STRUCTURAL AND FUNCTIONAL SEPARATION

THE EXPERIENCE IN EUROPE SO FAR

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Functional separation is one of the hottest topics on the regulatory agenda, and is likely to continue to be so for some time, given the prospects of re-monopolisation associated with the increased economies of scope and scale of next generation networks, and given the significant investment levels required to provide broadband access to all users. This article provides a scan of European experience since the UK embarked on the creation of Openreach two years ago. In this paper our main emphasis is with the development of the concepts and the practice of structural and operational separation to achieve pro-competitive regulatory objectives. We are not especially concerned with structural separation as a result of initiatives to realise increased shareholder value and, for that reason, we have provided only a short commentary on the situation with eircom, the Irish incumbent operator. Our conclusion should be no surprise – structural and functional separation models are still a work in progress in Europe and the European Commission still has some way to go to fully lay out and codify the approach that it may consider appropriate for the Member States. At present, the initiative is with individual countries, and this in itself raises issues for future harmonisation.

INTRODUCTION

National regulatory authorities worldwide have the task of balancing measures that are *ex ante*, i.e. applied in advance as a framework in which competition should develop and operate, with those that are *ex post*, i.e. applied in response to anti-competitive behaviour. In general the balance in those sectors of the economy that are liberalising, or in which there are embedded elements of market power, favours *ex ante* controls. Telecommunications is in this category. However, as competition takes hold and becomes established, the policy preference is to move to *ex post* measures of the kind that may apply to the economy as a whole, and be applied by general competition authorities.

It is one thing to have a policy preference in the way in which potential anti-competitive behaviour may be controlled, but it is another thing entirely to apply it in the case of telecommunications, an industry subject to dynamic changes in the underlying technologies, cost structures, demand patterns and relationships between infrastructure and service providers at various levels. Over the past five years the European Commission has refined the notion that the actions of telecom industry-specific regulators in applying *ex ante* remedies to address market power (or dominance) should be restrained and that they should be proportionate to the circumstances. This is in recognition that regulatory intervention may well distort market development and negatively impact on the significant investments that are needed to implement next generation core and access networks. Regulation needs to be sufficiently sensitive and 'light touch' to let the market determine to the maximum extent its own development. This is the theory. In practice, governments in Europe as elsewhere realise that national competitive positioning is at stake, and

find it difficult not to be involved. They want universal broadband access and services in place at the earliest time. Some make financial support from the taxpayer available.

WHAT IS DIFFERENT ABOUT BROADBAND?

Next generation core and access networks will change radically the value and commercial relationships in the ICT sector and the economy as a whole. New economies of scale and scope make it imperative to revise the regulatory framework to enable access to essential infrastructure to retain competition at the service level. Integrated operators, especially those that have become established or remain so through incumbency, present a regulatory challenge. The ways in which these operators conduct transactions between their infrastructure, wholesale and retail organisations are critical for the survival of competition elsewhere in the industry. Broadband turns up the wick.

SEPARATION REMEDIES

Regulators may need to monitor and prevent integrated operators with market power from using this to subvert competition. The three remedies that may be applied are:

(A) ACCOUNTING SEPARATION:

This is a non-structural remedy; it is a requirement that forces greater transparency in accounts to be able to work out the real costs involved in the production of regulated services in order to avoid margin squeeze or cross-subsidisation, or simply as a functional objective for cost-oriented obligations. It is a tool that is already available to European regulators, and is in fact part of the remedies that they can use where they find significant market power (SMP) in specific markets.

(B) STRUCTURAL SEPARATION:

Structural separation means that the incumbent is forced by the regulator to sell off a division or part of the company, or to place those assets under arm's length joint ownership (Dounoukos and Henderson 2003, 44) to comply with regulatory obligations. It is a very strong measure as it implies a change of ownership. It is also a radical measure, but could potentially simplify the regulator's job by removing any incentive the incumbent has to discriminate against alternative providers.

(C) FUNCTIONAL SEPARATION:

Functional separation is very similar to structural separation as it requires the creation of separated divisions within the incumbent to comply with regulatory obligations, but does not imply a change of ownership so is a weaker measure. It requires operational and management separation to be carried out and, potentially, decisions to be made, by the separated division independently of the rest of the company. The most well-known example since 2006 is that of BT's Openreach, the creation of which was requested by Ofcom as a result of the UK's Telecom Strategic Review (Ofcom 2003).

Accounting separation in one form or another has been a regulatory tool (or remedy) for some considerable time. Although important in the regulatory repertoire, accounting separation has its limits. It is labour intensive to undertake and to analyse and monitor, and at the end of

the day it addresses only the accounting aspects of internal transactions. It does nothing about a range of other issues that enable an integrated SMP operator to gain potential unfair and anti-competitive advantage, including information asymmetry, joint planning, internal preference, and differential service quality at multiple levels of operation. Regulators have found that more stringent measures are often required to combat the dominance of SMP operators.

ARGUMENTS FOR AND AGAINST SEPARATION

In both cases – functional separation and structural separation – *ex post* separation brings some level of disruption in the previously vertically integrated incumbent. Economists would argue that breaking a vertically integrated business up into two divisions introduces inefficiencies and increases costs. The main duplications may be structural (i.e. the platform and interfaces needed to manage products and services), but could also appear in manpower (e.g. engineers, administrative resources). A separated business would also introduce some transaction costs between the two parts of the business that were previously united, and again bring in inefficiencies. The level of such inefficiencies is difficult to quantify *ex ante* and really depends on the type of separation chosen and how they are set up in practice.

Separation may also break up some information flows within the incumbent, and ultimately cause bad planning or disruption. Investment co-ordination is also likely to be affected. In a world where the network owner is a third party subject and acts in a full monopoly regime (structural separation model), there is no reason for there to be optimal levels of investment in the industry. Investment levels would no longer depend on end-user market needs, but would depend entirely on, and be controlled by, an organisation that has no direct relationships with the retail customers and no competitive pressures to react to. The scope for heavy regulation still remains, although regulatory action is probably simplified. Conversely, in functional separation the same ownership of the separated division will favour greater investment co-ordination, at least at board level, and the incumbent will plan its investment according to a profit-maximising logic that includes both the separated division and unregulated downstream activities.

Structural separation and functional separation also have other important differences. The first is a sort of path of no return; once you have separated assets and created a new company, it is difficult to change position in the short term, hence it is very important to get the line of separation right. In the case of functional separation (for example, the situation in the UK), the regulators in fact draw a demarcation line that has relevance, but can always be adjusted at a later stage, given the same ownership, or it would at least be less problematic to do so. This aspect is particularly relevant as we approach an era of major transformation and technology evolution in telecoms, where incumbents migrate to all-IP solutions, sometimes also referred to as next-generation networks (NGNs).

In an NGN world, the traditional boundaries between local access and backhaul are blurred, and one could argue that it is more sensible to create a network company ('net-co'), including all network elements, rather than merely a local loop company ('loop-co') that includes only those physical assets and electronics sitting between the end users and the local exchanges.

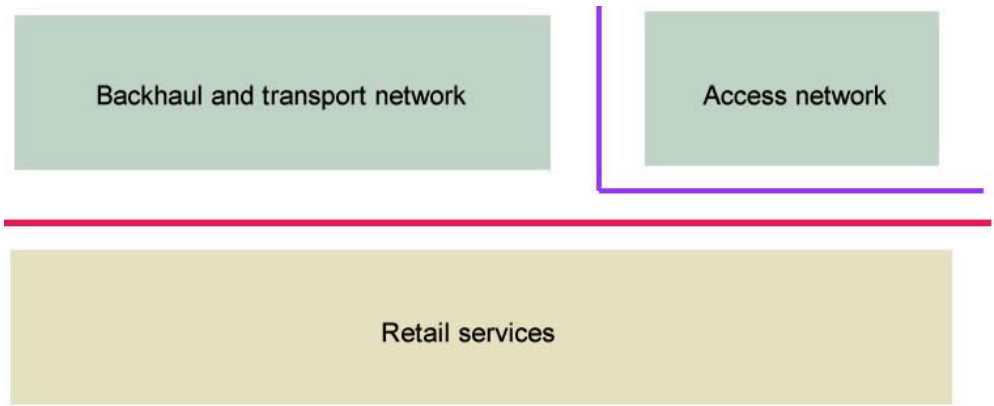

Figure 1 Where to Draw the Demarcation Line – Red or Blue or Both?
Source: Ovum

Given this overall regulatory approach taken within Europe, it is instructive to examine some of the lead countries in this field, within the EC framework, and where their concerns about the need for separation have led them.

EUROPEAN FRAMEWORK REVIEW

In November 2007, the European Commission presented its proposals for the reform of the current telecoms framework (EC 2007a). After the UK experience of Openreach and BT, EU Commissioner Viviane Reding was particularly keen on introducing separation as a new remedy. In fact, the legislative proposals provide National Regulatory Agencies (NRAs) with the additional remedy of functional separation (i.e. forced separation of activities without divestiture of assets) as an exceptional remedy subject to Commission supervision. The NRAs were responsible for asking that functional separation be added to the 'toolbox' of possible remedies to address persistent competition problems.

The addition of functional separation as a remedy would be achieved by modifying the current Access Directive to include Articles 13a & 13b. (EC 2007b) While the decision to use this remedy is subject to approval by the Commission, the Commission itself would also have to seek the advice of the proposed new Market Authority – consisting of regulatory representatives from each member state. This could be a potentially very useful input, since countries that have already experienced separation can share the lessons learned during its implementation and may be more qualified to decide where it should and shouldn't be recommended. For new member states that suffer from a lack of resources, this additional expertise may be invaluable.

The Commission has so far been very careful to provide guidelines about how the remedy might be used. It believes that in exceptional cases, the remedy may be justified where there has been persistent failure to achieve effective non-discrimination in several of the markets concerned, and where there is little or no prospect of infrastructure competition within a reasonable timeframe, after recourse to one or more regulatory actions previously considered to be appropriate.

ITALY

The alternative providers' community in Italy had in the past insisted heavily on the ineffectiveness of the current regulatory situation in guaranteeing fair and equitable access, and has taken Telecom Italia (TI) to court in many circumstances over alleged discriminatory behaviour.

In April 2007, the former leading stakeholder in TI, Pirelli, announced its intention to sell off its controlling stake in the incumbent and referred to negotiations running with AT&T and America Movil. The idea of potentially moving the control of the Italian incumbent outside the Italian border created turmoil at the political level, and the immediate reaction was to call for stronger and more transparent rules. Negotiations with AT&T eventually failed and Telefónica became the new partner of the Italian shareholders, replacing Pirelli in a new holding company.

Meanwhile, TI worked out an investment plan for the financial community that also referred to NGN investment (NGN2 in the so-called Pileri plan, taken from the name of TI's CTO). Investment in NGNs in the plan is limited to an amount of €6.5 billion in the next decade with only a few hundred million euros in the first two to three years. The size and the significance of the NGN investment are likely to be influenced by the debate surrounding separation.

In April 2007, the Minister of Communications, Paolo Gentiloni, decided to put forward a draft modification for Article 45 of the Italian Code of Communication, which would give the telecommunications regulator, AGCOM, greater powers, particularly in carrying out functional separation of the incumbent.

In mid 2007, AGCOM launched a consultation aimed at collecting all stakeholders' views on functional separation. In fact, the topic of the consultation was rather broad, with questions spanning the effects of separation on the investment in the access layers, the potential for retail deregulation, the impact on universal service obligation, and the need for *ex post* intervention rules. The consultation closed in July 2007, but has not yet resulted in a set of final proposals.

THE CURRENT SITUATION

The newly established ownership was only being formalised in October 2007, and the debate around separation became stalled. With the new board being appointed only in December 2007, meetings with AGCOM on separation were delayed. Subsequently, however, TI has announced a reorganisation of its Technology Division into four main units, one of which is called 'Open Access'. Open Access is not a functionally separated division and may be seen as a step back from previous announcements by the company. AGCOM is likely to come back on the issue soon, but has yet to do so in a public way at the time of writing.

IRELAND

In 2006 the venture capitalist firm, Babcock & Brown (B&B) acquired a controlling interest in the Irish incumbent operator, eircom, and did so through increasing the gearing of the company to over 80% to cover the cost of acquisition. This was a standard private equity purchase method, and was followed by an equally standard approach to retiring some of the debt through reorganisation and part-sale. B&B is seeking Irish regulator approval for a form of structural separation which would create a highly regulated NetCo. NetCo would be an effective infrastructure monopoly and as such it would be valued higher because of greater certainty over future revenues.

The new owners however have challenges to address. Some debt has been retired through equity sales of smaller units, and through the placement of commercial paper. However the central issue of structural separation into NetCo and ServCo remains. The global increase in the price of debt has made the question more acute for them.

As B&B seeks to deliver maximum value from eircom, it has to contend with pressures on several fronts.

The unions at eircom are quite strongly positioned, and, although not a common occurrence, they are willing to threaten strike action in support of industry disputes. This, coupled with the power of the Eircom Employee Share Ownership Trust (Esot) that owns 35% of eircom, means that the staff and ex-staff are in a strong position to negotiate as they effectively sit on both sides of the table. However, it does mean that if sufficient business value is generated by changes in working practices and affected staff satisfactorily compensated, the ESOT should support change, as it benefits its members.

There remain quality problems in the local loop which prevent ADSL broadband from being provided. Pair gain equipment and shared lines, installed to increase PSTN line availability still cause problems. The costs of upgrading the access network are significant, as are the levels of investment needed to implement NGN upgrades to eircom's core and access networks.

B&B is in no way concerned to establish a suitable regulatory model; its interest is commercial. However the Government and the regulator, ComReg, are concerned about appropriate outcomes that will sustain competition, investment and development after the 'Irish economic miracle' is past.

THE CURRENT SITUATION

It is unclear how the impasse will be resolved. B&B are still proposing structural separation, but this cannot happen without government and ComReg support. That in turn is unlikely until the NetCo / ServCo boundary is agreed. Additional investment from government may need to be considered. B&B has suggested that the Government take ownership of the Metropolitan Access Nodes as a form of aid from the State. This is an unlikely outcome, but the messiness of the current situation is clear.

In the meantime, investment in NGN core and access transformation with FTTC (Fibre to the Curb) has been delayed.

SWEDEN

In April 2007 the National Post and Telecom Agency (PTS) was directed by the Swedish government to investigate the preconditions and opportunities for introducing a remedy for the electronic communications legislation (LEK) to promote non-discrimination and transparency in access to the local loop (LLU). The inquiry has used the 'proposed broadband strategy for Sweden' report presented by PTS on 15 February 2007 as a basis for the assignment. The major findings from this report suggested that the buy-sell relationship was not functioning between TeliaSonera and the undertaking's wholesale customers. It was considered that this situation impeded Sweden's potential and has resulted in the country falling behind its Nordic neighbours. After carrying out an overall assessment of functional separation and the effects that this can achieve, PTS felt that functional separation should rectify the competition problems identified in the market.

PTS describes its decision as an elaborate legislative proposal involving an amendment to the LEK (Act), which is aimed at enhanced protection against discrimination via separation and equality of input, and a possibility to accept voluntary undertakings.

The main principle in the bill is that the separated part should be a separate legal entity in the form of a limited company. This goes beyond what was undertaken in the UK with Openreach.

The PTS launched a public consultation on its proposal and invited comments from the industry. TeliaSonera responded aggressively, announcing that it will establish a new infrastructure company that will cover copper and fibre networks and multiplexing, and will ensure that services are provided on equal terms to TeliaSonera wholesale customers, as well as to the company's retail arm. In the statement, TeliaSonera made it clear that it rejects PTS's plans for functional separation because the broadband market does not need it, and it could potentially be in breach of its ownership rights as protected by the Swedish constitution.

CURRENT SITUATION

On 18 March 2008, the Swedish government approved the Bill of 'Functional separation for better broadband competition'. The proposed act is due to come into force on 1 July this year.

The Bill gives more power to the regulator, PTS, to intervene through functional separation in order to improve competition in the broadband market. It is inspired by BT's Openreach, and will ensure TeliaSonera cannot discriminate in providing access to its copper wire network. It means that functional separation will become a new tool for PTS much earlier than the EU Framework proposal, which is due to come into force by 2010, and where functional separation is listed as a last-resort remedy.

UNITED KINGDOM

Openreach was launched in January 2006 as the first independent access service division in the world. The new part of BT was created to deliver installation and maintenance services on behalf of the UK's telephone and Internet service providers. With the launch of Openreach, UK communication providers are provided with equal access to the local access network. Openreach is responsible for the whole access network and the large majority of BT's regulated products will be under its management.

It was as a result of Ofcom's Telecom Strategic Review (TSR) in 2003 (Ofcom 2003) that a structural separation between the access network service division and the rest of BT was suggested. BT responded to this by suggesting a weaker separation, namely an access service division that is still a part of BT, albeit with its own governance, headquarters and staff. Further Openreach performance would be monitored by the newly created Equality of Access Board (EAB). It would monitor the delivery of the undertakings given by BT to Ofcom, and will therefore also monitor the performance of BT Wholesale in certain areas. Although chaired by a non-executive director of BT, the majority of the EAB consists of independent external members.

All communications providers, including BT, were to be provided with wholesale regulated products that respond to the principle of equivalence of access and information.

Openreach is currently operating the services of LLU, wholesale line rental (WLR), number portability, wholesale extension services, backhaul extension services and Ethernet. EAB is the body responsible for monitoring, reporting and advising on BT's compliance with the undertaking

– the contract between Ofcom and BT – with a special focus on EoI and the operation of Openreach.

In this model, the key features of the regulatory settlement are as follows:

- the requirement to provide 'equivalence' – the provision of the same wholesale
- product with the same quality, price, timescale and conditions, to BT and alternative providers
- functional separation of all bottleneck elements of the BT network into Openreach
- the creation of a new Equality of Access Board to oversee the implementation of the undertakings
- forward-looking commitments in relation to the design and functionality of BT's next-generation network
- establishing 'Chinese walls', which require that no exchange of information takes place between Openreach and other parts of the BT Group.

THE CURRENT SITUATION

Since becoming operational on 1 January 2006 there has been much focus and debate around how successful the experience has been. In truth, the experience with Openreach is still rather recent, and it is probably too early to reliably assess the outcome. However, it is widely reported that when Openreach went into operation at the beginning of 2006, only 200,000 phone lines had been unbundled in the UK over the years. By March 2008, the number of unbundled lines had grown to 4.3 million.

According to its annual report for 2006/7 the EAB is generally satisfied that Openreach has complied with the undertakings relating to its operations and governance, although some breaches have occurred. While the EAB is generally positive about the performance of Openreach, it states that not all SMP products covered by the undertakings have passed EoI milestones. Of those that have, there are some differences in the levels of service provided to BT providers compared with non-BT providers.

The general response of the alternative providers is that the decision to implement functional separation was a positive one. However, some alternative providers have claimed that the result has been an implementation 'to the letter' of what BT intended, but not 'in the spirit' of the agreed undertakings. They conclude that the undertakings have allowed BT to 'tick boxes' rather than deliver real equivalence.

CONCLUSIONS

Functional separation and structural separation are both intrusive structural regulatory remedies aimed at guaranteeing greater transparency and effectiveness of the regulatory framework. In the first case, operations and management of the separated division are independent; in the latter, an entirely new entity with separate ownership is created.

Implementing separation brings some disadvantages; these include inefficiencies in the separation of businesses, duplication of resources, and potentially increased transaction costs and problems in co-ordinating investment. These need to be weighed against the potential advantages of injecting real competition in future products and services.

The roadmap that brought the debate on separation is different for different countries. While in the UK and Sweden the incumbent's discriminatory behaviour is the main cause of the debate, in other countries the need to make substantial next-generation network (NGN) investment in next-generation access is seen as a related issue and one that should be taken into account when deciding on separation.

In most countries, functional separation seems to be preferred over structural separation because of its greater flexibility. Within the EU Member States, structural separation has only been discussed seriously in Ireland.

The new EU reform in 2007 will most probably empower EU national regulatory authorities (NRAs) to implement functional separation and to use it as an additional remedy, but it will take time before the new changes are received in the final directives and national laws. Such changes may prove to be too late and of no effect if NRAs and national governments decide to modify their national communication laws beforehand. The tension between lead states and EU harmonised practice exists here as in other fields. Overall, structural and functional separation is very much a work in progress.

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