

**Response to Ofcom's
Approach to Risk in the Assessment of the Cost of Capital
Second Consultation**

By

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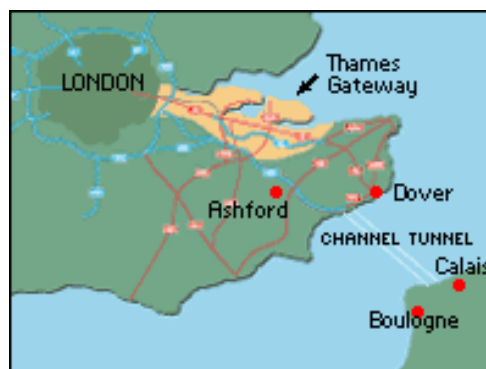
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1. Executive Summary

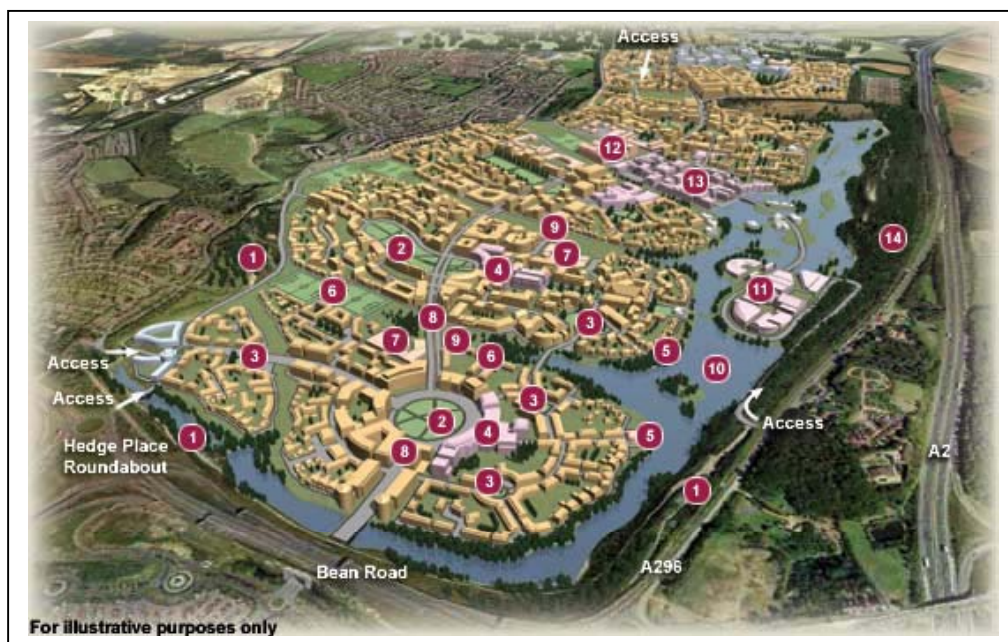
- Land Securities is a major property development company.
- We are currently undertaking one of the largest residential and commercial property developments in the Kent Thameside area at Ebbsfleet Valley. This development, which will take place over 20 years, will consist of 10,000 new homes and 750,000M² of commercial space.
- Ebbsfleet Valley will have excellent physical communication links via the new Channel Tunnel Rail Link to London, Paris and Brussels. It is our intention that Ebbsfleet Valley should also have a world class electronic communications infrastructure.
- Land Securities plans to invest, either individually or in partnership with an established network operator, in an advanced fibre-optic network in Ebbsfleet Valley which will deliver a Next Generation Access Network (NGAN) to both residential and business customers choosing to locate in Kent Thameside.
- The regulated cost of capital for BT's copper access as a result of this consultation will have spillover effects on the incentives to invest for companies interested in developing NGANs. We wish to see that Ofcom strikes a balance in its final decision between incentivising BT to become more efficient in its use of existing resources and encouraging "dynamic efficiency" gains through investment by BT and others in new infrastructures.
- If the cost of capital is set at too low a level it is likely that consumers will gain in the short term through lower prices of current generation networks. However, there will also be a chilling effect on investment which will be to consumers' and citizens' long term detriment.
- By contrast too high a cost of capital may encourage inefficient investment in alternative infrastructures and we would certainly not like to see any form of regulatory subsidy.
- We recognise that Ofcom has a difficult judgement to make between setting the cost of capital too low or too high. Overall, we agree with the statement Ofcom makes in its consultation document that ***"...the costs associated with setting too low a cost of capital are greater than those associated with setting it too high"***

2. Introduction: The Kent Thameside Development

Kent Thameside lies within the Thames Gateway Kent Partnership, an area stretching from Dartford, through Medway, to Faversham and the Isle of Sheppey. The Urban programme focuses on socio-economic inclusion, in line with the rest of the Thames Gateway area, to share in the prosperity of the South East of England.



Within Kent Thameside are a number of major development including Land Securities' Ebbsfleet Valley which will incorporate up to 10,000 new homes set in residential villages, 750,000m² of commercial space and other key areas for recreation and transport connections. Ebbsfleet Valley is bounded by the M25 to the west, the new channel tunnel rail link (CTRL) to the east, the A20/M20 to the south and the Thames to the north. From east to west it is equivalent to the distance between the Tower of London and Trafalgar Square.



Land Securities plc has, for sixty years, been the leader in property investment, management and development. We provide office accommodation to more than 300,000 people and every year our retail properties are visited some 300 million times. Our Urban Community Development programme comprises development opportunities in areas which have been identified by the Government as areas of growth. They typically involve long term investment, for example, Kent Thameside, which is being delivered over 20 years. Ebbsfleet Valley is a project within Urban Community Development.

3. The Importance of Information and Communication Technology

The Kent Thameside development in general, and Ebbsfleet Valley in particular, represent a unique opportunity to invest in advanced, future-proof information and communications technology infrastructure for residential, business and community users alike. It is our objective to ensure that all our customers have the opportunity to access the most advanced communications infrastructure, whether wired or wireless, that they need and can afford. Ebbsfleet Valley is expected to be a 20 year development and so it will be essential for us, and our customers, to ensure continued development of the infrastructure to guarantee continued access to advanced communications technologies.

Kent Thameside will have an excellent physical communications infrastructure. The new CTRL will provide a high-speed connection to London, Paris and Brussels and it is within easy reach of the motorway network, the channel tunnel, channel ports and London Gatwick and Stanstead airports. We intend to ensure that the development also has excellent electronic infrastructure connecting the Thames Gateway to the rest of the UK, Europe and the world.

Our commercial objectives complement the policy objectives of both the European Union and the UK government.

The new European Commission, through its i2010 initiative, is putting renewed energy into the achievement of the Lisbon Agenda, originally set out in 2000. Viviane Redding, the Member of the European Commission responsible for Information Society and Media, clearly recognises the importance of ICT in promoting productivity and innovation. She said in a recent speech that

“Information and Communication Technologies [...] are increasingly instrumental to growth and jobs. They are the “enabling technologies” par excellence. They underpin innovation and creativity in all sectors and are responsible for around half of the productivity growth in our economies.

The UK government has an objective to make the UK the best place in the world for e-business, with an extensive and competitive broadband market. At Kent Thameside we want to make a significant contribution towards achieving this goal through investing in advanced communications infrastructure for businesses, consumers and community facilities. Kent Thameside will become a beacon community leading Britain's continued “broaderband” development.

4. The Approach to Risk in the Assessment of the Cost of Capital

4.1 Introduction

Our principal concern with this consultation is the effect of BT's cost of capital on other network providers' incentives for investment. It is Land Securities' intention to invest, either individually or in partnership with an established network operator, in an advanced fibre-optic network in Ebbsfleet Valley which will deliver a Next Generation Access Network (NGAN) to both residential and business customers choosing to locate in Kent Thameside.

We are pleased to see that in paragraph 1.6 of the second consultation document that Ofcom recognises the importance of incentives to invest and, in particular, the scope for investment by competing network providers. We are also pleased that Ofcom recognises such incentives may be in conflict with the need to protect consumers from excessive pricing in markets in which there are enduring economic bottlenecks. We fully agree with Ofcom that "...the costs associated with setting too low a cost of capital are greater than those associated with setting it too high" (paragraph 3.29).

When setting the cost of capital for BT, Ofcom will inevitably affect the value of the company and the returns to shareholders. Our concern here is that there will be "spillover effects" on the value of other companies which may wish to invest in NGANs which could have dampening effects on their potential returns and therefore their incentives to invest.

We have chosen not to answer directly the questions raised by Ofcom in this second consultation but to address the general principle of the effect BT's cost of capital for copper access will have on new investments. In the following sections we discuss the economic efficiency objectives affected by the cost of capital, relevant markets and the spillover effects on NGANs. Finally, we extend Ofcom's discussion of Type I and Type II errors in paragraph 4.92 to address the problem of investment incentives by other companies.

4.2 Economic Efficiency Objectives

The regulation of prices, for which the cost of capital is an important component, can involve a number of different goals. As Ofcom recognises these goals may be in conflict with each other.

Economic theory informs us that there are three types of efficiency losses which may emerge in decentralised markets. The first of these - allocative efficiency loss – is typically associated with the distortion of customer behaviour through inappropriate prices caused by market power. The second potential social cost is productive inefficiency – where inputs are not being used in the most cost efficient manner (i.e. slackness or 'X-inefficiencies'). The third potential loss arises from dynamic inefficiency – where incentives to invest and innovate are not at their social optimum.

In the regulation of access rates, we often see these issues raised. For example access prices set at costs are usually thought to increase allocative efficiency and reduce cross-subsidization between users; price-capping is often thought to send cost-efficiency incentives to operators.

Unfortunately the use of one policy instrument (price regulation) to address these goals simultaneously may not be achievable and conflicts may arise between them.

Our primary concern is to see that dynamic efficiency gains are not sacrificed to promote productive efficiency in the copper access network.

From an overall economic welfare perspective, dynamic efficiency is the most important as it is this form of efficiency which drives forward economic growth and development. In discussing the role of dynamic efficiency in merger policy, Prof, Michael Porter has written:

Because of its direct effect on productivity growth, the most important goal for society is a healthy process of dynamic improvement, which requires innovations in products, processes, or ways of managing. If the rate of dynamic improvement is healthy, over time this dominates static technical and allocative efficiency concerns. For example, a faster rate of innovation in new approaches overwhelms static economies of scale in existing approaches, particularly in an age where knowledge-based competition is the rule¹.

As a company which wishes to innovate in every aspect of our activity, we fully concur with Prof. Porter's observation which is relevant to both the UK and the Lisbon agendas. Fibre, and more specifically the services which can be delivered over it, represent a qualitative leap forward in development which will bring about dynamic efficiency gains through providing the platform for the development of innovative information services. We do not want to see the opportunity for dynamic efficiency gains being compromised by an excessive preference towards allocative and productive efficiency.

4.3 Market Definitions

The proposed settlement with BT as a result of the Strategic Review establishes the Access Services Division (ASD). This will "control and manage the physical layer assets of the access and backhaul networks" (Notice Under Section 155(1) of the Enterprise Act 2002: Consultation, Ofcom 30th June 2005, para 5.26). According to the footnote in this paragraph of the Notice, "physical layer' means the duct, *fibre*, copper and other non-electronic assets in a network" (our emphasis).

It appears therefore that the well established copper access network for which Ofcom will wish to incentivise both allocative and productive efficiency is in the same division as next generation access services where Ofcom will wish to incentivise dynamic efficiency gains.

Further, in its consultation paper on NGNs² Ofcom shows, (Figure 2, p7) several different access networks connecting to both current generation and next generation networks. Whilst some of these access networks are currently regarded as belonging to separate economic markets, e.g. PSTN and mobile, other are already in the same market (copper xDSL and cable) whilst others use the same asset to deliver different services (copper to deliver both xDSL and PSTN).

The extent to which current generation access networks, specifically copper, and NGNs, e.g. fibre, would belong in the same market is crucial to the setting of the cost of capital and therefore investment incentives. It is our view that fibre offers superior capabilities to copper, providing higher speed access capable of supporting a higher range of information services. Just as consumers trade up from dial-up

¹ Porter, M. E. (2002) *Competition and Anti-Trust: A Productivity Based Approach* Mimeo. Available at <http://www.isc.hbs.edu/053002antitrust.pdf>

² Next Generation Networks: Further Consultation, Ofcom, 30th June 2005.

Internet access to xDSL, and we note that there are now more broadband than dial-up Internet subscribers³, so we would expect that consumers, given the choice, would trade up to fibre. Whilst copper and fibre may not be perfect substitutes, they are undoubtedly partial substitutes. We believe that any objective analysis of copper and fibre access would show that, whilst they are vertically differentiated products⁴, there is sufficient demand side substitutability to declare that they belong in the same market.

Below we explore how applying a lower cost of capital to current generation access networks will, given demand side substitutability, negatively affect the investment incentives in NGNs.

4.4 Spillover Effects

Assume two access technologies, fibre (f) and copper (c), which are partial substitutes as discussed above. Consumers' preferences are described by

$$U = Y_s - p$$

Where U is utility, Y is the consumer's income, s is the quality of the good and p is price. Suppose that two firms are considering an investment in two different qualities s_1 and s_2 , where $s_2 > s_1$ (In our example s_2 = fibre and s_1 = copper). Each firm will wish to find where the marginal consumer lies to determine the demand for its good. The marginal consumer, that is the consumer Y_i who is just indifferent between buying the low quality good and the high quality good, occurs where

$$Y_i s_1 - p_1 = Y_i s_2 - p_2$$

If each consumer buys only one unit of the good or none, if there is a uniform distribution of incomes and the market is covered, then the demand for each product is just the set of incomes corresponding the consumers who choose it, that is $Y_i - Y_{\text{low}}$ is the demand for the low quality product (copper) and $Y_{\text{high}} - Y_i$ is the demand for the high quality product (fibre).

We now suppose that the costs for the two goods are identical apart from the cost of capital which is equal to c. Profits for firm 1 (where D_1 is demand for firm 1's product) are given by:

$$\pi_1 = (p_1 - c_1)D_1(p_1, p_2)$$

and firm 2 profits are defined analogously. The cost of capital for each firm is independent of the other, i.e. the c_c has no effect on c_f , but as each firm prices at cost, it does affect price. Firm 2, the firm considering an investment in fibre, can bear a higher cost of capital provided that the difference is not so great that the marginal consumer does not prefer copper, i.e. providing that demand for fibre at the resulting price differential remains sufficient to generate economic returns.

Our concern, as a potential investor in fibre, is that the results of this consultation will result in a cost of capital for BT's copper access network being set at a level which is artificially low to encourage greater take up of wholesale line rental and local loop

³ Ofcom (2005) *The Communications Market 2005*

⁴ Products are vertically differentiated if consumers unanimously agree on which product is preferred so that if all products had the same price consumers would all purchase the higher quality product.

unbundling to achieve increased competition in current generation access network markets. This will reduce the profits available for NGANs, thereby reducing or even eliminating the incentives for new investment in access technologies.

Relating back to the efficiency objectives, we are likely to see productive efficiency gains, as BT needs to become more productive to supply within the cost of capital. However, increased competition based on current generation access means that we are unlikely to see dynamic efficiency gains which, as we have seen from Prof. Porter, are essential drive forward the economy overall. We may also see allocative efficiency losses as prices distort consumer behaviour towards copper based services.

None of this is to argue that the cost of capital for BT's copper access network should be set at an artificially high level such that inefficient investment in alternative infrastructures is effectively subsidised through artificially high copper access charges. Rather our objective is to ensure that the opposite does not happen and we see static efficiency gains at the expense of dynamic efficiency gains.

4.5 Type I and Type II Errors

In paragraphs 4.92 – 4.96 Ofcom discusses Type I and Type II errors associated with incorrectly setting a single group beta or incorrectly using a disaggregated approach respectively. Ofcom concludes that the likelihood and costs of making a Type I error are much lower than making a Type II error.

We believe that consideration of errors is an interesting analytical tool. Here we redefine a Type I errors as “allowing BT excessive returns overall” and a Type II error as “allowing BT insufficient returns overall”.

Ofcom's analysis of the level of BT's beta allows for a significant degree of subjectivity and judgement. For example, Figure 2 on page 20 of the consultation document shows the development of BT's beta over the period 2000 – 2005 which varies between 2.0 and around 0.6. In paragraph 3.13 Ofcom sets out the key practical estimation issues including choice of data frequency, estimation period and the relevant index. Figure 4 on page 24 shows how much the beta can vary depending on the approach taken.

On this basis, we believe that the likelihood of Ofcom making either of our redefined Type I or Type II errors is about equal. The costs of making either error are, however, quite different.

The cost of making a Type I error, as we define it, is that BT will not be subject to the same productive efficiency incentives and there may be some allocative efficiency losses if distorted prices turn customers away from efficient low cost products. However, new investment is very likely to be attracted to markets where one company is making excess returns and so we are likely to see significant dynamic efficiency gains. This is especially so in new property developments, such as Ebbsfleet Valley where there is no legacy network in place which needs to be duplicated for an alternative infrastructure to compete with.

The cost of making a Type II error is the opposite. BT will be incentivised to make productive efficiency gains and consumer behaviour may be distorted towards inferior goods through artificially low prices. The biggest cost, however, is that it is very unlikely that there will any incentives for dynamic efficiency gains if the returns

available to NGANs are reduced through artificially lower prices for current generation products.

In coming to its view on the cost of capital for BT, Ofcom must make a fine judgement between the likelihood and the costs of making either a Type I or Type II error, as we have defined them. This is not an easy task and we appreciate the effort that Ofcom is making to ensure it makes the “right” decision.

In new property developments of the scale of Ebbsfleet Valley there is a unique opportunity to build NGANs without inefficiently duplicating existing infrastructure. This type of investment will drive dynamic efficiency gains, helping the UK to meet its own e-business agenda and the EU to meet its i2010 goals. Nevertheless, this will only happen if firms like Land Securities who are prepared to make this investment can earn a reasonable return. The spillover effects from an artificially low cost of capital for BT are likely to damage the incentives for taking these risks by reducing the potential reward.

We urge Ofcom, in coming to its final conclusion, to give full weight to the need for dynamic efficiency gains and not to go for quick wins through lower costs for current generation access technologies where these are damaging to longer terms goals. As Ofcom rightly states in paragraph 3.29 of the consultation “...the costs associated with setting too low a cost of capital are greater than those associated with setting it too high”