

## **ERG Opinion on Functional Separation**

### **Background**

Under the current EU electronic communications regulatory framework (the Framework), each national regulatory authority (NRA) is required to make an assessment of the state of competition in specific markets, and to impose proportionate remedies where significant market power (SMP) is identified. At present the Framework does not contemplate the use of the functional separation remedy. I/ERG in its response to the Consultation on the review of the regulatory framework<sup>1</sup> proposed a remedy of 'functional separation' to be considered in the forthcoming review of the regulatory framework. Indeed, functional (or operational) separation is currently receiving an increasing amount of attention as a regulatory remedy<sup>2</sup>: it is under consideration in Italy and Sweden. It has already been introduced in the United Kingdom and New Zealand.

This opinion summarises what functional separation is and why it may be required. It also examines its impact and consequences for industry and consumers, the paper uses relevant experience from the United Kingdom (which has the most extensive experience of imposing such a remedy to date).

### **Functional Separation**

Existing access remedies under the EU Framework, and supporting remedies such as accounting separation, attempt to ensure non-discrimination by imposing rules on

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<sup>1</sup> [http://erg.eu.int/doc/whatsnew/irg\\_erg\\_resp\\_review\\_rf\\_final271006.pdf](http://erg.eu.int/doc/whatsnew/irg_erg_resp_review_rf_final271006.pdf)

<sup>2</sup> See Martin Cave, Six degrees of separation: operational separation as a remedy in European telecommunications regulation, Communications & Strategies no 64, 2006.

a designated operator. These remedies might not, in all member states be enough to prevent discriminatory behaviour from a vertically integrated operator. Such discriminatory behaviour can adversely affect the competitive environment in wholesale and retail markets. The enforcement of a non discrimination obligation could be ineffective to deal with it. Therefore, functional Separation seeks to ensure 'full equivalence' of regulated wholesale products. The decision to impose functional separation needs to be considered by the NRAs after a careful analysis and based on the nature of the problem identified, proportionate and justified in the light of the objectives of the Directives. Functional Separation should only be implemented when it can be shown that other mechanisms or remedies (Accounting Separation, non-discrimination, etc.) cannot ensure non-discriminatory access .

Functional separation requires a vertically-integrated operator to establish a business unit to service its upstream wholesale customers which is separate from its own downstream operations. The separate upstream unit would then have a commercial incentive to service all customers fairly (rather than discriminate in favour of the operator's own downstream business). Unlike other network industries, the electronic communications industry is inherently dynamic, and so particularly susceptible to changes in technology. This means that the boundaries of economic bottlenecks can and do change over time. Functional separation also allows the operator to continue to enjoy many of the benefits of vertical integration, so long as these benefits are not based on the leveraging of market power derived from monopoly infrastructure, or infrastructure which is uneconomical to replicate

#### *Key elements of functional separation*

Functional separation allows for the targeted separation of those enduring bottlenecks which are difficult for rival operators to replicate commercially, but which provide vital inputs to a range of downstream products and services provided by both the vertically-integrated operator and its competitors. By creating a separate business unit with business incentives based on the performance of that unit (rather than the performance of the vertically integrated company as a whole), it is more likely that the business unit will deliver the services that its customers want.

For functional separation to be effective, however, it requires a number of key elements in order to ensure that sufficient incentives are in place for the designated operator to provide equal access of vital upstream inputs (while also ensuring greater transparency of activities, so that the whole market can have confidence in the effectiveness of the associated measures).

1. In order to prevent the employees running these bottlenecks assets having the motive and ability to favour the company's own downstream affiliates to the detriment of competitors, a functional separation remedy would require - as a minimum - that the same products and services that are provided to the

company's own downstream affiliates are equally provided to alternative providers, using the same ordering and handling processes.

2. The new separate business unit established to deliver these products and services must be responsible for the management of assets under its administration, staff, operational support systems (OSS) and Management Information Systems.
3. There will need to be governance arrangements to ensure the independence of the staff employed by the separate business unit, specifically:
  - a. Managers and employees within the separate business unit will not be able to provide service to both its own customers and to the customers of the vertically integrated company's other affiliates.
  - b. The separate business unit will have to publish the list of products or services which it will supply, and give its customers (i.e. the vertically integrated company's downstream competitors) the same level of information and at the same time in relation to the launch and provision of products and services as it does to the its own affiliates.
  - c. The vertically integrated company will need to compile a register of assets providing evidence of where in the organisation the various assets are held.
  - d. The vertically integrated company will have to provide the NRA with details of the codes it has put in place to regulate information sharing within the company and associated internal compliance measures and monitoring.
  - e. A comprehensive monitoring programme will need to be implemented by the operator, in order to ensure compliance with the obligations, including both periodic reporting as well as ad hoc reporting obligations as may be deemed appropriate by the NRA.

Above all, as indicated previously, this remedy is not a substitute for other regulatory mechanisms designed to ensure non-discriminatory access to vital infrastructures.

### **Box 1. Components of Functional Separation**

Several of the measures mentioned here are mandatory in most member states i.e. accounting separation. Others are optional and can be applied to differing degrees. Finally some components can only be imposed in conjunction with others.

#### Separation of functions:

- Creation of separate business unit, A, responsible for the production and supply of products in question
- Obligation to supply all operators under non-discrimination conditions (equivalence)
- Separation of operational support systems
- Separation of the brand (total=different name/partial = A, a division of B)

#### Separation of Employees:

- Employees are not permitted to work some of the time for A and some of the time for another department
- Restrictions on the movement of A's managers to the rest of the group
- Physically separate offices and places of work
- Pay incentives
- Code of conduct, notice boards, training

#### Separation of Information

- Limits to the flow of information between A and the other divisions (firewalls, Chinese walls)

Implementation of separate access systems (information specific to the needs of the employee)

- Separation of information management systems

Once an NRA had completed its analysis, that can also follow voluntary commitments offered by the operators, the functional separation remedy would be notified, like other remedies, to the European Commission under the Article 7 procedure. ERG intends to develop detailed guidelines for NRAs to use when designing their respective functional separation remedies, in order to ensure that all European NRAs have access to and are able to contribute to the development of, regulatory best practice for this remedy. The development of a peer review process could also be envisaged. ERG takes the opinion that the remedy of functional separation has to be solely within the discretion of NRA to decide upon its applicability

### **Proposed changes to the existing Framework**

It is generally accepted that in network industries where a vertically integrated operator possesses infrastructure which constitutes a key input<sup>3</sup> to the provision of services to businesses and residential consumers in downstream markets, there is the opportunity and the incentive for that operator to grant its own affiliates preferential treatment to the detriment of its downstream competitors. This, in turn, could result in a distortion of competition on the downstream markets in question.

Consequently, it may become necessary to impose on a vertically integrated company with SMP specific obligations in order to enable effective and sustainable competition. Under the existing Framework, NRAs may impose a range of regulatory remedies, including the mandating of particular wholesale access products, the price controls, non discrimination and supporting obligations such as accounting separation to provide transparency of transactions and to prevent unfair cross-subsidy.

These measures could be improved and prove sufficient to prevent anti-competitive behaviour by the vertically-integrated provider of the upstream inputs. However, in some circumstances the application of these measures could prove not to be sufficient to address the behavioural incentive on the part of the vertically integrated company to discriminate against its downstream competitors. Indeed, such discrimination may remain the rational commercial strategy for the vertically integrated company under certain conditions.

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<sup>3</sup> A key input does not mean something to which it is simply desirable for competitors to have access but that it is something which is clearly non-replicable on a commercial basis within a reasonable timescale and can therefore be described as an “enduring economic bottleneck.”

ERG believes it is appropriate to propose changes to the Framework based on the experiences of NRAs to date. In its response to the review of the regulatory framework ERG proposed not only Functional Separation but a strengthening of the text on Non-discrimination<sup>4</sup>. Specifically, ERG asked that non-discrimination reinforces the concept of equivalence in the provision of wholesale regulated products to third parties. This is particularly important considering the incentives for vertically integrated operators to engage in non-price discriminator behaviour.

In a number of member states, the strengthening of non-discrimination may be sufficient of itself to address the competitive issues some NRAs face. However, for others the existing suite of remedies provided for in the Framework may be insufficient to fully address anti-competitive behaviour by a vertically-integrated incumbent, and hence why the option of functional separation should be available to NRAs as an additional remedy. In any case, the effective application of this remedy should be in accordance with the principle of proportionality and take into account the special specificities of the markets in the Member States..

When regulating a vertically-integrated company with control of bottleneck assets, concerns may arise in relation to both price and non-price discrimination. Price discrimination may take a number of forms, but particular problems in telecoms arise in relation to cross-subsidies between SMP and non-SMP products, and from margin squeeze, where downstream prices are set low and profits taken in the upstream bottleneck input business.

Accounting separation (AS) rules can go some way to address problems in relation to price discrimination by requiring a vertically integrated company to make transparent its prices paid by competitors for access and its internal transfer prices paid by the separated units. Members of the ERG have had considerable experience of implementing this remedy over the years, and have produced a series of guidelines to assist European regulators<sup>5</sup>.

However, there may be limitations to what AS can achieve, and it may not be sufficient to prevent all distortions of competition. Under these circumstances, it would be useful to have Functional Separation available to try to solve such deficiencies.

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<sup>4</sup> See ERG response to review of regulatory framework.

<sup>5</sup> See ERG COMMON POSITION: Guidelines for implementing the Commission Recommendation C (2005) 3480 on Accounting Separation & Cost Accounting Systems under the regulatory framework for electronic communications, ERG (05) 29.

As the study by *Hogan & Hartson* and *Analysys* prepared for the European Commission last year identified<sup>6</sup>, AS remedies can be insufficient to address the problem of non-price discrimination. There are many cases of non-price discrimination that have come before NRAs, the European Commission and the national courts in Europe. Academic studies have also documented the strategic behaviour of vertically-integrated operators, in Europe and elsewhere, who have engaged in a range of tactics designed to give advantage to their own downstream operations to the detriment of their (competing) upstream customers<sup>7</sup>. For example, this behaviour has taken the form of delaying the introduction of new services, delaying the processing of orders, or providing detailed advance information to the vertically-integrated operator's own downstream business operations before making it available to competing downstream customers, in order to provide its own downstream affiliates with an unfair first-mover advantage. Such behaviour can prevent a competing downstream operator from establishing a viable service offering (whether from the pricing, commercial or technical perspectives). It may also have a detrimental impact on the competing operator's quality of service, or its plans for developing its own infrastructure. This, in the end, will hurt competition in the market, by reducing the confidence of existing or potential retail business and/or residential customers in alternative network services<sup>8</sup>.

It is even plausible to consider that some behaviour of this kind may arise not as part of a concerted effort by senior management, but rather from compliance failures at the operational or account management level. At a human level, staff of a vertically-integrated company, knowing that their own rewards are tied to the performance of their business as a whole, and with ties of loyalty to that business, may choose not to expend the same effort in supporting a rival company's request as they do in supporting a request from their own downstream business, or they may informally share information with colleagues at that downstream business.

ERG extensively deals with possibilities to remedy non-price discrimination in chapter 5.6 of its revised CP on remedies of June 2006 (ERG (06) 33). Such strategic behaviour can be on occasions difficult to detect externally, and require considerable

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<sup>6</sup> Hogan & Hartson and Analysys 'Preparing the next steps in regulation of electronic communications: a contribution to the review of the electronic communications regulatory framework', July 2006, p. 193.

<sup>7</sup> See for example an analysis of an incumbents likely strategic anti-competitive behaviour in a paper presented at the ECTA Annual Regulatory Conference by Professor Ernesto Pontarollo, 'Structural barriers and strategic behaviour in fixed line communications', Brussels, 7 December 2004.

<sup>8</sup> The economic literature uses the term 'sabotage' to refer to such delaying and disadvantaging tactics. See for example Beard, T R., Kaserman, L.D., Mayo, W J. 'Regulation, Vertical Integration and Sabotage', *Journal of Industrial Economics*, 2001:49, pp.319-333.

monitoring and evidence collection for any NRA to ascertain conclusively that it is taking place, by which time the damage to competitors may already have been done.

Functional separation could be made available to reinforce existing non-discrimination remedies. In particular by establishing a separate business unit specifically designed to serve affiliates and competitors equally and increasing the levels of transparency of the activities of the vertically integrated company, functional separation provides extensive scope to subsequently reduce the level of day-to-day oversight by the regulator. Functional Separation is an effective remedy in cases where non-discrimination remains an issue. It is however necessary to take into account carefully, the implementation costs that in some cases could exceed the expected benefits. Therefore, before deciding the implementation of FS in a particular market, the NRA must carefully evaluate the particular costs and benefits of such a measure, given the fact that FS is a remedy very difficult to reverse once it has been implemented.

### **Scope and impact of functional separation**

#### *The scope of the assets/product lines to be included*

One common misunderstanding is that functional separation consists in the separation of an operator's wholesale business units from its retail business units. In fact, the underlying logic of functional separation is to include in the separate business entity only the narrow sub-set of infrastructure assets which cannot feasibly (or economically) be replicated, and to encourage competitors to build their own infrastructure where this is feasible. The replicability of assets will vary to some degree between Member States, but the approaches to functional separation adopted in Europe so far have included both access infrastructure assets (that is the assets used to connect an operator to customers' premises) and certain types of backhaul product (that is the part that joins an operator's access network to its core network). It would be unusual to find that all infrastructure was not replicable, and hence to conclude that a simple retail-wholesale split was the most appropriate form of functional separation.

Judgment is required to determine exactly which products should be supplied by the separated business unit. This judgment should take account of both the existing set of wholesale remedies already in place, and the longer-term replicability of the underlying assets. Difficult judgments at the margin will be inevitable (e.g. whether to include wholesale products on which the market relies, but which contain some replicable elements).



A further issue will arise where the incumbent operator plans a major network infrastructure upgrade, such as a core or access next-generation network (i.e. NGN or NGA). This may alter the pool of assets considered replicable, and require the asset and wholesale product lines of the bottleneck asset business to be reconsidered. However, the ability to make such adjustments is an advantage of the functional separation model, as compared with full structural separation.

### *The impact on the incentives to invest*

Concerns could be raised that mandating vertical separation as a regulatory remedy could reduce the incentives to make substantial investments in next generation networks. It is important to stress, however, that even with a functional separation remedy in place any separate business unit would remain part of the vertically integrated operator. For any substantial investments, such as the national rollout of new fibre access network, ERG recognises that this would require a company as a whole to raise the necessary funds and make the decision to invest.

If share price is an accurate reflection of investor sentiment and confidence then the evidence in the case of BT needs to be considered. Following the announcement of the undertakings in the United Kingdom, BT's share price increased. After almost two years, BT has shown a relatively strong share performance compared with many of its European peers. There are many factors which would influence the share price of an undertaking however it is clear the undertakings entered into by BT were not perceived by the market as a disincentive to invest.

## **Conclusions**

ERG believes functional separation can be a supplementary remedy in markets where non-discrimination has been shown to be ineffective in dealing with problems of equivalence in wholesale markets. NRAs will need to judge the cost and benefits of such a remedy and will need to base its decision on completed market reviews covering the full remit of the wholesale markets. In this sense, in some cases, Functional Separation can address competition problems, but in other cases, the strengthening of the non-discrimination obligation can be sufficient to address the competitive issues some NRA's could face.

The degree of separation proposed in national markets has to take into account the wholesale products and the organisational structure of the SMP operator.

ERG, as discussed above believes functional separation reinforces the existing remedies and complements them ensuring that NRAs can intervene where particularly non-discrimination behaviour which cannot be addressed through other

remedies can be addressed through functional separation as a supplementary device.

## Case study: the UK experience of functional separation<sup>9</sup>

As a NERA report commissioned by Deutsche Telekom identified in its analysis of functional separation in the UK:

*“The overarching purpose of these measures is to facilitate deregulation over time and a benefit of proposing and implementing these measures in advance is that it promotes more investment by creating more certainty for investors. This move towards deregulation places BT’s downstream competitors on a level playing field with the incumbent. This should lead to more entry to downstream markets and increased competition in terms of both price and quality.”<sup>10</sup>*

When Ofcom was established in 2003 it was faced with a situation where competition was restricted in upstream markets for access and backhaul services. BT was a vertically-integrated operator with SMP in these wholesale markets, while also enjoying a substantial presence in the directly related retail markets. This gave BT the ability, and the incentive, to discriminate against its downstream competitors (who are also upstream customers). Human factors exacerbated the problem, such as the fact that managers of wholesale and retail products often worked in close physical proximity to each other and on the same projects.

In September 2005, BT took the decision to offer Ofcom a series of legally-binding undertakings, in lieu of a reference by Ofcom to the Competition Commission (who could have potentially mandated full structural separation). The undertakings included the formation of a separate access and backhaul business unit to be called *Openreach*.<sup>11</sup>

Notably, BT’s undertakings relate not only to its existing network, but also to future investments in BT’s NGN, known as *21CN*. BT will continue to provide unbundled access to its NGN that on the basis of “equivalence of input”, offering new retail products through its downstream business unit only when it is able to offer the

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<sup>10</sup> NERA Consulting, ‘Deregulation in Europe, Prepared for Deutsche Telekom’, December 2005, pp. 16-17.

<sup>11</sup> It should be noted that this was done pursuant to UK competition law, under the Enterprise Act 2002. However Ofcom simultaneously retained, and still retains, its full set of powers under the Framework.

relevant wholesale products to its upstream customers (who are its downstream competitors).

The BT undertakings have been in place for almost two years. Early indications are that the policy is working well in practice. Openreach went from a theory to a practical reality in six months. Its creation has prompted a new wave of investment in the UK electronic communications market, which in turn has triggered a major price war in the retail broadband market and led to a range of innovative broadband services being offered to end-users.

BT's legal binding undertakings gave alternative providers in the UK the regulatory certainty to climb the ladder of investment, going from simply reselling wholesale services provided by BT, to physical investments of their own, ever closer to customers' premises.

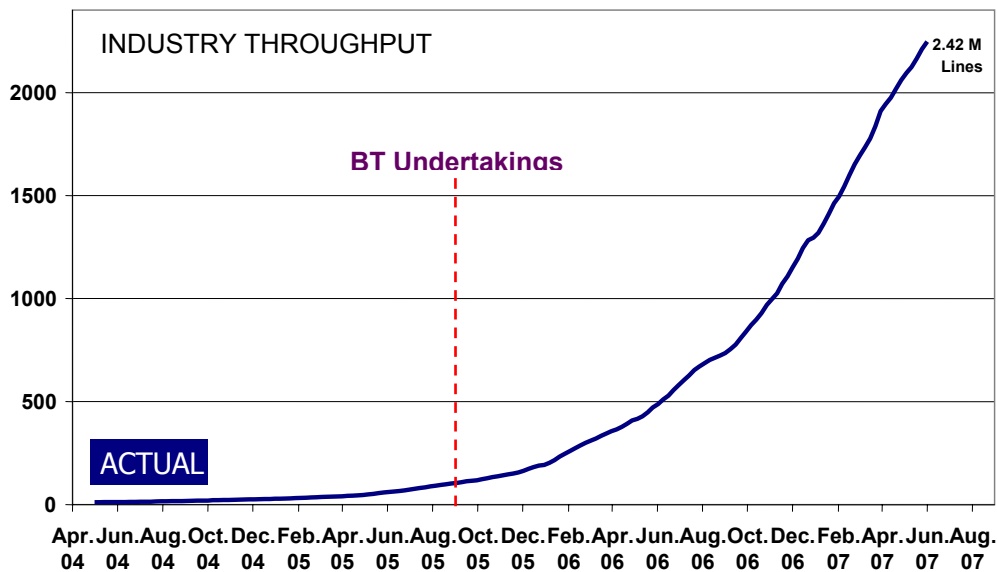
Generally, alternative network operators have provided feedback to Ofcom that functional separation has resulted in the establishment of a commercial organisation that is as independent as possible, short of what would have been achieved through full structural separation. There is also recognition that senior BT management are doing things differently, and that there have been noticeable improvement in the efforts to deliver system / product / process changes, as well as improved transparency of internal supply.

As a direct consequence, there has been a substantial increase in the volume of orders for access from alternative providers. According to the Office of the Telecommunications Adjudicator (OTA) There are now 2.42 million unbundled lines, as of June 2007: prior to the acceptance of BT's undertakings in September 2005, there were just 105,000 unbundled lines<sup>12</sup>.

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<sup>12</sup> OTA, <http://www.offta.org.uk/>.

### Unbundled lines in the UK: actual installed base ('000)

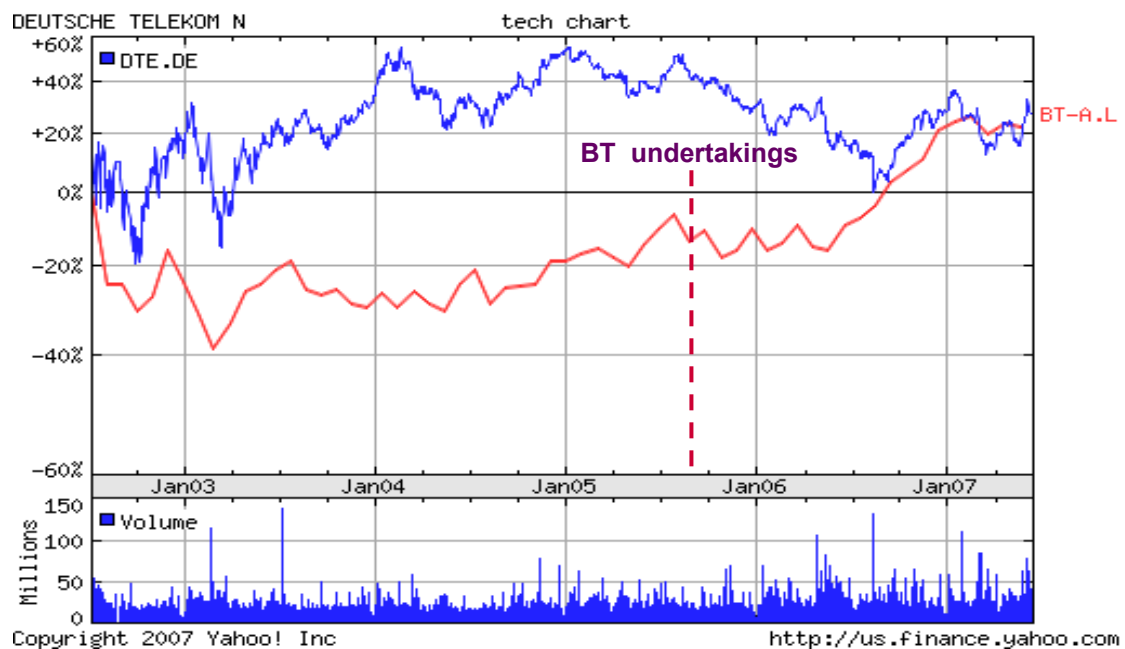


Inevitably such a substantial increase in orders has led to service delivery problems. And admittedly the focus on getting the new organisation in place and agreeing performance targets, and achieving equivalence for existing services, has not been without its difficulties in relation to the launch of new services. However, it is generally felt that these are transitory problems that will be resolved in the fullness of time. In any event, many of the teething problems relating to quality of service have been suffered equally by BT's own downstream divisions as they have been by competitors. They are no longer, in other words, problems of discrimination and the level of formal investigations against BT has fallen.

BT has stated publicly that it has benefited from retaining the efficiencies of a vertically-integrated operator and from the removal of the spectrum of more draconian regulatory remedial action (structural separation), thereby enabling it to invest and innovate with greater freedom. Without this assurance, BT would undoubtedly have been more reluctant to commit to investing in its 21CN NGN core network to the tune of around £10(€15) billion. BT has also publicly refuted any suggestion that it has delayed investment in NGA networks as a result of functional separation. On the contrary, BT is considering a phased introduction of higher bandwidth services based on its assessment of the economic and commercial risks of doing so. Separately Ofcom is in the process of reviewing its regulatory approach to NGA in order to ensure that the risks of investment are appropriately reflected in the regulation of NGAs, providing further certainty to the marketplace.

With respect to regulation, Ofcom has been able to deregulate specific retail markets and BT's share price has risen partly because of confidence that there is a new stability in its relationship with the regulator.<sup>13</sup> Indeed, generally speaking the confidence of the financial markets has not been dampened by the functional separation of BT. The creation of Openreach and its separate financial reports in fact provides a clearer, more transparent, picture of the financial performance of BT's business as a whole. Following the announcement of the undertakings BT's share price increased (as did the share prices of UK alternative operators). After almost two years, BT has shown a relatively strong share performance compared with many of its European peers.

### BT's relative share price performance: before and after functional separation



<sup>13</sup> It should be noted that this scope for deregulation has arisen as a result of the market reaching certain verifiable milestones. The introduction of Functional Separation should not be seen as a quid pro quo for deregulation.