While E.ON did not accept the allegations of breach of the EU competition rules contained in the Commission's preliminary assessment, it offered a series of commitments in order to address the competition concerns identified: (i)

¹⁷⁹

Commission Decision of 26 November 2008 relating to a proceeding under Article 82 of the EC Treaty and Article 54 of the EEA Agreement (Cases COMP/39.388 – *German Electricity Wholesale Market* and COMP/39.389 – *German Electricity Balancing Market*). An informative discussion of the case is available in P. Hellström, F. Maier-Rigaud & F. Wenzel Bulst, "Remedies in European Antitrust Law" (2009) 76 *Antitrust law Journal* 43 and in P. Chauve, M. Godfried, K. Kovács, G. Langus, K. Nagy & S. Siebert "The E.ON electricity cases: an antitrust decision with structural remedies" *EU Competition Policy Newsletter*, Issue 1, 2009, pp.51-54.

divestment of substantial quantities of generation capacity in Germany to an undertaking independent of and unconnected to E.ON; (ii) divestment of its transmission system business in Germany consisting of the network, the system operation of the E.ON control area and related activities, to a buyer that was not an undertaking with an interest in generation or supply of electricity (unbundling requirement); and (ii) E.ON would not require either the divested generation capacity or the network for a period of 10 years. After market testing, the commitments were accepted by the Commission as proportionate to meet the competition issues identified, and made legally binding on E.ON on 26 November 2008.

In 2009, E.ON's extra high voltage transmission network in Germany was separated from E.ON Netz to form Transpower Stromübertragungs GmbH. The latter company was sold to TenneT, the Dutch State-owned network owner and operator which is active only in that segment of the electricity market, from 31 December 2009,¹⁸⁰ in a transaction approved by the Commission under the merger control rules.¹⁸¹ By January 2010, E.ON had “*virtually completed*” its obligation to divest 5,000 MW of generation capacity under the terms of the commitment decision, to companies including Norwegian Statkraft, Belgian Electrabel and the Austrian Verbund.¹⁸²

4.4.3 State aid

The electricity sector in the EU has also seen numerous cases taken by the Commission against the Member States under the State aid rules (now Articles 107 to 109 TFEU). Two examples are:

- *Power Purchase Agreements in Poland*.¹⁸³ In this decision, the Commission held that long term power purchase agreements (PPAs),

¹⁸⁰ E.ON Press Release, *E.ON sells its extra high-voltage transmission network*, published 10 November 2009, available on E.ON's website at www.eon.com. See also *Bloomberg*, “E.ON Sells Electricity Network to Tennet to End Probe”, published 10 November 2009.

¹⁸¹ Merger Procedure Article 6(1)(b) Decision of 4 February 2010 in Case No COMP/M.5707 - *TenneT/ E.ON* ([C\(2010\)850](http://ec.europa.eu/competition/mergers/cases/index2.cfm)).

¹⁸² E.ON Press Release, *E.ON virtually completes divestment of 5,000 MW generation capacity in Germany*, published 5 January 2010.

¹⁸³ Commission Decision of 25 September 2007 on State aid awarded by Poland as part of Power Purchase Agreements and the State aid which Poland is planning to award concerning compensation for the voluntary termination of Power Purchase Agreements (2009/287EC) (OJ L83/1, 28.03.2009).

under which Poland undertook to purchase at least a minimum volume of electricity from new or newly modernised electricity generation plants, constituted undeclared and unlawful State aid. The PPAs were part of a programme launched by the Polish government in the mid-90s in order to modernise the electricity sector in Poland, by *inter alia* encouraging investment. Poland was required to terminate the PPAs, but permitted to provide generators with appropriate compensation to cover their stranded costs. A similar case has been taken against Hungary, which has likewise been required to terminate its PPAs with power generators while being permitted to compensate for legitimate stranded costs.¹⁸⁴

- On-going Commission investigations into regulated electricity tariffs in France¹⁸⁵ and Spain,¹⁸⁶ as a result of which it is alleged that market distortions amounting to State aid may have arisen.

4.5 *Electricity sector in Finland*

On January 2011, the State of Finland announced that it will purchase part of the shares in the transmission system operator in Finland, Fingrid Oyj. After the transaction, the State ownership stake in Fingrid will rise from 12% to 53.1% of the company, and so the ownership of the transmission network will

¹⁸⁴ European Commission Press Release, IP/08/850 *State aid: Commission requests Hungary to end long-term power purchase agreements and recover state aid from power generators*, published 4 June 2008. The non-confidential version of the decision itself is not yet publicly available as of February 2011.

¹⁸⁵ European Commission Press Release, IP/09/376 *State aid: Commission extends investigation into regulated electricity tariffs in France*, published 10 March 2009. See also State Aid C 17/07 (ex NN 19/07) *Regulated electricity tariffs in France — Extension of the procedure: Invitation to submit comments pursuant to Article 88(2) of the EC Treaty (2009/C 96/08)* (OJ C96/18, 25.04.2009). This investigation is on-going as of February 2011.

¹⁸⁶ See State Aid No C 3/07 (ex NN 66/06) – *Regulated electricity tariffs in Spain: Invitation to submit comments pursuant to Article 88(2) of the EC Treaty (2007/C 43/10)* (OJ C43/9, 27.02.2007). This investigation is on-going as of February 2011.

be fully separate from production of electricity.¹⁸⁷ This arrangement is in line with the requirements of the Third Electricity Directive.

4.6 *Electricity sector in Germany*

Germany has been an outspoken critic of the EU's plans to impose ownership unbundling in the gas and electricity sectors, and has chosen to implement the Third Electricity Directive via the third and weakest unbundling option, the ITO model.¹⁸⁸ Nonetheless, in spite of the German government's opposition to a full unbundling requirement for electricity transmission, two of the four large vertically integrated German energy utilities have divested ownership their transmission systems, and a third is reported to be considering at least a partial ownership divestment of its transmission system.¹⁸⁹

In March 2010, Vattenfall AB, the vertically integrated electricity company active principally in Northern Europe, announced the sale of its subsidiary 50Hertz Transmission GmbH, a regional German transmission system operator. 50Hertz Transmission owns, operates, develops and maintains the electricity grids in the German Federal States of Berlin, Brandenburg, Hamburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt and Thuringia.¹⁹⁰ The Belgian transmission system operator, Elia, took a 60% stake in 50Hertz Transmission under the terms of the sale, while Industry Funds Management, a global infrastructure investment manager, took the remaining 40% stake. The acquiring parties committed to pursuing Vattenfall's investment plans in the area, including in the area of interconnection capacity, and the deal was trumpeted as a step towards the realisation of a pan-European electricity grid.¹⁹¹ The transaction was completed on 19 May 2010.

¹⁸⁷ Further information on Fingrid is available on its website at www.fingrid.fi. See also *Utility Week*, "Fortnum Reaches Deal on Fingrid Sale", published 2 February 2011, available online at www.utilityweek.co.uk.

¹⁸⁸ See *EurActiv*, "Eight EU States Oppose Unbundling, Table 'Third Way'", published 1 February 2008, available at www.euractiv.com, for further details in relation to the split among the EU Member States regarding unbundling.

¹⁸⁹ See, e.g. *The Times*, "E.ON riles Germany's Government with EU pact to sell power grid", published 28 February 2008.

¹⁹⁰ Further information on 50Hertz Transmission is available on its website at www.50hertz-transmission.net.

¹⁹¹ Vattenfall & Elia Joint Press Release, *Elia and IFM to acquire the German Transmission System Operator 50Hertz Transmission from Vattenfall*,

As noted previously, pursuant to E.ON's commitment decision with the European Commission,¹⁹² as of the end of 2009 it has divested itself of its extra high voltage transmission network in Germany. The new owner of the network, TenneT B.V., operates solely as an infrastructure owner and operator in the Netherlands and now in Germany.¹⁹³

In October 2010, it was reported that RWE was considering the sale of a stake of up to 75% of the ownership of its German electricity transmission network, Amprion, to a company that did not compete with RWE in power generation or transmission, such as a financial investor. Under the proposal as reported, RWE would retain Amprion as a division of the group and would remain the operator of its transmission assets.¹⁹⁴

4.7 *Electricity sector in Greece*

The electricity transmission system on the mainland of Greece has been operated since 2001 by HTSO SA,¹⁹⁵ a company owned by the State (51%) and PPC SA (49%), the latter being the vertically integrated former monopoly power company in Greece.¹⁹⁶ PPC SA has retained ownership of the transmission system on the mainland, and furthermore, the transmission systems on the non-interconnected islands and the distribution networks on the mainland and on non-interconnected islands are also owned and operated by PPC SA. Accounting separation requirements for the different business activities of PPC SA has been in place since 2005.

Greece is planning to adopt the ITO model for its electricity transmission system under legislation currently being drafted for the implementation of the EU's Third Energy Package in the electricity sector. A wholly owned

published 12 March 2010, available on Vattenfall's website at www.vattenfall.com.

¹⁹² Full citation at fn. 179 above.

¹⁹³ Further information on TenneT B.V. is available on its website at www.tennet.org.

¹⁹⁴ *Bloomberg*, "RWE Is Said to Consider Sale of Stake in German Power Transmission Network", published 6 October 2010, available at www.bloomberg.com.

¹⁹⁵ Further information on HTSO SA is available on its website at www.desmie.gr.

¹⁹⁶ Further information on PPC SA is available on its website at www.dei.gr.

subsidiary of PPC SA will function as the owner and operator of the transmission system. The market functions, currently merged within HTSO SA, will be handed out to an independent market operator. The distribution network assets will remain within PPC SA, while the operation of the distribution networks (on the mainland and on non-interconnected islands) will be the responsibility of another wholly owned subsidiary of PPC SA, distinct from the owner/operator of the transmission system.

4.8 *Electricity sector in Ireland*

Liberalisation of the electricity sector in Ireland has been driven by EU law requirements under the various electricity directives. The incumbent, State-owned electricity company, the Electricity Supply Board (ESB), remains active in generation and retail supply, although it is subject to legal separation for its various corporate activities. ESB acts as the legally independent distribution system operator for the electricity network in Ireland, operating under licence from the public energy regulator, the CER. It also provides meter-reading and data management services to all retail suppliers and customers.¹⁹⁷ While the retail electricity prices charged by ESB in its role as universal service supplier are regulated by CER, no other retail suppliers are subject to price regulation.¹⁹⁸ Another State-owned commercial company, EirGrid, acts as the transmission system operator of the electricity network in Ireland, as well the transmission system operator for Northern Ireland, and operator of the Single Electricity Market on the island of Ireland.¹⁹⁹

The retail market for the supply of electricity has been fully open since 2005. In February 2009, the incumbent, State-owned natural gas company, Bord Gáis, entered the domestic electricity supply market, offering customers electricity prices at a level guaranteed to be below the regulated electricity prices charged by ESB, as well as gas and electricity supply dual offers.²⁰⁰ By

¹⁹⁷ Further information on ESB is available on its website at www.esb.ie.

¹⁹⁸ Further information about CER and its regulatory functions are available on its website at www.cer.ie.

¹⁹⁹ Further information about EirGrid is available on its website at www.eirgrid.com.

²⁰⁰ *Irish Times*, “Bord Gáis Entry into Electricity Market Welcomed”, published 18 February 2009.

May 2010, Bord Gáis had 350,000 electricity customers in addition to its 650,000 gas customers in Ireland.²⁰¹

4.9 *Electricity sector in Israel*

The electricity sector in Israel remains vertically integrated, with a single, State-owned company—Israel Electric Company—responsible for substantially the whole of the electricity generation, transmission, distribution and retailing in the country.²⁰² In 2003, the Israeli government indicated its intent to move towards a more competitive market structure, a decision it reaffirmed in 2006. The proposed reforms would involve the deregulation and privatization of the generation and retailing segments, leaving transmission and distribution regulated to provide open access to all end-users.²⁰³ However, market liberalisation has not yet been realised.

4.10 *Electricity sector in Italy*

Prior to liberalisation, which began in 1999 as mandated by the First Electricity Directive, the Italian electricity sector was dominated by a vertical integrated State-owned company, ENEL, which was responsible for the whole of the electricity generation, transmission, distribution and retailing in the country.

In 1999, the wholesale supply of electricity was liberalised, and ENEL's monopoly in the generation sector was broken up. The divestiture by ENEL of part of its generation assets allowed for the establishment of three new generation companies (GENCOs). Moreover, in order to reduce the presence of the State-owned incumbent, antitrust ceilings in the upstream generation markets were put in place, which provided that no single operator could control more than 50% of the generation and import capacity.

In 1999, the Italian legislation also introduced the legal unbundling of generation, transmission, distribution and retailing of electricity, as well as the

²⁰¹ Bord Gáis Press Release, *Bord Gáis Energy Celebrates its One Million Customers by Launching the Community Energy Fund*, published 5 May 2010.

²⁰² Further information on Israel Electric Company is available on its website at www.israel-electric.co.il.

²⁰³ See A. Tishlera, J. Newmanb, I. Spektermanb & C.K. Woo, “Assessing the options for a competitive electricity market in Israel” (2008) 16(1) *Utilities Policy* 21.

Independent System Operator (ISO) model in transmission. The implementation of the ISO model imposed separation between ownership and management of the national transmission grid. In particular, ownership of the transmission grid was retained indirectly by ENEL, by means of its wholly-owned subsidiary company TERNA, whereas the management of the transmission network was transferred to GRTN (the ISO), whose sole shareholder was the Ministry of Treasury. As a result, TERNA's managed and developed the grid according to GRTN's directives.

However, the ISO model proved to be inadequate in providing the right incentives for investments in the Italian transmission network; in September 2003 a major black out—involving the whole national territory—provided clear evidence of such inadequacy.²⁰⁴ Moreover, the coordination activities between TERNA and GRTN proved to be too burdensome.

Due to the flaws of the ISO model, in 2003 the reunification of ownership and control of the transmission network within TERNA was established by law. This was followed by the total divestiture by ENEL of TERNA in 2005, that is, the adoption of the proprietary unbundling model, whereby the previous vertically integrated monopolist in the electricity sector transferred its control stake to TERNA to CASSA DEPOSITI E PRESTITI, held in majority by the Italian Government.²⁰⁵

4.11 Electricity sector in Mexico

Electricity generation, transmission, supply and distribution in Mexico remain, by and large, State monopoly activities, carried out by one public company, formed by a 2009 merger of the Federal Electricity Board, which provides 80% of electricity in the country, and Central Power and Light, which operated only in the centre of the country providing the remaining 20% of electricity. An amendment to Mexico's energy laws in 1992, however, allowed for private investment at the generation level. This has led to market entry by both small domestic producers and large foreign producers. Private electricity generators are required to sell their power to the Federal Electricity Board for distribution. Currently, about a third of all electricity produced in Mexico comes

²⁰⁴ See OECD, *Report on Experiences with Structural Separation* (2006), at pp.15-16, for further discussion of the 2003 blackout, and in particular, the outcome of the investigation into its causes.

²⁰⁵ Further information on TERNA is available on its website at www.terna.it.

from private generation, with the remainder generated by the publicly owned utility.²⁰⁶

4.12 *Electricity sector in New Zealand*

The Electricity Industry Reform Act 1998 required full ownership separation in New Zealand between electricity lines, on the one hand, and generation and retailing on the other—although subsequent amendments to the legislation have introduced exemptions to the separation requirement for, in particular, renewable energy and small scale generation capacity.²⁰⁷ There are currently five principal electricity generation companies in New Zealand, which account for 92% of electricity generated in the country. Three of these companies are State-owned enterprises: Genesis, Meridian and Mighty River Power. Two are publicly traded and in majority private ownership: Contact and the smallest generating company, TrustPower. All five generation companies are also active in electricity wholesaling and retailing, and thus are known as “gentailers”.²⁰⁸ The five principal gentailers retail approximately 96% of the electricity purchased in the wholesale market, with the remainder purchased by a number of smaller retailers.²⁰⁹

The electricity transmission system in New Zealand is owned and operated by Transpower, a State-owned enterprise.²¹⁰ In addition, there are approximately 28 electricity distribution businesses, the ownership of which is a mix of public listings, shareholder co-operatives, community trusts and local body ownership. Amendments that have been made to the structural separation regime under the 1998 Act mean that distribution businesses are now allowed to own some generation capacity, and to sell the output from those stations.²¹¹

²⁰⁶ See Y. Cancino-Solórzano, E. Villicaña-Ortiz, A.J. Gutiérrez-Trashorrasb & J. Xiberta-Bernatb, “Electricity sector in Mexico: Current status. Contribution of renewable energy sources” (2010) 14 *Renewable and Sustainable Energy Reviews* 454.

²⁰⁷ See the Electricity Industry Reform Amendment Acts of 2001, 2004 and 2008.

²⁰⁸ Commerce Commission, *Investigation into New Zealand Electricity Markets: Investigation Report*, published 21 May 2009, available on the Commerce Commission’s website at www.comcom.govt.nz, pp.26-30.

²⁰⁹ *NZ Electricity Markets Investigation Report*, cited fn. 208 above, p.39.

²¹⁰ *NZ Electricity Markets Investigation Report*, cited fn. 208 above, p.35.

²¹¹ *NZ Electricity Markets Investigation Report*, cited fn. 208 above, p.39.

In 2005, the New Zealand Commerce Commission began an investigation of the wholesale and retail electricity markets in the country under Part 2 of the Commerce Act 1986,²¹² which prohibits certain restrictive trade practices. This investigation followed the receipt of a number of complaints about the behaviour of companies in those markets and mounting public concern about their competitiveness. The final report, published in May 2009, concluded that the four largest gentailers—Contact, Genesis, Meridian and Mighty River Power—each had, and had exercised, significant market power. Indeed, over a period of some six and a half years the four gentailers had exercised their substantial market power to earn market rents estimated conservatively to be \$4.3 billion.²¹³ Nonetheless, the report did not identify any specific anticompetitive conduct on the part of the gentailers that breached the Commerce Act 1986. Moreover, while it acknowledged that there were serious problems with the existing market rules and structure, the Commerce Commission was of the opinion that it would be premature to consider the implementation of price regulation in the sector, in view of an on-going review of the issue that was taking place at government level.²¹⁴

This latter review, which commenced in April 2009, had as its objective “to improve the performance of the electricity market and its institutions and governance arrangements in order to better achieve the government’s objectives for the electricity sector.”²¹⁵ It culminated in the adoption by the New Zealand government, in December 2009, of 29 measures to be implemented in order to improve the functioning of the electricity markets in the country. These included, inter alia: the re-distribution of generation assets among the State-owned gentailers; permitting electricity distribution businesses to retail electricity, subject to legal separation of these divisions, and continued ownership separation of distribution and generation; greater standardisation of line tariffs and use-of-system business rules; and improved regulation including the establishment of a new sector regulator.²¹⁶ Many of these changes are included in

²¹² The Commerce Act 1986 is New Zealand’s primary competition law statute.

²¹³ *NZ Electricity Markets Investigation Report*, cited fn. 208 above, p.6.

²¹⁴ *NZ Electricity Markets Investigation Report*, cited fn. 208 above, p.12.

²¹⁵ See the Press Release issued by the Minister for Energy and Resources, *Ministerial Review of Electricity Market*, published 1 April 2009, and accompanying *Terms of Reference for a Ministerial Review of Electricity Market Performance*, both available from the website of the New Zealand Government at www.beehive.govt.nz.

²¹⁶ Ministry of Economic Development, *Summary of Main Decisions: Ministerial Review into Electricity Market Performance*, published 9 December 2009, available on the Ministry’s website at www.med.govt.nz.

the new Electricity Industry Act 2010, enacted on 5 October 2010, including modification of the rules on structural separation to permit distributors to engage in retailing but not large-scale generation.²¹⁷ As of 1 November 2010, the Electricity Authority has also been established as New Zealand's electricity market regulator.²¹⁸

Amendments to the Commerce Act in 2008 require the Commerce Commission to make recommendations to government regarding the most appropriate price-quality regulation to be applied to Transpower, the electricity system operator.²¹⁹ Following a consultation process,²²⁰ the Commerce Commission in December 2010 announced the price-quality requirements and annual revenue cap to be applied to Transpower from 1 April 2011.²²¹

4.13 *Electricity sector in the Netherlands*

Prior to liberalisation of the Dutch electricity sector, the market was dominated by four vertically integrated, non-competing regional electricity companies, which co-operated through SEP, a joint stock company. SEP was dissolved in 2001,²²² and the electricity market was fully liberalised on 1 July 2004, in line with EU law requirements, when all retail customers became free to choose their own electricity supplier. Legal unbundling of the supply and

²¹⁷ See Part 3 of the Electricity Industry Act 2010.

²¹⁸ Further information on the Electricity Authority is available on its website at www.ea.govt.nz.

²¹⁹ Commerce Commission, *Transpower Process and Recommendation Discussion Paper*, published 19 June 2009, available on the Commerce Commission's website at www.comcom.govt.nz. The legislative changes followed an administrative settlement between the Commerce Commission and Transpower of 13 May 2008, regarding its revenue requirements, capital requirements and adherence to the terms of its systems operator services agreement.

²²⁰ See e.g. Commerce Commission, *Individual Price-Quality Path (Transpower) Consultation Update Paper*, published 9 November 2010, available on the Commerce Commission's website at www.comcom.govt.nz.

²²¹ Commerce Act (Transpower Individual Price-Quality Path) Determination 2010, Commerce Commission Decision No.714, of 22 December 2010. See also Commerce Commission, *Individual Price-Quality Path. Reasons Paper*, published 23 December 2010. Both are available on the Commerce Commission's website at www.comcom.govt.nz.

²²² International Energy Agency (IEA), *The Netherlands: Energy Policy Review 2008*, p.91.

distribution networks was also required at this time.²²³ Ownership of one of the four regional generators, Eneco, has remained in public hands, being owned by about 60 Dutch municipalities.²²⁴ The other three generators have been acquired by foreign utilities: Essent is now a part of the German energy company, RWE AG;²²⁵ Oxxio is owned by UK energy company, Centrica,²²⁶ and Nuon is a part of the Swedish energy company, Vattenfall.²²⁷

The transmission system in the Netherlands is controlled by the ownership unbundled, State-owned holding company, TenneT Holding B.V.. The regulated, independent transmission system operator is a subsidiary company, TeneT TSO, B.V., while other ancillary services for the transmission grid are provided by other, non-regulated companies in the TenneT group.²²⁸ The public regulator for the electricity sector in the Netherlands is the Office of Energy Regulation (Energiekamer), which operates as a chamber of the Dutch competition authority, the NMa.²²⁹

4.14 *Electricity sector in Portugal*

The electricity transmission system operator in Portugal, Rede Eléctrica Nacional (“REN”), was legally unbundled in 2000. However, the privatised, incumbent electricity company in Portugal, EDP, retained a 30% shareholding in REN, with the remainder held by the State. In early 2007, REN was converted into a holding company, REN – Redes Energéticas Nacionais, SGPS, SA, and the high-voltage electricity transmission lines were transferred to a newly-created company within the REN group, Rede Eléctrica Nacional. (The REN group also performs the function of transmission system operator for the

²²³ IEA – *The Netherlands*, cited fn. 222 above, p.92.

²²⁴ Further information on Eneco is available on its website at www.eneco.nl.

²²⁵ Further information on Essent is available on its website at www.essent.nl.

²²⁶ Further information on Oxxio is available on its website at www.oxxiopers.nl. Centrica has, however, indicated some interest in selling its Dutch business; see *Reuters*, “Centrica seeking Dutch Oxxio sale, buyers interested”, published 29 October 2009.

²²⁷ Further information on Nuon is available on its website at www.nuon.com.

²²⁸ Further information on TenneT is available on its website at www.tennet.org.

²²⁹ Further information on the Energiekamer is available on its website at www.energiekamer.nl.

natural gas sector in Portugal, described above.) The company was then 49.9% privatised, and the EDP shareholding was reduced to 5%.²³⁰

In accordance with EU law requirement, electricity distribution in Portugal has been legally unbundled from generation, transmission and supply activities. Nonetheless, the medium-voltage distribution system operator, EDP Distribuição, which holds a 35-year public distribution concession, remains 100%-owned by EDP. Distribution at lower-voltage levels is carried out by operators, including EDP, pursuant to 20 year public concessions granted at the regional level.²³¹

As of September 2006, full liberalisation of the retail electricity market in Portugal has been in place. However, competition at the retail level has been slow to develop, arguably due, at least in part, to the structure of electricity price regulation in the country.²³²

4.15 Electricity sector in Switzerland

The electricity sector in Switzerland is now subject to regulation following the entry into force of the Electricity Supply Act (StromVG) on 1 January 2008. The Act provides for a two-stage liberalisation procedure, under which large industrial users will be free to choose their supplier from 1 January 2009. Full market liberalisation is envisaged from 2014, but entry into force of this second phase is subject to an optional referendum.²³³

The new legislation requires that an independent transmission network operator be established to operate the high-tension transmission network. In

²³⁰ International Energy Agency (IEA), *Portugal: Energy Policy Review 2009*, pp.122-123. Further information on the REN group is available on its website at www.ren.pt. See also P. Ferreira, M. Araújo & M.E.J. O’Kelly, “An Overview of the Portuguese Electricity Market” (2007) 35 *Energy Policy* 1967.

²³¹ IEA – *Portugal*, cited fn. 230 above, p.116.

²³² IEA – *Portugal*, cited fn. 230 above, p.124. For the European Commission’s view on the negative impact of regulated energy prices in the EU, see *Communication from the Commission to the Council and the European Parliament: Report on Progress in Creating the Internal Gas and Electricity Market*, SEC(2009) 287, COM(2009) 115 final, published 11 March 2009, pp.11-12.

²³³ Herbert Smith, *European Energy Review 2010: Switzerland*, available at www.herbertsmith.com, p.132.

anticipation of this requirement, the Swiss power companies established Swissgrid AG to act as network operator, which commenced operations in December 2006. In December 2008, Swissgrid was formally confirmed as the national transmission system operator in Switzerland.²³⁴ Swissgrid remains wholly owned by the eight Swiss electricity companies.²³⁵

Furthermore, the legislation requires the establishment of a national regulator for the electricity sector, to monitor and enforce compliance with the Act, in particular the provisions relating to network access. To satisfy this requirement, the Swiss government has established the Electricity Commission (ElCom), to act as independent regulatory authority for the sector.²³⁶

4.16 *Electricity sector in Slovenia*

In 1991, the State-owned, vertically integrated electricity system in Slovenia was vertically and horizontally unbundled, being split into eight independent generation companies, a transmission system operator and five regional distribution companies, all majority-owned by the State.²³⁷ In 1999, in preparation for EU accession, Slovenia adopted a new Energy Act, which put in place, *inter alia*, a system of regulated third party access to the electricity network, with an independent regulator with responsibility for regulating access charges.²³⁸ This legislation was amended in 2004 in order to implement the Second Electricity Directive: the market for all customers, except for household customers, was opened from 1 July 2004, while the Slovenian electricity market was fully opened on 1 July 2007 for all customers.²³⁹ Re-organisation and merger of the State-owned generation companies took place in 2001, to create Slovenia's largest power generation group, HSE,²⁴⁰ and again in 2006, to create

²³⁴ Herbert Smith – *Switzerland*, cited fn. 233 above, pp.132-133.

²³⁵ Further information on Swissgrid is available on its website at www.swissgrid.ch.

²³⁶ Herbert Smith – *Switzerland*, cited fn. 233 above, p.133. Further information on ElCom is available on its website at www.elcom.admin.ch.

²³⁷ N. Hrovatin, “Restructuring the Slovenian Electricity Industry: The Benefits and Costs of Introducing the Electricity Market”, (2001) 39(5) *Eastern European Economics* 6, p.7.

²³⁸ N. Hrovatin, R. Pittman & J. Zorić, “Organisation and Reforms of the Electricity Sector in Slovenia”, (2009) 17 *Utilities Policy* 134, p.135.

²³⁹ Hrovatin *et al*, cited fn. 238 above, p.135.

²⁴⁰ Further information on HSE is available on its website at www.hse.si.

a second power generation group, GEN Energija,²⁴¹ in order to increase competition in the electricity market.²⁴² While privatisation of the State-owned generation assets has been suggested for some time, in more recent years these plans have faltered.²⁴³ In October 2010 it was reported that the Slovenian government is considering the reintegration of HSE and GEN Energija, in order to increase investment in the electricity sector.²⁴⁴ A merger of the distribution utilities has also been recommended by commentators, in order to allow them to exploit economies of scale.²⁴⁵

5. Developments in telecommunications

The following section of this report provides a non-exhaustive overview of developments with respect to structural and behavioural separation in the telecommunications sector in OECD Member countries and the EU. While the focus of the Recommendation is on structural separation, experiences with behavioural separation such as accounting or functional separation are included as well. In order to focus on the most significant developments, not all countries are listed.

5.1 *Telecommunications sector in Australia*

Telstra, the formerly State-owned telecommunications incumbent in Australia, was progressively privatised between 1997 and 2006 as a vertically and horizontally integrated company. Telstra owns the existing fixed (copper) network, providing access to its network and supplies wholesale services to companies that compete with it in downstream retail markets. It also owns the largest mobile network, the largest hybrid fibre coaxial cable network in Australia and 50% of Australia's largest subscription television provider.²⁴⁶

²⁴¹ Further information on GEN Energija is available on its website at www.gen-energija.si.

²⁴² Hrovatin *et al*, cited fn. 238 above, p.137.

²⁴³ Horvatin *et al*, cited fn. 238 above, p.137-138.

²⁴⁴ *Financial Times*, "Energy: National Merger may be necessary for Regional Expansion", published 11 November 2010.

²⁴⁵ Hrovatin *et al*, cited fn. 238 above, p.137.

²⁴⁶ Parliament of the Commonwealth of Australia, House of Representatives, *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2009. Explanatory Memorandum*, p.7.

As of 1 December 2006, Telstra has been subject to an operational separation framework which obliges it to maintain separate retail, wholesale and key network services business units.²⁴⁷ Nevertheless, the Australian government has expressed the view that:

*Telstra's integrated position across all the telecommunications platforms has led to longstanding and widespread concerns that the existing telecommunications structure is failing consumers, businesses and the economy in general.*²⁴⁸

In order to address the perceived competition problems in the telecommunications sector, the government has proposed a twofold strategy: the development of a government-driven national broadband network and the structural separation of Telstra on a voluntary or if necessary compulsory basis.

The proposed *national broadband network* (NBN) aims to provide broadband infrastructure via fibre to 93% of premises in Australia, fixed-wireless to 4% of premises and satellite to the remaining, most remote 3% of premises.²⁴⁹ The objective of the project is to “*level the competitive playing field*” in the broadband sector by, *inter alia*, deploying infrastructure where bottlenecks currently exist, and operating on a wholesale-only, open access basis with equivalent service for all access seekers thereby removing the problems of vertical integration.²⁵⁰ The estimated cost for the project is AU\$43 billion, the largest single investment in a single infrastructure ever made by the federal government. It will rely on government funds exclusively in the initial stages, with later involvement of private capital.²⁵¹ The NBN proposal

²⁴⁷ For a description of the operational separation regime currently in place, see the website of the Department of Broadband, Communications & the Digital Economy at www.archive.dcita.gov.au/2007/11/connect_australia/operational_separation.

²⁴⁸ Parliament of the Commonwealth of Australia, House of Representatives, *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2009*. Explanatory Memorandum, p.8.

²⁴⁹ Department of Broadband, Communications & the Digital Economy, *National Broadband Implementation Study*, published 6 May 2010.

²⁵⁰ *National Broadband Implementation Study*, cited at fn. 249 above, p.26. See also Media Release of the Minister for Broadband, Communications and the Digital Economy, *NBN Legislation introduced to Parliament*, published 25 November 2010, announcing the introduction into parliament of draft legislation to regulate the operations of NBN as “*an open-access, wholesale-only network, to support retail-level competition for Australian consumers.*”

acknowledges that the project is likely to create a monopoly in passive network access in most of Australia, and therefore urges foresight, so that possible later privatisation is made “*conditional on a healthy industry structure outcome*”, and to “*ensure that decisions are not made today that are short-sighted relative to long-term competition goals.*”²⁵² A new company, NBN Co., has been established to build and operate the network.²⁵³

While the NBN proposal contemplated the possibility that Telstra would not participate in the development of the project, on 20 June 2010 NBN Co. and Telstra announced that they had reached an agreement with regard to the NBN. The agreement provides for the reuse of suitable Telstra infrastructure (including pits, ducts and backhaul fibre) by NBN Co. in order to prevent unnecessary duplication, plus the progressive migration of customers from Telstra’s copper and pay-TV cable networks to the new wholesale-only fibre network.²⁵⁴

Concurrently with the development of the NBN, the government announced plans to enact legislation that would induce Telstra to adopt functional separation of its wholesale and retail operations voluntarily, or alternatively, have compulsory functional separation imposed on the company. In circumstances where Telstra refused to comply voluntarily, the company would be deprived of certain wireless spectrum.²⁵⁵ The bill received a first reading in Parliament, and in its announcement of the agreement between Telstra and NBN Co. in relation to the NBN, the government noted its continued hope to pass the legislation, in order “*to provide greater certainty to the industry.*”²⁵⁶ It is unclear whether the portions of the legislation relating to

²⁵¹ *National Broadband Implementation Study*, cited fn. 249 above, p.38.

²⁵² *National Broadband Implementation Study*, cited fn. 249 above, p.45.

²⁵³ See Joint Media Release of the Prime Minister, Treasurer, Minister for Finance and Deregulation and Minister for Broadband, Communications and the Digital Economy, *New National Broadband Network*, published 7 April 2009.

²⁵⁴ See Joint Media Release of the Prime Minister, Minister for Finance and Deregulation and Minister for Broadband, Communications and the Digital Economy, *Agreement between NBN Co. and Telstra on the rollout of the National Broadband Network*, published 20 June 2010.

²⁵⁵ See Parliament of the Commonwealth of Australia, House of Representatives, *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2009*.

²⁵⁶ See Joint Media Release of 20 June 2010, cited fn.254 above.

functional separation will be retained in any final version of the act. In any event, the agreement of 20 June 2010 came on foot of a written guarantee from the government that Telstra would not be deprived of spectrum should the transaction be completed.²⁵⁷

5.2 *Telecommunications sector in Chile*

The telecommunications sector in Chile has been privatised for more than two decades, and there is significant intermodal competition.²⁵⁸ While competition exists at the level of domestic and international call services, the incumbent firms at the fixed-line level (namely Telefonica CTC in most of the country and Telsur and Telcoy in some parts of the south) hold significant market power.²⁵⁹ In August 2010, it was reported that the Chilean government proposed to enact legislation that would lead to the creation of an infrastructure-only player in the telecommunications sector, decoupling network operations from service activities in Chile. In particular, the infrastructure operator would rent out its infrastructure to third parties that would operate only in the downstream services market.²⁶⁰

5.3 *Telecommunications sector in Estonia*

In Estonia, the EU regulatory framework for telecommunications has been transposed into national law by the Electronic Communications Act, which entered into force on 1 January 2005. This makes provision *inter alia* for the imposition of access and interconnection obligations on undertakings with significant market power in a telecommunications market. The 2005 Act also gives regulators the power to require accounting or functional separation in certain circumstances.²⁶¹ Nevertheless, take-up of unbundled local loop access

²⁵⁷ See Telstra Press Release, *Telstra signs Financial Heads of Agreement on NBN*, published 20 June 2010.

²⁵⁸ Latin American Competition Forum, 2009, Session IV: *Competition Issues in Telecommunications – Contribution from Chile (TDLC)*, available on the OECD's website at www.oecd.org/competition/latinamerica, p.1.

²⁵⁹ OECD, *Competition Law and Policy in Chile – A Peer Review* (2004), available on the OECD's website at: <http://www.oecd.org/dataoecd/43/60/34823239.pdf>.

²⁶⁰ See *Business News Americas*, “Government to encourage entrance of telecommunications infrastructure operators – Chile”, published 12 August 2010.

²⁶¹ See International Comparative Legal Guide, *Telecommunications Laws and Regulations 2010*, Chapter 16: Estonia, available at www.iclg.co.uk.

has been slow, and competitors have invested more heavily in competing platforms, such as wireless technologies and cable.²⁶² In December 2008, the Estonian government announced its view that functional separation within the telecommunications sector could be imposed only as an exceptional measure, which could not be implemented unless there was no other less onerous option that could achieve the desired objectives.²⁶³ On the other hand, the government plans to support the establishment of a country-wide high speed broadband infrastructure, the EstWin project, which will link rural areas with the existing optical fibre network and give them access to high speed internet services. The infrastructure will then be made available to all operators under the same conditions. In July 2010, the European Commission granted approval for investment by the Estonian government for the project, under the European State aid rules.²⁶⁴

5.4 *Telecommunications sector in the European Union*

EU telecommunications law does not mandate functional structural separation of vertically integrated companies. Nevertheless, Directive 2009/140/EC,²⁶⁵ which was enacted on 25 November 2009, amends the Access Directive²⁶⁶ to make express provision for the *availability* of functional separation as a potential remedy for competition problems. The new Article 13a(1) to the Access Directives provide as follows:

²⁶² KPMG, *Functional Separation in Central and Eastern Europe*, Advisory (2009), available at www.kpmg.com, pp.28-29. See also the European Commission Staff Working Document accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Progress Report on the Single European Electronic Communications Market (15th Report)*, published 25 May 2010 (COM(2010) 253, pp.156-166.

²⁶³ KPMG Report, cited fn. 262 above, p.34.

²⁶⁴ European Commission Press Release, IP/10/975 *State aid: Commission approves state aid for high speed internet in Estonia*, published 20 July 2010.

²⁶⁵ Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services (OJ L337/37, 18.12.2009).

²⁶⁶ 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 L108/7, 24.4.2002).

Where the national regulatory authority concludes that the appropriate obligations imposed under Articles 9 to 13 have failed to achieve effective competition and that there are important and persisting competition problems and/or market failures identified in relation to the wholesale provision of certain access product markets, it may, as an exceptional measure, in accordance with the provisions of the second subparagraph of Article 8(3), impose an obligation on vertically integrated undertakings to place activities related to the wholesale provision of relevant access products in an independently operating business entity.

*That business entity shall supply access products and services to all undertakings, including to other business entities within the parent company, on the same timescales, terms and conditions, including those relating to price and service levels, and by means of the same systems and processes.*²⁶⁷

A national regulatory authority is required to get the approval of the European Commission, as well as to conduct a co-ordinated analysis of the different markets related to the access network, prior to imposing any compulsory functional separation arrangement.²⁶⁸ Although, arguably, the compulsory imposition of functional separation was already a possibility under the existing Article 8(3) of the Access Directive,²⁶⁹ the amendments make explicit its availability to national regulatory authorities. On the other hand, Directive 2009/140/EC emphasises the fact that compulsory functional separation is an “*exceptional measure*”,²⁷⁰ which should be imposed only in “*exceptional cases*”.²⁷¹ In particular, its use must not harm incentives to invest

²⁶⁷ Directive 2009/140/EC, Article 2(10).

²⁶⁸ Directive 2009/140/EC, Article 2(10), inserting a new Article 13a(2)-(4) into the Access Directive.

²⁶⁹ Centre for European Policy Studies, *Achieving the Internal Market for E-Communications* (Brussels, 2008), p.16. On the other hand, the European Regulators Group in its *Opinion on Functional Separation* (ERG (07) 44), issued in 2007, took the view that functional separation was not available as a remedy under the electronic communications regulatory framework then in force, but proposed that it should be available to national regulators as a “*supplementary device*” (p.9-10), for use in circumstances where other remedies proved inadequate to address discriminatory behaviour.

²⁷⁰ Directive 2009/140/EC, Article 2(10), inserting a new Article 13a(1) into the Access Directive.

²⁷¹ Preamble to Directive 2009/140/EC, recital (61).

in the network, entail any potential negative effects on consumer welfare or prevent appropriate co-ordination mechanisms between the different separate business entities in order to ensure that the economic and management supervision rights of the parent company are protected.²⁷²

A vertically integrated telecommunications undertaking with significant market power that intends to implement functional or ownership separation of its local access network assets is now required to inform the relevant national regulatory authority in advance of these proposals. The national regulator must assess the effect of the intended transaction, and to impose, maintain or withdraw the undertaking's regulatory duties, as appropriate.²⁷³

In the telecommunications sector, as in the energy sector, the Commission has combined legislative reforms with antitrust enforcement activities that address anti-competitive practices by vertically integrated companies. Two recent decisions, *Deutsche Telekom* and *Telefónica*, have each involved exclusionary pricing through margin squeeze by vertically integrated telecommunications firms. In the *Deutsche Telekom* case,²⁷⁴ the Commission found that the incumbent provider in Germany, Deutsche Telekom, was charging to intermediate users (internet providers) higher *wholesale* prices than the *retail* prices that it charged to some final consumers of Deutsche Telekom's own broadband services. Thus, competitors of Deutsche Telekom's retail internet subsidiary had negative margins even if they were as efficient downstream as the Deutsche Telekom subsidiary. Similarly, in the *Telefónica* case,²⁷⁵ the Commission held that the margin between the retail prices charged by the incumbent telecommunications provider in Spain, Telefónica, and the prices that it charged for wholesale broadband access at both the national and regional levels was insufficient to cover the costs that an as-efficient operator would have incurred in order to provide retail broadband access. A fine of more than €151 million was imposed on Telefónica in response to what the

²⁷² Preamble to Directive 2009/140/EC, recitals (61)&(62).

²⁷³ Directive 2009/140/EC, Article 2(10), inserting a new Article 13b into the Access Directive.

²⁷⁴ Case COMP/C-1/37.451, 37.578, 37.579 — *Deutsche Telekom AG* (decision of 21 May 2003); upheld on appeal before the Court of First Instance (now the General Court) in Case T-271/03 *Deutsche Telekom v Commission* [2008] ECR II-477 and the European Court of Justice in C-280/08 P *Deutsche Telekom v Commission* (judgment of 14 October 2010).

²⁷⁵ Case COMP/38.784 – *Wanadoo España vs. Telefónica* (decision of 4 July 2007); currently on appeal to the General Court in T-336/07 *Telefónica and Telefónica de España v Commission*.

Commission deemed a very serious breach of Article 82 EC (now Article 102 TFEU) on abuse of dominance. In a third case, *Wanadoo Interactive*,²⁷⁶ the Commission held that the vertically integrated incumbent telecommunications firm in France had abused its dominant market position by charging predatory prices for retail broadband services, which did not allow it to cover its variable costs. Note that in contrast to antitrust cases in the energy sector, in the telecommunications sector the remedies imposed have been behavioural in nature, involving fines and requirements to bring anticompetitive practices to an end.

5.5 *Telecommunications sector in Finland*

Pursuant to section 89 of the Finnish Communications Market Act,²⁷⁷ (393/2003), the Finnish Communications Regulatory Authority may impose an obligation on a telecommunications operator with significant market power to put in place accounting separation, dividing its functions with regard to the leasing out of access rights and interconnection from other service provision activities, where this is deemed necessary in order to monitor pricing of access rights and interconnection. This provision has been widely used with respect to significant market power operators in several markets.

5.6 *Telecommunications sector in Israel*

In Israel, the formerly State-owned telecommunications incumbent, Bezeq, remains vertically integrated in relation to its fixed line services.²⁷⁸ In March 2008, in a report commissioned by the Minister of Communications, the Gronau Committee recommended that Bezeq be subjected to local loop unbundling, in order to develop a wholesale market for fixed communications. The report took the view that structural separation between network and services provision was desirable but not necessary, and so recommended that separation be implemented only if it is established, after introduction of LLU, that Bezeq's actions impede the development of competition. At the same time, the report recommended that the certainty of the regulatory regime should be improved, in order to provide sufficient incentives to the incumbent to invest in next generation networks, and that, as competition in the sector increases, restrictions

²⁷⁶ Case COMP/38.233 – *Wanadoo Interactive* (decision of 16 July, 2003); upheld on appeal in cases Case T-340/03 *France Télécom v Commission* [2007] ECR II-107 and Case C-202/07 P *France Télécom v Commission* [2009] ECR I-2369.

²⁷⁷ 393/2003, available online at www.finlex.fi.

²⁷⁸ Further information on Bezeq is available on its website at www.bezeq.co.il.

on the bundling of services that have been imposed on Bezeq should be removed.²⁷⁹ In August 2008, the recommendations of the Gronau Report were accepted, in large part, by the Minister of Communications, including in relation to LLU.²⁸⁰ Implementation of the report appears to have proceeded slowly, however, and by May 2010 the telecommunications sector in Israel remained to be liberalised effectively.²⁸¹

It is interesting to note that the prohibition on bundling arrangements also applies to Israel's cable communications company, HOT.²⁸² The Gronau Report observed that, in spite of the fact that Israel is one of few countries worldwide that has two fixed infrastructures (fixed telephony and cable), the market has devolved into a duopoly structure, which has led to a slowdown in innovation and upgrading.²⁸³

5.7 *Telecommunications sector in Italy*

In 2002, the telecommunications regulator in Italy, AGCOM, adopted Resolution 152/02/CONS, which ostensibly imposed both accounting and functional separation arrangements on the incumbent telecommunications company, Telecom Italia. Under the Resolution, Telecom Italia's obligations of accounting separation were defined in precise terms, while it was permitted far greater latitude with respect to its duties of operational separation.²⁸⁴ In 2007, AGCOM held a public consultation on functional separation, and proposed legislation that would allow it to impose functional separation on firms with

²⁷⁹ *The Report of the Committee for Promotion of Competition in the Telecommunications Industry in Israel, Executive Summary*, March 2008 (unofficial English translation), also known as the Gronau Report.

²⁸⁰ *The Report of the Committee for Promotion of Competition in the Telecommunications Industry in Israel, Ministerial Adoption*, April 2008 (unofficial English translation).

²⁸¹ European Commission, *Commission Staff Working Document accompanying the Communication for the Commission to the European Parliament and the Council: Taking Stock of the European Neighbourhood Policy (ENP) – Progress Report Israel 2009*, published 12 May 2010 (SEC(2010) 520), p.15.

²⁸² Further information on HOT is available on its website at www.hot.net.il.

²⁸³ Gronau Report, cited fn. 279 above.

²⁸⁴ A. Nucciarelli & B.M. Sadowski, "The Italian way to functional separation: An assessment of background and criticalities" (2010) 34 *Telecommunications Policy* 384-391, p.387.

significant market power.²⁸⁵ All participants in the consultation, except Telecom Italia, highlighted the persistence of a low level of competition especially in the access and broadband segments, in spite of the accounting separation arrangements already in place.

Against this background, Telecom Italia voluntarily put in place formalised functional separation arrangements, by creating a separate business unit, Open Access, to provide access services of an equivalent type and quality to Telecom Italia's retail and wholesale services units.²⁸⁶ This arrangement was complemented by a series of voluntary undertakings that Telecom Italia presented to AGCOM, which were aimed at ensuring equal treatment among Telecom Italia and its competitors in relation to wholesale access. These commitments are mainly behavioural. Thus, Telecom Italia has undertaken, *inter alia*:

- Development a new delivery process to manage its relationships with internal and external customers;
- Establishment of a system of incentives and a behavioural code for employees of Open Access and its wholesale division, geared towards supporting equal treatment—thus, incentives are linked only to the achievement of Open Access targets, rather than to the overall performance of Telecom Italia;
- Performance monitoring related to the provision of disaggregated access services, intended to enhance visibility and transparency;
- Creation of an independent board to monitor, report and advise on implementation of the undertakings, as well as a new access network dispute settlement body which will mediate between providers and thereby solve practical operational issues;
- Publication of rules of access; and
- Adoption of rules on accounting separation and internal access charges.

²⁸⁵ R.W. Crandall, J.A. Eisenach & R.E. Litan, “Vertical Separation of Telecommunications Networks: Evidence from Five Countries” (2010) 62(3) *Federal Communications Law Journal* 493-539, p.515.

²⁸⁶ OECD, *Next Generation Networks and Market Structure: Outline*, [DSTI/ICCP/CISP\(2010\)5](#), pp.19-20.

The product level equivalence to be put in place by these undertakings can broadly be classified as “Equivalence of Outcomes”. Thus, the regulated wholesale products offered by the incumbent operator to alternative operators are *comparable* to the products it provides to its retail division in terms of functionality and price, but may be provided by different systems and processes. In practice, however, many of the systems and procedures used by alternative operators are the same as those used by Telecom Italia’s retail division.

The undertakings and the related model of functional separation were authorised by AGCOM Resolution 718/08/CONS on 11 December 2008, and published in the *Gazzetta Ufficiale* on 29 December 2008.²⁸⁷

5.8 *Telecommunications sector in New Zealand*

In November 2005, the New Zealand government launched a “stocktake” of the telecommunications sector in the country, with a particular focus on broadband development.²⁸⁸ Based on the results of that study, the Telecommunications Amendment Act was passed in December 2006. This legislation, *inter alia*, required the “*robust operational separation*” of the vertically integrated, privatised telecommunications incumbent, Telecom New Zealand (“Telecom”), into at least three business units, to provide wholesale, retail and local access services.²⁸⁹ Operational separation did not, however, require separate ownership of the various separated business units.²⁹⁰ The 2006 Act sets out a threefold purpose for the operational separation of Telecom:

- (a) *to promote competition in telecommunications markets for the long-term benefit of end users of telecommunications services in New Zealand;*
- (b) *to require transparency, non-discrimination, and equivalence of supply in relation to certain telecommunications services; and*

²⁸⁷ Nucciarelli & Sadowski, cited fn. 284 above, pp.387-390.

²⁸⁸ See Ministry of Economic Development, *Stocktake Process, Stakeholder Input and Supporting Documents* (POL/1/27/10/2/1), published 20 April 2006.

²⁸⁹ Telecommunications Amendment Act (No 2) 2006, section 32, inserting a new Part 2A into the Telecommunications Act 2001.

²⁹⁰ New section 69C of the Telecommunications Act 2001.

(c) to facilitate efficient investment in telecommunications infrastructure and services.²⁹¹

As mandated by the 2006 Act, a public consultation was held by the Minister for Communications and Information Technology in order to assess Telecom's proposals for operational separation.²⁹² Following certain amendment to Telecom's original amendment plan, operational separation was implemented on 31 March 2008.²⁹³ Telecom now comprises five customer-facing business units: a retail unit providing fixed line, mobile and internet services to consumers and small and medium business customers; an operationally separate wholesale business unit providing next generation wholesale network products to service providers; an operationally separate unit that manages Telecom's local access network; a specialised unit that provides technology services for larger business customers; and an Australian subsidiary providing telecommunications services in Australia.²⁹⁴

5.9 Telecommunications sector in Poland

Beginning in 2007, the telecommunications regulator in Poland, the President of the Office of Electronic Communications (Urząd Komunikacji Elektronicznej, or UKE), began to explore the option of imposing functional separation on the wholesale operations of the vertically integrated telecommunications incumbent, Telekomunikacja Polska S.A. (TP).²⁹⁵ Functional separation was provisionally considered appropriate in order to address the lack of effective competition in the telecommunications sector in Poland, which was attributed to persistent anti-competitive behaviour by TP that obstructed the development of its downstream competitors. A report commissioned by the President of UKE and published in late 2008 took the view that functional separation could provide an effective remedy to eliminate

²⁹¹ New section 69A of the Telecommunications Act 2001.

²⁹² See Ministry of Economic Development, *Development of Requirements for the Operational Separation of Telecom. Consultation Document*, published 5 April 2007.

²⁹³ See Minister for Communications and Information Technology Media Statement, *Telecom Separation a Fact*, published 31 March 2008.

²⁹⁴ Further information on Telecom New Zealand is available on its website at www.telecom.co.nz.

²⁹⁵ UKE press release, *Is Functional Separation Necessary?*, published 18 January 2008. All UKE press releases cited in this section of the report are available (also in English) on UKE's website at www.en.uke.gov.pl.

TP's anti-competitive behaviour, provided it was backed up with additional regulatory measures required to address other market problems.²⁹⁶

In January 2009, the President of UKE announced that, in light of the finding of this and other reports, she was formally considering the imposition of functional separation on TP, with the objective of establishing a separate unit independent of TP in order to provide wholesale telecommunications services.²⁹⁷ Structural and behavioural remedies initially offered by TP in the form of a "Charter of Equivalence" were rejected by the President of UKE as insufficient to solve the existing competition problems.²⁹⁸ In August 2009, the President of UKE launched a public consultation on the appropriateness of functional separation as a remedy to be imposed on TP.²⁹⁹ In September 2009, shortly before the public consultation closed, TP submitted a revised "Charter of Equivalence" to the President of UKE, which was intended to correct the deficiencies of its earlier proposal.³⁰⁰ On 22 October 2009, the parties announced an agreement whereby TP undertook to honour its existing regulatory obligations, as well as take a range of actions to ensure equal treatment of all market participants. These included, *inter alia*, commitments to separate out its wholesale unit, to ensure personnel did not engage in discriminatory behaviour and to achieve transparency. However, functional separation *per se*, requiring an entirely independent wholesale division, was not mandated. TP also committed to significant investment in its broadband network over the following three years.³⁰¹

In July 2010, the President of UKE launched a further consultation process amongst market participants, for the purposes of determining whether the 2009 agreement had been successful in addressing the market problems identified

²⁹⁶ UKE press release, *The Report on Legitimacy of TP SA's separation*, published 26 November 2008.

²⁹⁷ UKE press release, *Functional Separation of TP*, published 21 January 2009.

²⁹⁸ UKE press release, *Summary of Consultations on the Charter of Equivalence*, published 8 July 2009. This document contained a substantial discussion of the deficiencies of TP's initial separation proposal and why it failed to address the regulator's concerns.

²⁹⁹ UKE press release, *Consultations on the Appropriateness of Functional Separation of TP*, published 24 August 2009.

³⁰⁰ UKE press release, *The President of UKE gets new version of Charter of Equivalence from TP*, published 11 September 2009.

³⁰¹ UKE press release, *The agreement between TP SA and the President of UKE*, published 22 October 2009.

previously, in particular the need for equal treatment, or whether conversely formal functional separation is required. The stated outcome of this process is the publication of a report that will allow the regulator to come to a decision regarding future required actions in this area.³⁰²

In June 2011, the European Commission imposed a fine of more than €127 million on TP for abuse of its dominant market position, contrary to Article 102 TFEU. In particular, the Commission condemned TP's efforts to prevent or delay the entry of competitors into Poland's broadband market, through its failure to make available access to its fixed network and wholesale broadband services. The abuse itself comprised various activities: that "*TP proposed unreasonable conditions, delayed the negotiation processes, rejected orders in an unjustifiable manner and refused to provide reliable and accurate information to alternative operators.*" The Commission Decision also requires TP to put an end to any on-going anticompetitive conduct, and to refrain from engaging in such practices in the future.³⁰³

5.10 *Telecommunications sector in Slovenia*

Slovenia acceded to the EU in 2004 and thus is subject to the requirements of its telecommunications framework.³⁰⁴ Both LLU and an obligation to provide wholesale bitstream access have been introduced in Slovenia, with considerable success. The Slovenian government has taken the position that functional separation in the telecommunications sector is unlikely, on the basis that competition in the sector has increased considerably in the last two years.³⁰⁵

³⁰² UKE press release, *Invitation to the assessment of the functioning of the Agreement between TP and UKE*, published 13 July 2010.

³⁰³ See Commission Press Release, IP/11/771 *Antitrust: Commission fines Telekomunikacja Polska S.A € 127 million for abuse of dominant position*, published 22 June 2011. The full text of the Decision has not yet been published.

³⁰⁴ See European Commission Staff Working Document accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Progress Report on the Single European Electronic Communications Market (15th Report)*, published 25 May 2010 (COM(2010)253), pp.365-376, for a review of Slovenia's progress in implementing these requirements.

³⁰⁵ KPMG Report, cited fn. 262 above, pp.27-28.

Functional separation is viewed as an extreme option, to be considered only if all other measures were insufficient.³⁰⁶

5.11 *Telecommunications sector in Sweden*

Functional separation of the incumbent telecommunications provider in Sweden, TeliaSonera, has occurred on what has been described as a “quasi-voluntary” basis.³⁰⁷ In 2007, the Swedish telecommunications regulator, the Post and Telecom Agency (PTS), was tasked by the government with an assessment of the electronic communications sector, in order to improve transparency and equal treatment in the market. PTS proposed legislative changes which included the power to impose functional separation on TeliaSonera in relation to (at least) those assets used to provide local loop products. Following a consultation process, these proposals were adopted by the Parliament, and legislation giving PTS the power to impose functional separation entered into force on 1 July 2008.

Concurrently with the legislative procedure, however, TeliaSonera voluntarily engaged in functional separation by creating a wholly-owned subsidiary, Skanova Access AB, on 1 January 2008. The main function of Skanova is to sell wholesale access to copper-related infrastructure on the same commercial terms to all operators on the Swedish market, including TeliaSonera itself. Management of TeliaSonera’s fibre network has also been entrusted to Skanova. TeliaSonera has pledged equal treatment for all customers, including the establishment of an Equality of Access Board with external members to monitor and report on equal treatment issues.³⁰⁸ Most likely as a result of TeliaSonera’s voluntary compliance, compulsory functional separation has not been introduced by PTS under the legislation in force since July 2008.

5.12 *Telecommunications sector in Switzerland*

Although structural separation has not been introduced for the telecommunications sector in Switzerland, and local loop unbundling was mandated only in 2007, three features of the sector are worthy of note.³⁰⁹

³⁰⁶ KPMG Report, cited fn. 262 above, p.33.

³⁰⁷ Berkman Report, cited fn. 18 above, p.313.

³⁰⁸ Berkman Report, cited fn. 18 above, pp.312-313, and O. Teppayayon & E. Bohlin, “Functional Separation in Swedish Broadband Market: Next Step of Improving Competition” (2010) 34 *Telecommunications Policy* 375-383.

³⁰⁹ Berkman Report, cited fn. 18 above, pp.314-324.

Firstly, intermodal competition in broadband provision has been particularly strong in Switzerland, between the incumbent majority government-owned telecommunications company that offers DSL, Swisscom, and cable companies. Secondly, small utility companies in Switzerland have also entered the broadband market, investing in fibre-to-the-home (FTTH) networks. In response, Swisscom in 2008 announced plans to invest in its own FTTH network, which will involve the deployment of four fibres to each home. One of these fibres will be used by Swisscom, and the other three can be bought or rented by other providers. Swisscom has already entered into a nation-wide agreement with Sunrise, its strongest competitor, under which Sunrise will buy Swisscom's wholesale fibre products. Thirdly, the Swiss telecommunications regulator, ComCom, initiated a series of roundtable talks on FTTH between market participants, in order to co-ordinate plans for broadband development. By October 2009, participants had agreed on common technical standards for fibre deployment, which will facilitate customer switching between providers.

5.13 *Telecommunications sector in the United Kingdom*

In September 2005, Ofcom, the telecommunications regulator in the United Kingdom, accepted a series of legally binding undertakings from the incumbent vertically integrated telecommunications provider, BT.³¹⁰ The undertakings, comprising both behavioural and structural commitments that amounted to functional separation of BT, were provided by the firm pursuant to the domestic competition rules, the Enterprise Act 2002, rather than under the sector-specific telecommunications regulations. On the basis of these undertakings, BT agreed, *inter alia*, to separate its delivery and systems functions, and to put in place an equality of access regime for its wholesale network products. Equality of access has two dimensions: delivery of certain of BT's wholesale products and services on an "equivalence of inputs" (EOI) basis, and secondly, the putting in place of management changes within BT to support equivalence at the product level.³¹¹

The EOI standard requires that BT must consume exactly the same access and wholesale products and on the same terms as its competitors. This required

³¹⁰ See J. Whalley & P. Curwen, "Equality of access and local loop unbundling in the UK broadband telecommunications market" (2008) 25 *Telematics and Informatics* 280-291 for an account of the process, with a review of the initial stages of implementation.

³¹¹ Ofcom, *Final statements on the Strategic Review of Telecommunications, and undertakings in lieu of a reference under the Enterprise Act 2002*, published 22 September 2005, paragraph 4.9.

the creation of a new organisation for the provisions of network access services, Openreach, which is operationally distinct from the rest of the BT Group, as well as the separation of BT's upstream service provider, BT Wholesale. BT undertook to alter its employee incentive structures (e.g. bonuses, long term incentive plans) to ensure that all incentive remuneration of BT employees working for its Openreach or BT Wholesale divisions would reflect only the incentives of Openreach or BT Wholesale, respectively. Moreover, employees of Openreach are not permitted to work for other divisions within the BT group, save with the written approval of Ofcom.³¹² In this manner, the functional separation of BT put in place by the undertakings sought to duplicate the effects of a full legal separation, yet without a change in the ultimate ownership of the group. An Equivalence of Access Board, supported an administrative division called the Equivalence of Access Office, has also been established, which is tasked with monitoring, reporting and advising BT on its compliance with the objectives. Provision has also been made for the possibility of variation of the undertakings by mutual agreement between BT and Ofcom.³¹³

In May 2009, Ofcom published an implementation review of the process and the results of BT's functional separation.³¹⁴ The review suggests that the net effects of the separation process, to date, have been positive.³¹⁵ Openreach has made good progress in becoming a functionally independent entity.³¹⁶ Increased competition in the broadband sector has brought substantial benefits, including:

- Increased take-up of new services and packages;
- Greater affordability and value for money;
- Increased consumer engagement with fixed telecommunications services;
- Growing levels of switching in broadband; and

³¹² Ofcom, *Strategic Review*, cited fn. 311 above, at Annex A: *Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002*, particularly sections 5 and 6.

³¹³ Ofcom, *Strategic Review*, cited fn. 311 above, at Annex A: *Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002*, section 18.

³¹⁴ Ofcom, *Impact of the Strategic Review of Telecoms, Implementation Review*, published 29 May 2009.

³¹⁵ Ofcom, *Implementation Review*, cited fn. 314 above, p.3.

³¹⁶ Ofcom, *Implementation Review*, cited fn. 314 above, p.46.

- High satisfaction levels among residential broadband customers, although business customers tended to be less satisfied.³¹⁷

At the same time, communications providers have continued to make significant investment in delivering LLU-based services, while BT has been investing in its next generation core network.³¹⁸ On the other hand, the review documents some less successful aspects of the separation process, in particular Openreach’s approach to product development and its implementation of systems separation.³¹⁹ Moreover, the review cautions that the positive results should not be attributed, solely, to the separation process, as other potentially relevant changes occurred in the telecommunications sector at the same time (e.g. creation of the Office of the Telecommunications Adjudicator).³²⁰

The Ofcom report concludes that the functional separation arrangement agreed with BT in 2005 remains “*an appropriate and comprehensive solution to the competition concerns*” identified by Ofcom previously. In view of the evolving nature of the telecommunications sector, however, the report notes the necessity of continually reviewing the arrangement, in order to determine whether and how it may need to be adapted.³²¹

6. Developments in rail

The following section of this report provides a non-exhaustive overview of developments with respect to structural and behavioural separation in the rail sector in OECD Member countries and the EU. While the focus of the Recommendation is on structural separation, experiences with behavioural separation such as accounting or functional separation are included as well. In order to focus on the most significant developments, not all countries are listed

6.1 Rail sector in Australia

Vertical separation and open access to rail infrastructure in Australia has occurred at both state and federal levels, through a variety of mechanisms.

³¹⁷ Ofcom, *Implementation Review*, cited fn. 314 above, pp.4-5.

³¹⁸ Ofcom, *Implementation Review*, cited fn. 314 above pp.6, 33-35.

³¹⁹ Ofcom, *Implementation Review*, cited fn. 314 above, p.8.

³²⁰ Ofcom, *Implementation Review*, cited fn. 314 above, pp.4, 14.

³²¹ Ofcom, *Implementation Review*, cited fn. 314 above, p.10.

6.1.1 *Access undertakings*

At the federal level, the Australian Rail Track Corporation (ARTC) is a federal government-owned agency, created in 1997, which is intended to provide a “one-stop shop” for rail transport undertakings that wish to access the interstate rail network. ARTC owns a number of interstate railway lines and leases others from the Victoria and New South Wales governments, managing, developing, maintaining and operating this infrastructure. ARTC also has a wholesale agreement in place that allows it to sell access on several interstate lines in Western Australia. The remainder of the interstate railway lines are controlled by various state government agencies, with one line, the Alice Spring to Darwin line, controlled by a private sector consortium. As of November 2010, there were nine major railway transport undertakings operating on ARTC-owned or -leased railway lines. Operators pay a two-part charge for access to these lines, comprising a fixed component based on capacity usage and a variable component based on the tonnage of the train plus distance travelled.³²²

The ARTC is itself regulated by the Australian Competition & Consumer Commission (ACCC), under Part IIIA of the Trade Practice Act 1974. Pursuant to this legislation, the ARTC is required to submit undertakings regarding access conditions to the ACCC, which has the power to reject or require revisions to the access undertakings where it considers it necessary to do so.³²³

6.1.2 *Declarations of mandatory access*

Part IIIA of the Trade Practices Act 1974 also makes provision for the granting of mandatory third party rights of access to certain facilities. The infrastructure concerned must be of national importance, have natural monopoly characteristics and access must be essential in order to promote a material increase in competition in the relevant market. The facility is then subject to a “declaration” by the relevant minister. Where the parties concerned are subsequently unable to agree access conditions, the ACCC is empowered to

³²² This information is taken from the ARTC’s website, available at www.artc.com.au.

³²³ Further information on the ACCC’s functions in relation to access undertakings is available on its website at www.accc.gov.au. For an example of a modified access undertaking offered by ARTC, following an indication for the ACCC that it planned to reject the ARTC’s original proposal, see ACCC, *Consultation Paper in relation to the Australian Rail Track Corporation’s proposed Hunter Valley Rail Network Access Undertaking*, published 16 September 2010 and available on the ACCC’s website.

decide the dispute by making a determination.³²⁴ This provision has been invoked by a small mining company, the Fortescue Metals Group, which operates in the Pilbara region of Western Australia, in a bid to gain access to four vertically integrated, privately-owned railway lines in the area. Two of the lines concerned are owned by BHP Billiton and two by Rio Tinto, both large mining conglomerates with operations in the Pilbara area. Following a recommendation from the National Competition Council, the designated minister declared all four lines to be essential facilities under Part IIIA. On appeal, however, the Australian Competition Tribunal (ACT) overturned the declaration as regards two of these lines, one owned by BHP Billiton and the other by Rio Tinto. With respect to those particular rail lines, which carry the bulk of the two companies' production from the area, the ACT held that the public interest in avoiding unnecessary duplication of the facilities was outweighed by the costs of granting access, in particular in terms of disruption to BHP Billiton and Rio Tinto in the companies' own use of their respective facilities. Conversely, on the other two rail lines, which are used less frequently, the benefits of granting access outweighed the costs. Notably, in the concluding remarks to its judgment, the ACT made reference to the considerable length of time required to complete access procedures under Part IIIA. It suggested that, while the objective of community welfare pursued by Part IIIA remains of great relevance, the structure of the legislation itself may benefit from reform.³²⁵

6.1.3 *Privatisation*

The last remaining state-owned, vertically integrated rail company in Australia, Queensland Rail, is currently undergoing a process of reorganisation and part-privatisation. As of 1 July 2010, the company was split into two entities: QR National, which comprises the national rail freight operations of QR together with the 2300km central Queensland heavy-haul coal network and supporting maintenance services,³²⁶ and a new entity retaining the name Queensland Rail, which has responsibility for non-coal freight operations and passenger services within the state, together with infrastructure and

³²⁴ See ACCC, *Arbitrations: A guide to resolution of access disputes under Part IIIA of the Trade Practices Act 1974*, April 2006, for further information on the declaration procedure. For a more critical view of the procedure under Part IIIA, see H. Ergas, "An Excess of Access: An Examination of Part IIIA of the Australian Trade Practices Act" (2009) 16(4) *Agenda* 37.

³²⁵ *In the matter of Fortescue Metals Group Limited* [2010] ACompT 2 (judgment of 30 June 2010).

³²⁶ Further information on QR National is available on its website at www.qrnational.com.au.

maintenance.³²⁷ The intention of the Queensland government was to privatise QR National as a vertically integrated company, while Queensland Rail would remain a vertically integrated state-owned corporation.³²⁸ This proposal received considerable criticism from business and the federal government, in particular because of the decision to retain QR National's vertically integrated structure on privatisation.³²⁹ Nonetheless, QR National's initial public offering took place in November 2010.³³⁰

6.2 *Rail sector in Belgium*

On 1 January 2005, the State-owned, formerly vertically integrated rail company in Belgium, SNCB/NMBS,³³¹ re-organised in order to introduce a degree of functional separation in line with EU law requirements. A holding company, SNCB-Holding, was created, which has two subsidiary companies: Infrabel, which develops, maintains and operates the rail infrastructure, and SNCB, which operates passenger and freight rail transport services.³³²

6.3 *Rail sector in Canada*

Canada has two major transcontinental railway systems, which are owned and operated by two separate private companies, the Canadian National Railway (CN) and the Canadian Pacific Railway (CP), respectively. In addition, both CN and CP operate freight rail services on their respective networks.³³³

³²⁷ Further information on Queensland National is available on its website at www.queenslandrail.com.au.

³²⁸ "QR National IPO seeks to defy stagnant markets", 50(8) *International Railway Journal*, August 2010, p.20. See also *Financial Times*, "QR National looks to raise A\$5bn in IPO", published 10 October 2010.

³²⁹ See, for example, *The Courier-Mail*, "Fraser hits back over Ferguson's QR privatisation "disaster" claims", published 25 March 2010, and "Coal miners mount \$A 4.85 billion bid to head-off QR privatisation" 50(7) *International Railway Journal*, July 2010, p.8.

³³⁰ *Financial Times*, "QR National Climbs on Trading Debut", published 21 November 2010.

³³¹ The name of the Group is Société Nationale des Chemins de fer Belges (SNCB) in French and Nationale Maatschappij der Belgische Spoorwegen (NMBS) in Flemish.

³³² Further information on the SNCB/NMBS Group is available on its website at www.b-rail.be.

³³³ Further information on CN is available on its website at www.cn.ca. Further information on CP is available on its website at www.cpr.ca.

Nation-wide passenger rail services are provided by VIA Rail Canada, a Crown corporation (State-owned company providing commercial services), over the networks that are owned and operated by CN and CP.³³⁴ The rail sector in Canada is regulated by the Canadian Transportation Agency, an independent administrative tribunal, which also acts as economic regulator for the air and marine transport sectors.³³⁵

The current regulatory structure, under the Canada Transportation Act (CTA), appears to envisage mainly competition between different railway networks for freight transport, which is facilitated by switching at interchange points on the lines.³³⁶ While the CTA also gives the Canadian Transportation Agency the power to impose regulated running rights over a railway network, the regulator has construed this power very narrowly—available only as an exceptional measure where there is evidence of market failure or abuse—and so the regulated running rights provisions are not currently in use. Nonetheless, a number of commercially-negotiated running rights agreements are in place.³³⁷

In April 2008, the Canadian government launched a review of the functioning of the freight rail sector in Canada, focusing primarily on the quality of the services received by shippers.³³⁸ In its final report, provided to the Minister of State (Transport) in December 2010, the review panel concluded that while railway deregulation in Canada has been a success for the most part, significant market problems exist. The panel explained there were significant service problems identified during the two-year study period. Although the railways have taken steps to address these issues, problems still exist. The panel added that these service problems affect not only individual shippers but also particular sectors and regions of the country.³³⁹ In seeking to remedy these service issues, the review panel considered the need to balance the interests of

³³⁴ Further information on VIA Rail Canada is available on its website at www.viarail.ca.

³³⁵ Further information on the Canadian Transportation Agency is available on its website at www.otc-cta.gc.ca.

³³⁶ Transport Canada, *Rail Freight Service Review – Interim Report*, TP 15042, published October 2010, p.7-8. See also *Rail Freight Service Review – Final Report*, TP 15042, published January 2011.

³³⁷ *Rail Freight Service Review – Interim Report*, cited fn. 336 above, p.9.

³³⁸ Transport Canada Press Release, *Promised Rail Freight Service Review Begins*, published 7 April 2010.

³³⁹ Transport Canada, *Rail Freight Service Review – Final Report*, TP 15042, published January 2011, pp.45.

various stakeholder groups, including the overall interests of the Canadian economy.³⁴⁰ The final report recommends a commercial approach that aims to improve rail service through four commercial measures which are not legally binding. They are:

- Railways should provide 10 days advance notice of service changes.
- Railways and stakeholders should negotiate service agreements.
- A fair, timely and cost-effective commercial dispute resolution mechanism should be developed.
- Supply chain performance should be monitored through enhanced bilateral performance reporting between shippers and railways, and through public performance reporting.

The panel recommended that two facilitators (one to develop a commercial dispute resolution process and a second to develop the metrics for public performance reporting) be appointed to work with stakeholders for six months and report back to the Minister on the success of the commercial measures and potential solutions.³⁴¹ If key issues were not resolved and the commercial approach were to fail, the Panel provided legislative fallback provisions for each of the commercial measures, which it believed the Minister should implement if recommended by the facilitators.³⁴²

In its March 18, 2011 response to the review, the Canadian government announced that it accepted the panel's commercial approach and intends to implement the following steps to improve performance across the supply chain:

- Initiate a six-month facilitation process with shippers, railways and other stakeholders to negotiate a template service agreement and streamlined commercial dispute resolution process.
- In support of the commercial measures proposed by the panel, table a bill to give shippers the right to a service agreement with the railways.

³⁴⁰ *Rail Freight Service Review – Final Report*, pp.37.

³⁴¹ *Rail Freight Service Review – Final Report*, pp.48-56.

³⁴² *Rail Freight Service Review – Final Report*, pp.56-61.

- Establish a Commodity Supply Chain Table to provide a forum to address issues that affect the freight logistics system and develop public supply chain performance metrics.
- In collaboration with Agriculture and Agri-Food Canada, Transport Canada would lead an in-depth analysis of the grain supply chain to focus on issues that affect that sector and identify potential solutions.³⁴³

In summary, the government's response combines a commercial approach, supported by a proposed bill to give shippers the right to a service agreement and takes a broader supply chain perspective to continue addressing logistical issues and develop public performance metrics. This approach was considered the best way to achieve timely, flexible and customized solutions, improve relationships and enhance the effectiveness, efficiency and reliability of the entire rail freight supply chain.

6.4 Rail sector in Chile

While reasonably extensive in the past, the Chilean rail network has suffered greatly as a result of competition from other modes of transport (road and air). The majority of the rail infrastructure in Chile is operated and maintained by the State-owned railway company, Empresa de los Ferrocarriles del Estado (EFE). EFE has been subject to a degree of functional separation, with the result that passenger services are now provided by four subsidiary companies that operate on a regional basis: Metro Regional de Valparaíso S.A., through its service Merval; Trenes Metropolitanos S.A., through its service Metrotren; Servicio de Trenes Regionales Terra S.A., through its service TerraSur; and Ferrocarriles Suburbanos de Concepción S.A., through its service Fesub.³⁴⁴ Several railway lines are operated by other companies, for example the State mining undertaking, Codelco. The narrow gauge network in the north of the country was privatised in 1997, and its owner, Ferronor, operates both the infrastructure and transport services on the line.³⁴⁵ Furthermore, freight services in the south of the country are run by concessionaires, with only the

³⁴³ Transport Canada Press Release, *Government of Canada Acts to Improve Rail Supply Chain (Winnipeg)*, published 18 March 2011.

³⁴⁴ Further information on EFE and its subsidiary companies is available on its website at www.efe.cl.

³⁴⁵ "Getting EFE Back on Track", 50(1) *International Railway Journal*, January 2010, p. 36. Further information on Ferronor is available on its website at www.ferronor.cl.

infrastructure operated by EFE.³⁴⁶ EFE has suffered serious financial difficulties in recent years, and by 2007 was on the brink of bankruptcy.³⁴⁷ In reorganising to address these problems, EFE has increasingly taken the form of a holding company.³⁴⁸

6.5 Rail sector in Estonia

In 2001, the largest Estonian railway operator, Eesti Raudtee (EVR), was privatised together with its rail infrastructure. However, the sector was not liberalised, so that while the private infrastructure owner provided access, this was not required to be on a transparent nor non-discriminatory basis—resulting, in essence, in a private monopoly. In January 2007, the rail operator was re-nationalised when the Estonian State bought back the shareholding of the private rail operator, with the result that EVR is now once again a wholly State-owned company.³⁴⁹ Functional separation of EVR took place in January 2009, with the creation of two wholly owned subsidiary companies: AS EVR Infra, which maintains and operates the rail infrastructure owned by EVR, and AS EVR Cargo, which provides freight services on the network.³⁵⁰

About 75% of rail services in Estonia involve freight transport. Passenger transport services, which comprise the remaining 25% of services, are provided by three undertakings: Edelaraudtee AS, a private company which provides domestic passenger and freight services and which, in addition, owns and operates 300km of the rail network in Estonia;³⁵¹ the State-owned company Elektriraudtee AS, which provides passenger services in the region around

³⁴⁶ “Getting EFE Back on Track”, cited fn. 345 above.

³⁴⁷ “An Ill Wind Blows for EFE”, 47(6) *International Railway Journal*, June 2007.

³⁴⁸ “Getting EFE Back on Track”, cited fn. 345 above.

³⁴⁹ IBM, *Rail Liberalisation Index 2007*, published Brussels, 17 October 2007, p.115.

³⁵⁰ Information on the restructuring of EVR, which took place on 14 January 2009, is available on EVR’s website at www.evr.ee. See also “Estonia to Split Operations from Infrastructure”, 47(11) *International Railway Journal*, November 2007, p.8.

³⁵¹ Further information on Edelaraudtee is available on its website at www.edel.ee.

Tallinn;³⁵² and GoRail, a private company which provides international passenger services between Tallinn and Moscow.³⁵³

6.6 *Rail sector in the European Union*

Vertical separation between railway undertakings providing transport services and rail infrastructure managers is a key aspect of the rail liberalisation programme that has been pursued by the EU, and which has had a significant impact on the structure of the rail sector in EU Member States. Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways³⁵⁴ mandated accounting separation between railway undertakings and infrastructure managers, as well as a requirement of access to infrastructure under equitable conditions in other Member States for railway undertakings and groups of undertakings providing international passenger and/or freight transport services. The First Railway Package of 2001—comprising Directives 2001/12/EC, 2001/13/EC and 2001/14/EC—considerably expanded and strengthened this regime:

- Directive 2001/12/EC³⁵⁵ strengthened the requirements for access to infrastructure on a non-discriminatory basis, and accounting separation requirements between railway undertakings and infrastructure managers.
- Directive 2001/13/EC³⁵⁶ set down criteria for the licensing of railway undertakings on a non-discriminatory basis.
- Directive 2001/14/EC³⁵⁷ covered, *inter alia*, non-discriminatory access to various services set out in Annex II of the directive, in practice

³⁵² Elektriraudtee was separated from EVR in 1998. Further information on the company is available on its website at www.elektriraudtee.ee.

³⁵³ Further information on GoRail is available on its website at www.gorail.ee.

³⁵⁴ OJ L 237/25, 24.8.1991.

³⁵⁵ Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways (OJ L 75/1, 15.3.2001).

³⁵⁶ Directive 2001/13/EC of the European parliament and of the Council of 26 February 2001 amending Council Directive 95/18/EC on the licensing of railway undertakings (OJ L 75/26, 15.3.2001).

³⁵⁷ Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the

necessary to exercise the right of access to infrastructure; incentives to encourage efficient performance by railway undertakings and infrastructure managers; fair and non-discriminatory capacity allocation; and the principles of charging for access to infrastructure.

In the view of the European Commission, “*the development of EU rail market access legislation has progressively encouraged market opening based on a genuine separation between infrastructure management and transport operations.*”³⁵⁸ Thus, pursuant to Directive 2004/51/EC, the market for international freight services was opened to competition from January 2006 on, while the market for all types of rail freight services was opened to competition from January 2007 on.³⁵⁹ The market for international passenger services—meaning train services crossing at least one border of a Member State, where the principal purpose is to carry passengers between stations located in different Member States—was fully opened to competition from January 2010 on.³⁶⁰ Nonetheless, in spite of the vertical separation requirements that have already been put in place, the establishment of a fully open rail market within the EU has proven difficult to achieve in practice. A Communication from the Commission in 2010 on the rail sector highlighted some of the difficulties that persist, including problems regarding non-discriminatory and transparent access to rail infrastructure, a lack of independence on the part of national rail regulators and difficulties in securing investment in rail.³⁶¹ Liberalisation of the domestic passenger sector has progressed particularly slowly.

levying of charges for the use of railway infrastructure and safety certification (OJ L75/29, 15.3.2001).

³⁵⁸ Communication from the Commission concerning the development of a Single European Railway Area, COM(2010) 474 final, published 17 September 2010, p.6.

³⁵⁹ Directive 2004/51/EC of the European Council and of the Parliament of 29 April 2004 amending Council Directive 91/440/EEC on the development of the Community's railways (OJ L 164/164, 30.4.2004).

³⁶⁰ Directive 2007/58/EC of the European Parliament and of the Council of 23 October 2007 amending Council Directive 91/440/EEC on the development of the Community's railways and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure (OJ L 315/44, 3.1.2007).

³⁶¹ Communication from the Commission on Single European Railway Area, cited fn. 358 above.

The Commission has adopted a two-pronged approach to address the market problems that remain within the rail sector. Firstly, it has initiated formal legal proceedings before the Court of Justice in 2010 against 13 Member States on the basis that each has failed to implement fully the requirements of the First Rail Package.³⁶² Secondly, the Commission in September 2010 published its proposal for a Directive establishing a Single Rail Area in the EU, which would consolidate and amend the existing legislation in this area—promising clarification to aid transposition and efficient implementation by the Member States, legal simplification through consolidation and modernisation of the current provision where necessary.³⁶³ In particular, the proposed Directive seeks to address the three key problem areas remaining within the rail sector:

- In order to increase *competition* in the rail market, the proposed Directive would require, *inter alia*, improved access to rail-related facilities such as maintenance facilities, terminals, and passenger information and ticketing facilities; establishment of explicit rules on conflict of interest and discriminatory practices in the rail sector; and more publication of detailed “network statements” on the availability of rail infrastructure and conditions of use.
- In order to strengthen the *powers of national rail regulators*, the proposed Directive would require, *inter alia*, extension of the competence of national regulator to rail-related services; greater independence of regulators from other public bodies; and general enhancement of the powers of regulators with respect to e.g. sanctions, auditing and investigatory powers.
- In order to increase *investment* in the rail sector, the proposed Directive would, require, *inter alia*, more precise and smarter

³⁶² See European Commission Press Release, IP/10/807 *Rail services: Commission legal action against 13 Member States for failing to fully implement first railway package*, published 24 June 2010. Prior to initiation of formal proceedings against the 13 Member States concerned, the Commission had in 2008 sent formal notices to 24 Member States regarding their failures to implement the First Rail Package correctly; see European Commission Press Release, IP/08/1031 *Commission calls on Member States to ensure correct implementation of the First Rail Package*, published 26 June 2008.

³⁶³ European Commission, *Proposal for a Directive of the European Parliament and of the Council establishing a single European railway area (Recast)*, SEC(2010) 1043&1042, COM(2010) 475 final, published 17 September 2010, pp.4-5.

infrastructure charging rules, as well as long-term strategies between Member States and infrastructure managers aimed at improving performance and ensuring greater predictability on the development of infrastructure.³⁶⁴

The Commission now plans to launch a consultation on the proposed measures for the rail sector.

In addition the European Commission has complemented its infringement proceedings and regulatory actions by conducting two antitrust investigations and in particular by carrying out unannounced inspections in March 2011.³⁶⁵

6.7 *Rail sector in France*

The railway sector in France is dominated by two State-owned enterprises:³⁶⁶ Réseau Ferré de France (RFF), which is the owner and manager of the rail infrastructure,³⁶⁷ and SNCF, which is France's principal rail transport services provider. As of 2010, SNCF has been divided into five groups, as follows: SNCF Infra, providing infrastructure maintenance services; SNCF Proximités, providing regional and metropolitan passenger transport; SNCF Voyages, providing long-distance passenger services; SNCF Geodis, providing freight transport services; and Gares & Connexions, which develops and

³⁶⁴ See European Commission Press Release, IP/10/1139 *Commission sets out measures to improve rail services*, published 17 September 2010, as well as the Explanatory Memorandum to the proposed Directive, cited fn. 363 above.

³⁶⁵ In one case the companies involved are active in the rail freight sector in Baltic countries and the suspected conducts relate to possible violation of EU competition rules that prohibit cartels and restrictive business practices and/or the abuse of a dominant market position (respectively Articles 101 and 102 of the Treaty on the Functioning of the European Union). In the other case, the investigation concerns Deutsche Bahn AG and some of its subsidiaries and the alleged anticompetitive behaviour relates to the fact that Deutsche Bahn Energie, the de facto sole supplier of electricity for traction trains in Germany, would be giving preferential treatment to the group's rail freight arm, in breach of the rules prohibiting the abuse of a dominant market position (Article 102 of the Treaty on the Functioning of the European Union). The fact that the Commission carried out such inspections does not mean that the companies are guilty of anti-competitive behaviour nor does it prejudice the outcome of the investigations themselves.

³⁶⁶ In French, both undertakings are classified as an *établissement public à caractère industriel et commercial*.

³⁶⁷ Further information on RFF is available on its website at www.rff.fr/fr.

manages the French rail network's train stations, as SNCF has retained ownership of these facilities.³⁶⁸ Although RFF has been the legal owner and operator of the rail infrastructure in France since 1997, it still contracts out most of the maintenance functions to SNCF, these services being provided by SNCF Infra.³⁶⁹ Railway safety issues are dealt with by the Établissement public de sécurité ferroviaire (EPSF), which is a public administrative body under the auspices of the Minister for Transport.³⁷⁰ As of November 2010, 11 rail companies offered freight and/or passenger services on the French rail network, including SNCF.³⁷¹

Prior to 2009, and in conformity with Directive 2001/14/EC, the regulatory function for the rail sector in France was located within the government.³⁷² By law of 8 December 2009,³⁷³ however, a legally and financially-independent rail regulator has been created, the Autorité de régulation des activités ferroviaires (ARAF). The objective of the regulator is to ensure access to rail infrastructure on a fair and non-discriminatory basis, in order to fully open the sector to competition. Operators that feel they have been discriminated against will have a right of appeal to ARAF, which will have investigatory and sanctioning powers in this regard. ARAF will also regulate access charges to be levied by RFF. It is envisaged that the structure of the agency will resemble that of the French energy regulator, with a college of seven commissioners, supported by a secretariat.³⁷⁴

³⁶⁸ Further information on SNCF is available on its website at www.sncf.com.

³⁶⁹ See C.A. Nash, "Passenger Railway Reform in the Last 20 Years – European Experience" (2008) 22 *Research in Transportation Economics* 61, p.63.

³⁷⁰ See EPSF's website at www.securite-ferroviaire.fr/fr for further information.

³⁷¹ Figure taken from RFF's website at www.rff.fr/fr, last accessed February 2011.

³⁷² See Nash, cited fn. 369 above, p.65.

³⁷³ Loi n° 2009-1503 du 8 décembre 2009 relative à l'organisation et à la régulation des transports ferroviaires et portant diverses dispositions relatives aux transports.

³⁷⁴ See the fact-sheet issued by the Direction General des Infrastructures, des Transports et de la Mer, *L'Autorité de régulation des activités ferroviaires (ARAF)*, published March 2010, available at www.developpement-durable.gouv.fr. See also "France creates independent regulator", 50(1) *International Railway Journal*, January 2010, p.5.

6.8 *Rail sector in Germany*

The State-owned, incumbent rail undertaking in Germany, Deutsche Bahn AG, is generally regarded as having retained its status as a vertically integrated company.³⁷⁵ Nevertheless, since rail reforms in 1994 it has taken the form of a holding company, with distinct sub-divisions at the upstream level—DB Netze for the network and DB Station & Service for the stations—and at the downstream level, with companies providing long distance, regional, urban and freight transport services.³⁷⁶ Although currently Deutsche Bahn remains wholly owned by the Federal Republic, privatisation of (at least part of) the Group has been on the political agenda for several years, albeit the issue is highly controversial politically. In January 2006, a report commissioned by the federal government and produced by Booz Allen Hamilton and industry experts was published, which evaluated five possible structural models for privatisation.³⁷⁷ While the federal government had intended to pursue a partial privatisation of Deutsche Bahn via IPO in 2008, the global financial crisis resulted in the postponement of that plan. In February 2010, the Transport Minister ruled out privatisation of Deutsche Bahn as long as this step is not warranted by capital markets.³⁷⁸

6.9 *Rail sector in Israel*

The railway sector in Israel remains wholly vertically integrated, with a single State-owned company, Israel Railways, carrying out the development, management, maintenance and operation of the railway infrastructure, as well as the provision of passenger and freight transport services.³⁷⁹

³⁷⁵ R. Lalive & A. Schmutzler, “Entry in Liberalized Railway Markets: The German Experience,” (2008) 7(1) *Review of Network Economics* 37, p.40.

³⁷⁶ Lalive & Schmutzler, cited fn. 375 above, p.40-41; see also Nash, cited fn. 369 above. The most up-to-date information on the structure of the Deutsche Bahn Group is available on its corporate website at www.deutschebahn.com.

³⁷⁷ Booz Allen Hamilton, *Privatisierung der Deutschen Bahn “mit und ohne Netz”* (in English, *Privatisation Options for Deutsche Bahn “With and Without Network”*), published January 2006.

³⁷⁸ *Reuters*, “German Minister says no Deutsche Bahn IPO for now”, published 11 February 2010.

³⁷⁹ Further information on Israel Railways is available on its website at www.rail.co.il.

6.10 Rail sector in Italy

As in Germany, legal separation of the State-owned former incumbent rail undertaking in Italy has taken place via a holding company, in order to comply with EU law requirements. Ferrovie dello Stato (FS) was incorporated in 2001, with two principal wholly owned subsidiary companies: Trenitalia, providing transport services, and Rete Ferroviaria Italiana (RFI), which is the rail infrastructure manager in Italy. A subsidiary company of RFI, Treno Alta Velocità SpA, has responsibility for the development of the high-speed network in Italy.³⁸⁰ A privately-owned company, Nuovo Trasporto Viaggiatori (NTV), plans to commence open access services on the Italian high-speed rail network from September 2011 on. The French incumbent rail transport undertaking, SNCF, has a 20% shareholding in NTV. The planned market entry by NTV is on a considerable scale, involving 25 sets of trains.³⁸¹

At present in the domestic passenger sector there are two companies that compete, albeit on a small scale, with Trenitalia: (i) Arenaways, which operates on the Milan-Turin route and (ii) a joint venture between Deutsche Bahn, OBB (the Austrian State-owned company) and Le Nord (the largest Italian regional company, operating on the Bolzano-Verona route).

Whereas in the passenger sector, Trenitalia continues to hold a strong dominant position, in the cargo sector a higher degree of competition can be observed. Twenty seven companies are authorized to provide cargo services in the country, and more than 10% of cargo services (in terms of train/km) are provided by companies other than Trenitalia. In the more profitable cross-border segment, the percentage is significantly higher (potentially reaching 25% of the market).

In September 2008, NTV submitted a complaint to the Italian Competition Authority (AGCM), alleging that RFI had abused its dominant position in the railway infrastructure market by denying it access to (i) space within station buildings and (ii) the train maintenance centre in Naples. The first complaint against RFI was dismissed on the facts, as AGCM did not find sufficient evidence that RFI had discriminated against NTV in relation to station facilities. The second complaint was settled by means of commitments proposed by RFI and accepted by AGCM. RFI had refused access to the maintenance centre on the basis that the facility was already operating at capacity, but had offered to

³⁸⁰ Further information on the companies of the FS Group is available on its website at www.ferroviadellostato.it.

³⁸¹ Further information on NTV is available on its website at www.ntvspa.it.

provide NTV with space adjacent to the railway station on which it could build its own maintenance centre. NTV had initially accepted this proposal, but subsequently took the view that this would prove to be unfeasible, because, *inter alia*, construction of the new facility would not be in compliance with local building regulations. After the local authority confirmed that there were no regulatory barriers to construction of a maintenance facility, AGCM took the view that RFI's proposals were sufficient to remedy any competition concerns. AGCM therefore accepted and made binding in the form of commitments the proposals offered by RFI, and consequently closed the competition case without any finding of breach of the competition rules.³⁸² The case can be interpreted in a number of ways, each of which illustrates a difficulty that may arise in the application of an open access regime: on the one hand, the risk that a vertically integrated undertaking will discriminate against its downstream competitors even where an open access regime is in place;³⁸³ on the other hand, the danger that a new entrant will seek to use the competition rules strategically, in order to further its own interests.³⁸⁴

In December 2011, the Italian Competition Authority opened proceedings against FS and RFI on an alleged abusive conduct aimed at blocking new entrant Arenaways' access to railway infrastructures.

6.11 *Rail sector in the Netherlands*

Railway infrastructure in the Netherlands is managed by ProRail, a State-owned company which has responsibility for maintenance, construction, capacity allocation and traffic control on the network.³⁸⁵ Pursuant to the 2005 Dutch Railway Act, ProRail holds the government concession to manage the mainline rail network until 2015.³⁸⁶ The concession to operate the Betuweroute

³⁸² For further details on this case, see L.S. Borlini, "The Italian Antitrust Authority finds no abusive conduct for travel facility access and accepts commitments for maintenance area access (NTV/RFI-Accesso al Nodo di Napoli)", 22 October 2009, *e-Competitions*, n°30037 and M. Giannino, "The Italian Competition Authority closes two investigations against the manager of rail network group without finding any competition infringement (NTV/RFI-Accesso al Nodo di Napoli)", 22 October 2009, *e-Competitions*, n°29959, both available on www.concurrences.com.

³⁸³ See Borlini, cited fn. 382 above.

³⁸⁴ See Giannino, cited fn. 382 above.

³⁸⁵ Further information on ProRail is available on its website at www.prorail.nl.

³⁸⁶ See OECD, *Roundtable on Concessions – Netherlands (2006)*.

freight rail line, which links the port of Rotterdam and the German border and which was opened in 2007, is held by a private company, Keyrail, which is 50% owned by Prorail with the remainder owned by the port authorities of Rotterdam and Amsterdam.³⁸⁷ Passenger transport on the Dutch network is similarly organised by means of concessions granted by the government to operators.³⁸⁸ The State-owned railway undertaking, Nederlandse Spoorwegen (NS), currently holds the concession to operate all mainline passenger services in the Netherlands until at least 2015.³⁸⁹ Several private operators hold concessions to operate passenger transport services on a number of regional, or secondary, rail routes. Freight rail transport in the Netherlands is fully open to competition. The rail regulator in the Netherlands is the Office of Transport Regulation which is a division of the Dutch Competition Authority, the NMa.³⁹⁰

6.12 Rail sector in Slovenia

Slovenske železnice (SŽ) is the State-owned, incumbent rail company in Slovenia, providing freight and passenger transport services as well as operating the rail infrastructure. Currently, there is accounting separation between SŽ's infrastructure and transport activities.³⁹¹ However, the Slovenian Railway Companies Act, passed in December 2010, puts in place the necessary legal framework for the conversion of SŽ to a holding company. The stated objectives of this new legislation are: to provide for the independence of the infrastructure administrator in accordance with the requirements of the First Railway Package; to secure the long-term financial viability of SŽ's transport activities; and to establish a corporate structure that will enable the individual companies to focus on core tasks and control costs.³⁹² By law of 2009, responsibility for the collection of track access charges has been transferred

³⁸⁷ Further information on Keyrail is available on its website at www.keyrail.nl.

³⁸⁸ OECD *Roundtable on Concession – Netherlands*, cited fn. 386 above.

³⁸⁹ OECD *Roundtable on Concession – Netherlands*, cited fn. 386 above. Further information on NS is available on its website at www.ns.nl.

³⁹⁰ Further information on the Office of Transport Regulation, as well as Dutch rail legislation and the railway sector, is available on the NMa's website at www.nmanet.nl.

³⁹¹ IBM, *Rail Liberalisation Index 2007*, published Brussels, 17 October 2007, p.195.

³⁹² See Government of the Republic of Slovenia press release, *Draft Slovenian Railway Company Act*, published 14 October 2010.

from SŽ to the public rail regulatory agency.³⁹³ As of 2008, a private open access railway undertaking, Adria Transport, has operated services on the Slovenian network, offering in particular freight rail services to and from the Port of Koper.

6.13 *Rail sector in Spain*

Following the entry into force of 2003 legislation regulating the railways sector,³⁹⁴ the formerly vertically integrated State-owned railway company in Spain, RENFE, has been vertically separated into two distinct companies. ADIF (Administrador de Infraestructuras Ferroviarias) was established to act as infrastructure manager, with responsibility for administering rail infrastructure, managing traffic, distributing capacity and collecting access fees from railway transport operators.³⁹⁵ RENFE-Operadora took over passenger and freight transport operations.³⁹⁶ Both ADIF and RENFE-Operadora remain wholly State-owned. The 2003 statute also required the creation of a rail regulator, the Comité de Regulación Ferroviaria (CRF). Since the CRF is an internal department within the Ministry of Development, however, it is argued to have less independence than similar Spanish regulatory agencies, for example in the energy and telecommunications sectors.³⁹⁷

6.14 *Rail sector in Sweden*

About 80% of the total railway network in Sweden is operated by the State-owned infrastructure manager, while the remainder is administered by companies, local authorities or associations.³⁹⁸ Prior to 2010, the State-owned infrastructure manager took the form of a Swedish rail administration, Banverket. At the end of 2009, Banverket's railway construction and maintenance division, Banverket Production, was separated from its other

³⁹³ *Railway Gazette International*, "Track access reforms approved", published 23 July 2009.

³⁹⁴ Ley del Sector Ferroviario 39/2003 of 17 November 2003, which was intended to fully transpose the EU rail liberalisation regime into Spanish law. See J. Campos, "Recent Changes in the Spanish Rail Model: the Role of Competition" (2008) 7(1) *Review of Network Economics* 1, p.13.

³⁹⁵ Further information on ADIF is available on its website at www.adif.es.

³⁹⁶ Further information on RENFE-Operadora is available on its website at www.renfe.com.

³⁹⁷ Campos, cited fn. 394 above, p.15.

³⁹⁸ Banverket, *Annual Report 2009*, p.2.

activities and converted into a separate company, Infranord AB. The Swedish State has retained full ownership of Infranord AB.³⁹⁹ As of 1 April 2010, the tasks formerly performed by Banverket were assumed by the new Swedish transport administration, Trafikverket, which also performs the functions of the previous Swedish road administration. Trafikverket is a public authority with responsibility, *inter alia*, for long-term planning of the transport system for road, rail, maritime and air traffic, as well as the construction, operation and maintenance of public roads and railways.⁴⁰⁰

Even after liberalisation, the State-owned, dominant rail passenger transport undertaking, SJ AB, retained monopoly rights covering substantial portions of passenger services in Sweden.⁴⁰¹ Currently, SJ AB has a market share of about 90% of passenger transport on long-distance journeys (over 100 km), and about a 55% share of the total rail market in Sweden.⁴⁰² In June 2009, however, the Riksdag (Swedish Parliament) decided to open gradually the market for rail passenger services. Thus, SJ AB's exclusive rights regarding commercial passenger services on the State-owned railway system have been revoked. As of 1 July 2009, weekend and holiday traffic was opened to competition, along with the market for international passenger services on the Swedish rail network as of 1 October 2009 (in accordance with the requirements of Directive 2007/58/EC). On 1 October 2010, SJ AB's remaining monopoly rights were removed, with all domestic passenger services being opened to competition, with some exceptions for services between Stockholm Central and Arlanda airport.⁴⁰³

During the winter of 2009/10, the Swedish rail transport system for both passengers and freight suffered a large number of delays and disturbances relating, in the first instance, to adverse weather conditions. An inquiry commission was appointed by the Swedish government in March 2010 to examine the reasons for the winter disturbance and make recommendations regarding future preparedness. The interim report identified four problem areas

³⁹⁹ Banverket, *Annual Report 2009*, p.59. Further information on Infranord AB is available on its website at www.infranord.se.

⁴⁰⁰ Further information on Trafikverket is available on its website at www.trafikverket.se.

⁴⁰¹ G. Alexandersson & S. Hultén, "The Swedish Railway Deregulation Path" (2008) 7(1) *Review of Network Economics* 18, p.28.

⁴⁰² Figures taken from SJ AB's website at www.sj.se, accessed 4 February 2011.

⁴⁰³ Banverket, *Annual Report 2009*, p.21. See also Å Torstensson, "Railway Developments in Sweden", (2009) *European Railway Review*, Issue 5.

for the Swedish rail system: capacity, flexibility, division of roles and information. The final report, published in October 2010, found shortcomings on the part of both Trafikverket and rail market actors, with respect to integrated planning, re-investment and maintenance. A number of the report's findings are of particular relevance in the context of structural separation:

- The operating agreements entered into for the use of rail infrastructure contain insufficient incentives to encourage the parties concerned to take preventive measures to avoid disruption. These operating agreements should be redesigned in such a way as to improve the stability and quality of rail services.
- Revision of the contractual relations between station managers and railway users is necessary—during the winter disruptions, the existing arrangements had in many instances resulted in inadequate information being conveyed to passengers.
- Communication between the various actors in the railway sector should be improved, in particular by improving IT capabilities in the sector.
- The combination of a disruption-sensitive rail network and an open market has increased the risk of disruption—the report recommended that key actors conduct joint training exercises to increase their preparedness for further disruption scenarios.⁴⁰⁴

The government is now considering what measures should be taken as a result of the report.

In an interesting cross-over concerning structural separation in different sectors, it is worth noting that the railway infrastructure now managed by Trafikverket includes an approximately 12,000km network of fibre-optic cables that are laid alongside the tracks, which provides the railways with secure telecom, data and signal services. Spare capacity on this network is hired out to companies and authorities for data communication and mobile telephony.⁴⁰⁵

⁴⁰⁴ *Förbättrad vinterberedskap inom järnvägen: Betänkande av Utredningen om störningar i järnvägstrafiken vintern 2009/2010*, published Stockholm, October 2010, SOU 2010:69, available on the website of the Swedish government at www.regeringen.se.

⁴⁰⁵ Banverket, *Annual Report 2009*, p.2.

6.15 Rail sector in the United Kingdom

The rail sector in the UK comprises an infrastructure manager, Network Rail, which is a private sector organisation established as a company limited by guarantee (for profit but not for dividend); an independent economic and safety regulator, the Office of Rail Regulation; and private railway undertakings which provide passenger and freight services. Virtually all domestic passenger services in the UK are publicly specified and privately delivered by rail transport undertakings operating under a public franchise. By contrast, the freight sector is open to competition.⁴⁰⁶ Since privatisation (1993-7), there has been a 59% increase in passenger journeys to 1.3 billion per year, and a 37% increase in freight moved to 21 billion net tonne km per year.⁴⁰⁷

In 2007, the then Labour government published a White Paper on the future of the rail sector. In this document, the government announced its intention to switch the focus of rail policy, from correcting the “*flawed*” institutional structure put in place during the privatisation period 1993-7,⁴⁰⁸ to a forward-looking strategy with three principal components: increased capacity; improved performance, including safety, reliability and efficiency; and improved environmental impact.⁴⁰⁹ Whilst these policy objectives remain in place, more recently the focus has turned to the costs of the rail sector. Overall taxpayer funding for the rail sector in the UK (principally to Network Rail, although certain loss-making franchise operators also receive direct government subsidies)⁴¹⁰ rose from £2.3 billion in 1993/4 to £5.2 billion in 2008/9, with the largest increases occurring since 2002, a rate of increase considered unacceptable and unsustainable.⁴¹¹ In 2009, the Department for Transport and

⁴⁰⁶ Department for Transport, White Paper: *Delivering a Sustainable Railway*, Cm 7176, published July 2007, p.81.

⁴⁰⁷ Department for Transport/Office of Rail Regulation, *Rail Value for Money. Scoping study report*, published 31 March 2010, p.13. For a review of the literature concerning the impact of passenger rail franchising on productivity and costs in the UK, see A.S.J. Smith, P.E. Wheat & C.A. Nash, “Exploring the effects of passenger rail franchising in Britain: Evidence from the first two rounds of franchising (1997-2008)” (2010) 29 *Research in Transport Economics* 72.

⁴⁰⁸ White Paper, cited fn. 406 above, p.15. It should be noted that the White Paper nonetheless acknowledged that privatisation had brought “*some real benefits*” (p.15).

⁴⁰⁹ White Paper, cited fn. 406 above.

⁴¹⁰ Scoping Study, cited fn. 407 above, p.15-16.

⁴¹¹ Scoping Study, cited fn. 407 above, p.6.

the Office of Rail Regulation jointly commissioned a study into value-for-money in the rail sector.⁴¹² The terms of reference for the study require, *inter alia*, consideration of whether legal, operation or cultural barriers currently stand in the way of efficiency and value for money, and whether incentives can be created for different segments of the rail sector to generate greater efficiency.⁴¹³ The scoping study report published in March 2010 noted that the study “*presents an opportunity to consider the railway in a whole-system context,*” and confirmed that it “*has no ‘no-go areas’.*”⁴¹⁴ Given that a key priority for the study is to identify where structural change can deliver increased efficiency,⁴¹⁵ consideration will undoubtedly be given to whether the existing vertically separated, wholly privatised structure should be altered, albeit any proposed modifications to the current market structure must be in conformity with EU law requirements. The study is scheduled to present its findings and recommendations to the Secretary of State for Transport in March 2011.⁴¹⁶ One potential outcome of the study is the introduction of “*airline-style ticket pricing*”—higher fares for peak and reduced fares for non-peak services—in order to relieve congestion and make more efficient use of upgraded rail infrastructure.⁴¹⁷

The first high speed rail network in the UK, High Speed 1 (HS1), commenced full operations in November 2007. The line links London-St Pancras Station with the entrance to the Channel Tunnel in the South East of England. HS1 was built by what was originally a private sector consortium, London & Continental Railways (LCR), following a public selection procedure. In June 2009, however, due to financial difficulties, the UK government formally took control of LCR when its debt was transferred to the State.⁴¹⁸ HS1

⁴¹² See Office of Rail Regulation, Press Release: *ORR welcomes study examining ways to improve value for money across the railway sector*, published 9 December 2009.

⁴¹³ Department for Transport, *Improving value for money from the railway - Terms of reference*, published 9 December 2009, available on the DfT’s website at www.dft.gov.uk.

⁴¹⁴ Scoping Study, cited fn.407 above, p.8.

⁴¹⁵ Scoping Study, cited fn.407 above, p.20.

⁴¹⁶ Scoping Study, cited fn.407 above, p.3.

⁴¹⁷ *The Guardian*, “Rail Review Suggests Airline Pricing”, published 7 December 2010.

⁴¹⁸ Department for Transport Press Release, *London & Continental Railways Restructured*, published 8 June 2009. Note that the UK was required to get prior State aid clearance under EU law; see European Commission Press

Limited, a wholly owned subsidiary of LCR, has a 30 year concession to operate HS1 and its stations. LCR also has a 40% shareholding in Eurostar International, the railway transport undertaking that runs Eurostar services between the UK and continental Europe.⁴¹⁹ On 5 November 2010, it was announced that the UK government had sold the rights to operate HS1 for a 30 year period to a consortium comprising Borealis Infrastructure and Ontario Teachers' Pension Plan, for a total acquisition value of £2.1 billion. The winning consortium will acquire ownership of HS1 Limited, whereas the State retains ownership of the railway infrastructure and land.⁴²⁰ Deutsche Bahn has recently expressed interest in operating services from London to continental Europe via HS1 and the Channel Tunnel, raising the prospect of international competition on the link for the first time.⁴²¹

6.16 *Rail sector in the United States*

The United States has seven privately-owned, vertically integrated freight railways, each classified as Class 1 with annual operating revenues of \$401.4 million or more. In addition, as of 2008 there were 33 vertically integrated regional railways (line-haul railroads operating at least 350 miles of track and/or earning revenue between \$40 million and the Class I threshold), and over 500 vertically integrated local railways (line-haul railways smaller than regional railways).⁴²² Intercity passenger rail services are provided by the publicly-owned railway corporation, Amtrak, which operates over the tracks of the

Release, IP/09/793 *Commission approves State aid to London & Continental Railways and Eurostar*, published 15 May 2009.

⁴¹⁹ The other shareholders are SNCF, the French national rail company, which holds 55%, and SNCB, the Belgian national rail company, which holds 5% of Eurostar International. See www.eurostar.com for further information on the company.

⁴²⁰ See High Speed 1 Press Release, *UK Government Sells Right to Operate its First High Speed Railway for £2.1BN*, published 5 November 2010, available on HS1's website at www.highspeed1.com/news.

⁴²¹ *Reuters*, "Deutsche Bahn pitches for Channel Tunnel routes", published 19 October 2010.

⁴²² Office of Policy and Communication, Federal Railroad Administration, *Freight Railroads: Background Issue brief*, published March 2010.

freight rail networks.⁴²³ Amtrak also owns some of its own track in the North East.

In September 2009, the US House Judiciary Committee approved legislative plans to remove the broad antitrust exemptions that currently apply in the rail sector, with similar efforts taking place in the Senate.⁴²⁴ Proponents of the legislation view it as necessary to address the market power of the large freight railways, and thereby increase competition and reduce shipping costs. The proposed legislation is strongly opposed by railway companies.⁴²⁵ Nonetheless, in early 2011 the draft bill was approved by the Senate Judiciary Committee, with plans to bring the legislation to the floor in the House and the Senate later in the year.⁴²⁶

7. Corporate Incentives to Invest and Structural Separation

An issue of increasing prominence within the structural separation debate is the impact of such arrangements on the incentives to invest for network owners and operators. Although uncertainty regarding the regulatory environment does not fully deter investment in network infrastructure, it can lead to significant delays in investment as well as increased cost of capital.⁴²⁷ In particular where a sector is in a developmental phase, the cost of capital is of paramount importance, and in such circumstances it has been argued that “*any policy-driven vertical separation needs to be justified through a cost-benefit analysis with the primary focus on the cost of capital effects.*”⁴²⁸ Particularly in

⁴²³ Further information on Amtrak is available on its website at www.amtrak.com.

⁴²⁴ *Global Competition Review*, “House committee opposes railroad antitrust exemptions”, published online on 17 September 2009.

⁴²⁵ *The Journal of Commerce*, “Lawmakers Unveil Accord on Rail Antitrust”, published 1 June 2009, available at www.joc.com. See also C. Sagers, *Competition Come Full Circle? Pending Legislation to Repeal the U.S. Railroad Exemptions*, Cleveland Marshall College of Law Research Paper 09-180, published September 2009.

⁴²⁶ *Feed & Grain*, “Senate Committee Votes to End Railroads’ Antitrust Exemption”, published 11 February 2011, available online at www.feedandgrain.com.

⁴²⁷ See International Energy Agency, *Climate Policy Uncertainty and Investment Risk*, published 2007.

⁴²⁸ D. Helm, *Structural Separation and the Gas Industry in Europe*, Paper for Meeting of OECD Working Paper No.2 on Competition and Regulation, dated 14 June 2010, p.8.

light of the significant levels of investment required in many network industries in the near future, the issue of corporate incentives to invest has become a key consideration.

The issue of whether separation measures will impact negatively on investment incentives has come to the fore in the telecommunications sector, where very substantial investments are required over the coming years in order to upgrade existing copper telecommunications networks to faster fibre networks with greater capacity.⁴²⁹ In technical terms, the move to next generation telecommunications networks, which bring greatly increased network capacity compared with existing copper networks, has the potential to foster much increased downstream competition, provided that competition-friendly infrastructure is put in place at the initial stages.⁴³⁰ However, while structural separation policies have proven successful at attracting investment into downstream retail markets it has been suggested that regulatory uncertainty regarding network ownership may have detrimental effects on levels of investment higher up the chain: deterring network owners/operators from investing in fibre out of a fear of later government intervention rendering such investments far less profitable.⁴³¹ In view of the high social benefit of broadband development and the efficiency costs imposed by separation, some commentators have questioned whether, going forward, vertical separation

⁴²⁹ That structural separation does not necessarily hamper capital intensive investments is, for instance, demonstrated by Tunisia's Telecom sector where intensive backbone infrastructure investments took place after unbundling.

⁴³⁰ Point-to-point as opposed to point-to-multipoint fibre; this is considered further in the concluding section below. See also OECD, *Next Generation Networks and Market Structure: Outline*, [DSTI/ICCP/CISP\(2010\)5](#) for detailed consideration of these issues.

⁴³¹ See, for example, London Economics & PriceWaterhouseCoopers, *An Assessment of the Regulatory Framework for Electronic Communications – Growth and Investment in the EU e-Communications Sector Final Report To The European Commission DG Information Society and Media* (2006), which found that regulatory uncertainty was an important factor in explaining investment decisions in the telecommunications sector, in particular reduced investment by dominant firms. As discussed below, however, this argument may have greater weight with respect to behavioural as opposed to structural separation measures.

remains an appropriate instrument of telecommunications market regulation in light of improved regulatory oversight of the sector.⁴³²

While telecommunications present perhaps the clearest illustration of the competition/investment incentives dichotomy, few sectors avoid the issue. In the EU energy sector, for example, investments in the order of €1 trillion will be required over the course of the next ten years.⁴³³ Given the European Commission's expressed preference for full ownership unbundling in the electricity and gas sectors, the compatibility of such an approach with its concurrent need to attract these high levels of investment, particularly when pursued in tandem with the EU's additional policy aims of security of supply and sustainability, has been questioned.⁴³⁴ A related issue, in the electricity context, is funding of the switch to "smart grid" technology. Where the transmission grid owner/operator is wholly separated from generation or retailing activities, it may have little incentive to upgrade the network absent regulatory pressures.⁴³⁵ Similarly, the rail sector has in some instances seen a decline in infrastructure investment following the imposition of separation measures, a state of affairs that has the potential to negate the positive social consequences of increased competition and investment in the adjacent rail services markets.

⁴³² See, for example, B. Moselle & D. Black, "Vertical Separation as an Appropriate Remedy" (2011) 2(1) *Journal of European Competition Law & Practice* 84, pp.88-89.

⁴³³ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Energy 2020: A Strategy for Competitive, Sustainable and Secure Energy*, SEC(2010) 1346, COM(2010) 639 final, published 10 November 2010, at p.2.

⁴³⁴ See, for example, A. de Hauteclocque & V. Rious, "Regulatory Uncertainty and Inefficiency for the Development of Merchant Lines in Europe: A Legal and Policy Discussion", in Delvaux, Hunt & Talus (eds.), *EU Energy Law and Policy Issues* (2nd ed), Brussels: Euroconfidential, 2010, at pp.163-182 for discussion of the impact of the EU's unbundling energy policies on corporate incentives to invest in transmission infrastructure in Europe, and J. Ishii & J. Yang, "Investment Under Regulatory Uncertainty: US Electricity Generation Since 1996" (2004) *Centre for the Study of Energy Markets Working Paper* 127, University of California at Berkeley Energy Institute for further evidence that regulatory uncertainty may lead to delayed investment in the electricity sector.

⁴³⁵ OECD, [Roundtable on Electricity: Renewables and Smart Grids \(DAF/COMP\(2010\)10\)](#).

On the other hand, one may argue that the regulatory uncertainty concerns hold greater weight with respect to behavioural separation measures as opposed to structural ones. From this perspective, the prospect of full ownership separation will actually have a less detrimental effect on incentives to invest than, for example, functional separation. This is because, arguably, a potentially pending structural separation will not affect corporate incentives if there is sufficient interest in the part of the business to be divested and it can be sold at full market value.

Structural separation measures can also have a positive effect on investments: The *ENI* commitment decision highlights the risk that vertical integration will lead to under-investment by the vertically integrated firm in its infrastructure.⁴³⁶ Where an infrastructure owner is subject to mandatory access requirements, it may choose to refrain from developing additional capacity on its network, even in the face of considerable demand, in order to prevent its downstream competitors from gaining access to the infrastructure necessary to supply the downstream market.⁴³⁷ Alternatively, as has also been an issue in the context of the switch to smart electricity grids, where the transmission system owner remains part of a vertically integrated firm, it has an incentive to implement network upgrades in a manner that excludes third parties from the competitive segments.⁴³⁸ In such circumstances, structural separation is likely to improve the infrastructure owner/operator's incentives to investment in the facility, or to do so in a manner that facilitates competition in non-monopoly sectors.

It is important to note, however, that it is not merely the degree of vertical integration within a sector that informs the investment incentives of market actors. The method of regulation, for example, can have a significant impact on investment decisions.⁴³⁹ Moreover, in response to the recent global financial

⁴³⁶ For a discussion of strategic underinvestment see F. Maier-Rigaud, F. Manca & U. von Koppenfels "Strategic Underinvestment and Gas Network Foreclosure – the ENI case", *EU Competition Policy Newsletter*, Issue 1, 2011.

⁴³⁷ While in general the incentives to foreclose depend in part on the access fees the vertically integrated company is allowed to levy, it is not clear whether any realistic increase in the regulated fees in the ENI case would have been able to compensate the negative impact of more gas flowing into Italy on the downstream profits of ENI.

⁴³⁸ See OECD, [Roundtable on Electricity](#), cited fn. 435 above.

⁴³⁹ See, for example, C. Cambini & L. Rondi, "Incentive Regulation and Investment: Evidence from European Energy Utilities" (2010) 38 *Journal of*

crisis, many countries have included investment in network infrastructure (in particular, next generation telecommunications networks) within national economic recovery or stimulus plans, thus introducing a significant supra-market dimension to such investment decisions.

The impact of structural separation on corporate incentives to invest therefore remains an open question. It is an issue that requires full consideration in the assessment of whether structural separation may be appropriate for a sector, and thus warrants express inclusion in the list of factors to be taken into account in the context of the 2001 Recommendation. Therefore, the Recommendation will be modified to incorporate an express reference to “effects on corporate incentives to invest” within the second paragraph of the Recommendation’s first part. This modification is highlighted in the text of the Recommendation annexed to this report.

8. Conclusion

The 2001 Recommendation asks Member countries to consider carefully the possibility of implementing structural separation in regulated sectors, in order to bring the benefits of competition to potentially competitive activities within these markets. As this update report has illustrated, both behavioural and structural separation measures have been considered and/or implemented in many Member countries. The 2001 Recommendation does not require the implementation of structural separation; rather, it calls upon Member countries to “*carefully balance the benefits and costs of structural measures*” that are likely to emerge from the introduction of competition into certain parts of a regulated sector “*against the benefits and costs of behavioural measures*” following any expert advice provided by relevant agency(ies) and competition authorities on matters assigned to each of them in accordance with the law and regulations in each jurisdiction. It further notes that while behavioural measures “*may not eliminate the incentive of the regulated firm to restrict competition and therefore may be less effective in general at facilitating competition than structural policies, [...] they may play a useful and important role in supporting certain policies such as access regulation*”.

In light of the experiences with structural separation within Member countries in the decade since the adoption of the Recommendation, a number of

Regulatory Economics 1-26, and B. Égert, “[Infrastructure Investment in Network Industries: The Role of Incentive Regulation and Regulatory Independence](#)” (2009) OECD Economics Department Working Papers, No. 688, OECD Publishing.

broad conclusions may be advanced. First and foremost, structural measures have been implemented successfully in numerous instances. Beyond behavioural measures such as mandatory access requirements, structural separation can play a pivotal role in ensuring that a formal right of access is effective in practice. The resulting benefits have included increased investment, particularly in the newly-opened competitive portions of the sector, as well as increased consumer choice, improved services and lower pricing.

Secondly, the evidence indicates that there is no clear formula that can dictate how structural separation should be implemented. While the Recommendation itself called upon the Member countries to consider implementation, the experiences show that structural separation has been successfully implemented:

- By vertically integrated firms acting voluntarily, whether in anticipation of impending regulatory changes, to avoid a competition law investigation or bring an end to on-going proceedings, or merely as a rational business decision given market conditions;
- As a regulatory measure, whether imposed by the national government, by an independent national regulatory authority, or as a policy measure stemming from a supra-national authority such as the European Commission; and
- Under competition law by a competition authority or the courts, in order to bring an end to a breach of the competition laws.

Moreover, the form or degree of separation to be implemented is not necessarily determinative of its success. On the one hand, structural separation is frequently said to be preferred on the basis that it eliminates not only the incentives but also the possibility of discrimination to the greatest extent, and allows for the greatest regulatory simplicity after separation has been effected. The European Commission's recent competition cases in the energy sector for example show that behavioural separation and regulatory supervision alone may not always effectively prevent infringements of competition law. On the other hand, positive experiences have been reported with respect to behavioural measures falling short of structural separation. This is particularly the case in circumstances where the internal corporate structure of the integrated firm has been revised to replicate, as far as possible, the effects of independent ownership, for example where remuneration of relevant personnel is based solely on the performance of the separated division. Even the least intensive form of separation, accounting separation, may bring benefits insofar as it allows for a clear attribution of costs and revenues, and therefore identifies price

discrimination, even if it is of limited use in addressing forms of non-price discrimination (such as strategic under-investment or degradation of the quality of access services provided to third parties).

An important development, seen in the rail and telecommunications markets in particular, is the use of public funds in the construction of next-generation network infrastructure—for example fibre telecommunications networks and high-speed rail networks. Government participation in such projects typically encompasses objectives that fall outside the ambit of competition policy, and are rarely shared by private investors, such as increasing the take up of broadband in a country, improvement of regional transport links or stimulating the economy after the global financial crisis. Even though, once constructed, this infrastructure is not typically being administered in the same manner as traditional State-owned monopoly assets but is instead operated by the private sector, the characteristic monopoly infrastructure concerns still arise. Policy makers should therefore consider requiring that when public funds are used to support expansion of infrastructure, that new infrastructure should give the public both better service *and* better choice of providers.

The transfer from copper to fibre telecommunications networks, in particular, brings with it the prospect of very significant increases in network capacity but also risks solidifying market power and reducing potential competition. The upgrade of telecommunications infrastructure from DSL to VDSL includes a substantial increase in speed of connection to the household, but where implemented as a point-to-multipoint solution, it has two notable effects on competitors: it strands the assets of competitors that have been installed in the main exchange, and it creates an environment in which further investment by potential downstream competition in assets for reaching the end consumer through unbundling becomes uneconomic.⁴⁴⁰ There is a risk that, in some cases, the installation of VDSL or point-to-multipoint fibre is a business strategy designed to forestall downstream competition of the incumbent operator, to the detriment of consumers. Competition authorities and national regulators should be aware of the possibility that a purported network upgrade may also be intended to serve as an exclusionary measure.

It would be misleading to conclude that every experience with separation has been straightforward and wholly successful. In addition to the costs of

⁴⁴⁰

Incumbent telecommunications providers are not, in general, installing point-to-point fibre, even though costs for installing point-to-point fibre in the UK are estimated to be only 12% higher than the costs for installing point-to-multipoint fibre.

separation—both the once-off costs of breaking up the firm, as well as the costs resulting from possible losses of economies of scope and scale⁴⁴¹—a frequent fear is the potentially detrimental effect that structural separation has on investment incentives, in particular large-scale investment in network development and upgrading. The impact of separation policies on investment incentives has been an issue throughout the sectors and in many of the Member countries surveyed in this report. On the one hand, the regulatory uncertainty resulting from the possibility that structural separation may be imposed on a sector has the potential to chill corporate incentives to invest, such as the switch to fibre telecommunications and high speed rail networks. On the other hand, continued vertical integration may lead to strategic under-investment and capacity limiting by the incumbent firm, in order to exclude downstream competitors. The impact of structural separation on investment incentives therefore remains an open question, and one deserving of full consideration in assessing whether structural separation may be appropriate for a sector.

Competitive markets do not always follow or flourish even after the implementation of structural separation. Where other barriers to entry remain, *de facto* monopolies can persist, a problem that is perhaps more pronounced where weaker, behavioural measures have been implemented. In New Zealand, for example, the laws on structural separation in the electricity sector have recently been revised to allow a degree of re-integration between distribution and retailing, viewed as a necessary amendment in order to challenge the continued market power of the combined generator-retailers, which has persisted even after the implementation of structural separation. In Europe, a notable development is the extent to which new entry has been effected by incumbent firms from adjacent Member States—for example, the participation by SNCF of France in the new high speed rail operator in Italy—or from adjacent regulated sectors—for example, the successful entry by Bord Gáis, the State-owned gas company, into the electricity sector in Ireland, in competition with the State-owned incumbent ESB. Indeed, the European Commission has recognised that the possibility of entry by firms with “*incumbency advantage*” provides the greatest competitive constraint in many markets.⁴⁴² Nonetheless, some thought might be given to the extent to which such an approach merely replaces monopoly with oligopoly.

⁴⁴¹ See fn. 17 above on the issue of the economics of scope associated with vertical integration.

⁴⁴² Commission Decision of 09.12.2004 declaring a concentration to be incompatible with the common market (Case COMP/M.3440 – *EDP/ENI/GDP*), at paragraph 481.

Furthermore, structural separation has, in a number of instances, resulted in co-ordination problems between network operators and users. A lack of co-ordination can lead to inefficient usage of infrastructure and, as some tragic examples from the rail sector illustrate, can have serious negative consequences in terms of performance and even safety. It is not clear whether this is an inherent difficulty where there is structural separation of natural monopoly industries, although it appears that difficulties can be minimised significantly through more effective regulation and mechanisms of co-ordination. A distinct but related problem is the use of network co-ordination mechanisms to discriminate against certain users, an issue that has arisen for example in relation to balancing markets for electricity networks. Market problems of this nature have been addressed both through regulatory instruments and by competition law enforcement. Particularly with behavioural measures, regulatory supervision retains a crucial role in policing the functioning of the market.

The effects of the global financial crisis have been felt in this policy area, insofar as it has reduced in some instances the political will to effect structural separation of publicly-owned assets because of a fear that the full value of the infrastructure will not be realised upon sale. Nonetheless, there is some evidence that, for example, energy firms in Europe are moving towards a consolidation of their business activities even as they move into new geographic markets, leading indirectly to structural separation as a result of the divestment of non-core business activities. Particularly in the gas sector, some concerns have been voiced that vertical separation and promotion of downstream competition may not always be the appropriate strategies to pursue, given that upstream supply is largely controlled by one or two producers. There is a risk that breaking up downstream gas operations may weaken the bargaining power of purchasers against suppliers. On the other hand, new sources of gas supply (e.g. shale gas) may mitigate some of these risks.

A wide variety of market arrangements are to be found in the gas, electricity, telecommunications and rail sectors of the new Member countries of Chile, Estonia, Israel and Slovenia. For both Estonia and Slovenia, accession to the EU in 2004 has necessitated the adoption of EU policies in all four of these sectors. Chile has, historically, been at the vanguard of network industries liberalisation, although developments in some sectors have occurred on a regionalised basis which has resulted in regional monopolies. Apart from the gas sector, the three remaining network industries in Israel considered in the report remain vertically integrated.

Consideration of the experiences with structural separation set out in this report leads to the conclusion that the 2001 Recommendation continues to have

significant relevance a decade after its adoption. Structural separation of vertically integrated firms operating in regulated network industries can bring about the introduction of meaningful competition in the competitive activities of regulated sectors, while at the same time eliminating, or at least lessening, the need for regulatory supervision of market actors. Moreover, structural separation does not, *a priori*, prevent or interfere with the pursuit of non-efficiency based goals, such as regional development or environmental protection. On the other hand, structural separation is a remedy that is not appropriate for all markets or circumstances. It can involve a trade-off between competition and efficiency that depending on the existing market conditions may or may not, ultimately, bring economic and public benefits that justify its implementation. In particular, the impact of structural separation on corporate incentives to invest is an important issue that warrants its express reference in the Recommendation among the potential costs and benefits of structural separation.

The 2001 Recommendation asks Member countries to consider imposing structural separation after a positive outcome of the balancing exercise. Structural separation should be implemented only when it is beneficial to do so, bringing substantial benefits to consumers and the wider economy. A decade on from its adoption by the OECD Council, the evidence from country experiences confirms the logic and continued applicability of the Recommendation: where the benefits and costs of structural separation outweigh the benefits and costs of behavioural measures, Member countries should give genuine consideration to implementing structural policies in the regulated market concerned.

ANNEX

**RECOMMENDATION OF THE COUNCIL CONCERNING
STRUCTURAL SEPARATION IN REGULATED INDUSTRIES
[\[C\(2001\)78/FINAL\]](#)**

As amended on 22 November 2011 [[C\(2011\)135](#) and CORR1]

THE COUNCIL,

Having regard to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14 December 1960;

Having regard to the agreement reached at the 1997 Meeting of the Council at Ministerial level to reform economic regulations in all sectors to stimulate competition [[C/MIN\(97\)10](#)], and in particular to:

- “i) Separate potentially competitive activities from regulated utility networks, and otherwise restructure as needed to reduce the market power of incumbents;
- ii) Guarantee access to essential network facilities to all market entrants on a transparent and non-discriminatory basis”;

Having regard to the 2001 report Structural Separation in Regulated Industries [[DAFFE/CLP\(2001\)11](#)], the Report on Experiences with Structural Separation [[C\(2006\)65](#)] and the report on Recent Experiences with Structural Separation [[C\(2011\)135](#), Annex I and CORR1];

Recognising that there are differences in the characteristics of industries and countries, differences in the processes of regulatory reform and differences in the recognition of the effectiveness of structural measures, behavioural measures and so on, and that such differences should be taken into account when considering structural issues;

Recognising that regulated firms, especially in network industries, often operate in both non-competitive and in competitive complementary activities;

Recognising that the degree of competition which can be sustained in the competitive complementary activities varies, but that when these activities can sustain effective competition it is desirable to facilitate such competition as a tool for controlling costs, promoting innovation, and enhancing the quality of the regulation overall, ultimately to the benefit of final users and consumers;

Recognising that, in this context, the regulated firm has the ability, in the absence of antitrust or regulatory controls, to restrict competition by restricting the quality or other terms at which rival upstream or downstream firms are granted access to the services of the non-competitive activity, restricting the capacity of the non-competitive activity so as to limit the scope for new entry in the complementary activity, or using regulatory and legal processes to delay the provision of access;

Recognising that, depending upon the structure of the industry, a regulated firm which operates in both a non-competitive activity and a competitive complementary activity may also have an incentive to restrict competition in the complementary activity;

Recognising that such restrictions of competition generally harm efficiency and consumers;

Recognising that there are a variety of policies that can be pursued which seek to enhance competition and the quality of regulation by addressing the incentives and/or the ability of the regulated firm to control access. These policies can be broadly divided into those which primarily address the incentives of the regulated firm (such as vertical ownership separation or club or joint ownership), which may be called structural policies, and those which primarily address the ability of the regulated firm to deny access (such as access regulation), which may be called behavioural policies;

Considering that behavioural policies, unlike structural policies, do not eliminate the incentive of the regulated firm to restrict competition;

Considering that despite the best efforts of regulators, regulatory controls of a behavioural nature which are intended to control the ability of an integrated regulated firm to restrict competition may result in less competition than would be the case if the regulated firm did not have the incentive to restrict competition;

Considering that, as a result, the efficiency and effectiveness of regulation of the non-competitive activity, the available capacity for providing access, the number of access agreements and the ease with which they are reached and the overall level of competition in the competitive activity may be higher under structural policies;

Considering that, under such circumstances, it is all the more necessary that, to prevent and tackle restrictions of competition, competition authorities have appropriate tools, in particular the capacity to take adequate interim measures;

Considering that certain forms of partial separation of a regulated firm (such as accounting separation or functional separation) may not eliminate the incentive of the regulated firm to restrict competition and therefore may be less effective in general at facilitating competition than structural policies, although they may play a useful and important role in supporting certain policies such as access regulation;

Recognising that, in some circumstances, allowing a regulated firm operating in a non-competitive activity to compete in a complementary competitive activity allows the regulated firm to attain significant economic efficiencies or to provide a given level of universal services or service reliability;

Recognising that structural decisions in regulated industries often require sensitive, complex, and high-profile trade-offs, requiring independence from the regulated industry and requiring expertise, experience, and transparency in assessing competitive effects and comparing these with any economic efficiencies of integration; and

Recognising that the boundaries between activities which are potentially competitive and activities which may be non-competitive are subject to change and that it would be costly and inefficient to continuously adjust the degree of vertical separation;

I. RECOMMENDS as follows to Governments of Members:

1. When faced with a situation in which a regulated firm is or may in the future be operating simultaneously in a non-competitive activity and a potentially competitive complementary activity, Members should carefully balance the benefits and costs of structural measures against the benefits and costs of behavioural measures.

The benefits and costs to be balanced include the effects on competition, effects on the quality and cost of regulation, effects on corporate incentives to invest, the transition costs of structural modifications and the economic and public benefits of vertical integration, based on the economic characteristics of the industry in the country under review.

The benefits and costs to be balanced should be those recognised by the relevant agency(ies) including the competition authority, based on principles defined by the Member. This balancing should occur especially in the context of privatisation, liberalisation or regulatory reform.

2. For the purposes of this Recommendation:

- a) A “firm” includes a legal entity or a group of legal entities where the degree of inter-linkages (such as shareholding) among the entities in the group is sufficient for these entities to be considered as a single entity for the purposes of national laws controlling economic concentrations;
- b) A “regulated firm” is a firm, whether privately or publicly owned, which is subject to economic regulation intended to constrain the exercise of market power by that firm;
- c) A “non-competitive activity” is an economic market, defined according to generally accepted competition principles, in which, as a result of regulation or underlying properties of demand and supply in the market, one firm in the market has substantial and enduring market power;
- d) A “competitive activity” is an economic market, defined according to generally accepted competition principles, in which the interaction among actual and potential suppliers would act to effectively limit the market power of any one supplier;
- e) “Complementary” is used in the broad sense to include products (and services) that enhance each other. Products that are complementary to the regulated firm's non-competitive activity therefore include (1) products bought by the firm from (upstream) suppliers, (2) products sold by the firm to (downstream) customers, and (3) other products used in conjunction with the firm's non-competitive product, and where competitors' success in providing such products depends on their or their customers' ability to obtain access to the non-competitive product.

II. INSTRUCTS the Competition Committee:

1. To serve, at the request of the Members involved, as a forum for consultations on the application of the Recommendation; and
2. To review Members' experience in implementing this Recommendation and to report to the Council within three years as to the application of this Recommendation and any further need to improve or revise the Recommendation.

III. INVITES non-Members adhere to this Recommendation and to implement it.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.