Auctioning off call options - a financial, market-led solution to reflect risk in regulated access terms (response to Q3)

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I. Introduction

Regulatory-wise, the issue of next generation access (NGA) can be framed in terms of a friction between supply-side certainties and demand-side uncertainties. From a supply-side perspective, the deployment of optical fibre closer to the consumer premises would strengthen the importance of scale and scope economies, thus potentially creating an (strengthening the) enduring economic bottleneck at the access level (ERG, 2007a). From a demand-side perspective, investors face uncertainty about consumers' willingness to pay (WTP) for services that could be uniquely delivered over upgraded access networks, while traditional sources of revenues are, and will increasingly be, commoditised and cannibalised (ITU, 2007). This friction is challenging telecoms regulators, as while the conventional regulatory approach - focused on cost orientation, price control and service quality - evolved on a widely deployed infrastructure, whose cost had been largely recovered, NGA networks are yet to be deployed.

This tension is at the core of the European debate on regulatory principles of NGA and has so far precluded the development of effective and pragmatic solutions capable to balance out the incentives of fixed incumbents with the interests of other stakeholders – i.e. regulators and potential access seekers. On the one hand, supply-side certainties are predominantly shaping regulators' stance toward announced investment initiatives in NGA, in the view that intra-platform competition must be safeguarded to prevent retail monopolization by fixed incumbents.[1] On the other hand, *ex-ante* regulatory intervention - or the threat of it – might spoils incentives to invest in NGA, as investors face the risk of asymmetric regulatory treatment, where returns are (not) capped under (negative) positive scenarios (Ofcom, 2007). At the same time, regulators are keen not to promote investment *per se*, which may turn out to be inefficiently too large or/and too fast (e.g. the so-called Averch-Johnson effect under Rate-of-Return regulation).[2]

Arguably, this lack of concreteness reflects regulators' uneasiness with demand-side uncertainties and the way to properly reflect risk in regulated access terms. This is particularly so in reference to "active line access" remedies (e.g. bitstream), whereby the reduced gap in innovation potential (e.g. relative to sub-loop unbundling) may support effective intra-platform competition over NGA (Ofcom, 2007).

Ofcom (2007) has so far envisaged three main approaches, specifically:

- Non-discriminatory access obligation (with pricing flexibility);

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[1] *See*, European Commission, 2007, *Commission takes next step in infringement proceedings because of Germany's "regulatory holiday" law*, IP/07/595, available at: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/595&format=HTML&aged=0&language=EN&guiLanguage=en. A more nuanced view suggests distinguishing different geographies according to the extent of (potentially) alternative platforms – i.e. cable and wireless. See, Cave (2006). For a contrarian view, see Waverman et all. (2007).

[2] This was Ofcom's main criticism to BT's "utility style" proposal to "share" risk in NGA deployment through long-term commitments, whereby access seekers contribute up-front the full capital cost of the upgrade (BT, 2007). See, Douglas Scott (2007).

- Risk-adjusted cost-oriented/based pricing;
- Anchor product pricing, with pricing freedom for non-anchor products but equivalence of input on all products.

While the first approach is friendlier to a vertically integrated incumbent, as expected returns are not capped, it bears the risk of dominance abuse by the incumbent, in the form of either exclusionary margin squeeze of downstream competitors or exploitative, excessive wholesale prices. From the perspective of regulators, *ex-post* interventions would hinge upon the contentious debate around the so-called single-monopoly-profit theorem. From the incumbent's perspective, this approach does not rule out the possibility of future *ex-ante* cost-based regulatory intervention, once the network is deployed, and demand uncertainty resolved (e.g. time inconsistency in regulatory intervention).

Regarding the second class of pricing remedies, as put it bluntly by Ofcom (2007; par. 5.18) "(…), a*ny attempt to reflect risks within regulated access terms raises a number of potential drawbacks. These include:*

- *Ofcom applies the wrong risk factor to investments. This is an issue as the estimation of risk is complex, and requires a very high degree of information that may not be available to the regulator at the time it forms its policy;*
- *Indicating to an investor that we would allow a potentially greater return on new investments compared to investment in current access networks may provide inefficient incentives for investment and migration to next generation access networks; and*
- *Ofcom's ability to commit to setting access terms that adequately reflect risk at the time of investment. For any approach to be credible, prospective owners of next generation access networks need to be confident that access terms will be set that reflect the risk incurred at the point of investment for much of the life of the asset. Under the European Framework, however, it is difficult to make such contingent commitments over a long period of time. This is in part because the findings of one market review cannot bind the findings of a subsequent one*."

The proposal advanced in this note may be categorised within this second class, and is meant to address all above-mentioned shortcomings.[3]

II. The proposed mechanism

The following proposal provides an incentive-compatible remedy which would avoid regulatory failure due to information asymmetry. In a nutshell, the underlying intuition is to thoroughly recall the original analogy between real and financial option, whereby wait-and-see real options are framed as financial call option which attribute the right to buy the underlying at a predetermined exercise price.

Procedural-wise, the mechanism is articulated as follows:

- The incumbent (i.e. BT/Openreach) announces its NGA deployment with roll-out commitments - e.g. coverage and/or year target; technical specifications;

[3] The third class of pricing remedies appears complementary/ancillary to the first two, rather then a stand alone alternative.

- The regulator (i.e. Ofcom) auctions off a number of call options to access the NGA infrastructure. More in detail:
    - The exercise price is set (and potentially periodically revised) by the regulator – e.g. on a cost basis and with a "normal" risk factor – i.e. by applying a standard LRIC plus;
    - Call options allow unlimited (universal) access throughout the deployed NGA infrastructure – e.g. across time and space;
    - The downstream division of the incumbent (i.e. BT retail) isn't allowed to bid - e.g. to prevent it from opportunistically inflate (bidding up) the price. Nevertheless, it may eventually be required to contribute the winning price;
    - Bidding is unrestricted – i.e. financial and/or institutional investors are allowed (and welcomed) to bid;
    - Options can be freely traded, but not split, in a secondary market;
- Auction revenues contribute (up-front) to NGA deployment;
- On option exercise, purchasers pay the regulated access price – e.g. monthly fee for active line access;
- Nevertheless, wholesale access can always be negotiated on voluntary terms, except for/by the downstream division of the incumbent.

III. Regulatory soundness

This proposal would achieve regulatory soundness on several grounds.

Transparency

From a procedural point of view,[4] this remedy would be responsive to the call for greater "*transparency on plans for investment in next generation access in formulating the appropriate regulatory principles* (ERG, 2007a, page 26)", as:

- The incumbent would initiate/activate the process before the regulator by means of a public announcement; and
- It would be in the incumbent's interest to provide exhaustive information on its plan, in order to solicit strong bids and thus maximise auction revenues – e.g. reduce the "common value" problem.

Regulatory certainty

The regulator would set the wholesale price by applying its traditional toolkit, without having to meddle with unorthodox and info-demanding risk-adjustment methodologies. Nevertheless, the regulator would still retain control by designing the auction and setting procedural rules.

Moreover, this approach would be respectful of the Regulatory Framework which prevents regulators from entering into contingent commitment over a long period of

[4] Even though the debate around functional separation is beyond the scope of this note, this approach is administrable regardless the presence of functional/structural separation. Nevertheless, it is worth noting that this approach supports the introduction of functional separation on a voluntary basis (ERG, 2007b), rather than being unilaterally imposed by the regulator, as recently proposed by the European Commission in its proposal to reform the Regulatory Framework (European Commission, 2007).

time (Ofcom, 2007), as regulated access terms could be eventually revised in the following market review.

Stated otherwise, this approach would also guarantee procedural *administrability*.

Reflecting risk in returns

The market-led auction mechanism would efficiently price (adjust for) risk, in particular:

- By allowing financial and/or institutional investors to bid – e.g. to set the price of (financial) call options (which is positively related to perceived volatility/uncertainty); and
- Given the faculty to negotiate options in a secondary market, risk would be priced (adjusted for) dynamically.

Equality of Input

The incumbent would supply (active line) access to option owners at uniform regulated terms – i.e. BT/Openreach would comply with its Undertakings.

Risk sharing through cooperative deployment

Through the auction risk would be shared/pooled among and across a variety of stakeholder, thus funding nation-wide deployment without need for public intervention. In a nutshell, this solution would achieve both risk rewarding/pricing and risk sharing/reduction.

No utility-stile direct intervention

The regulator wouldn't have to *ratify* the incumbent's investment plan (e.g. promoting investment *per se*), as if demand didn't materialise, cost recovery wouldn't be granted.

Removal of the enduring economic bottleneck at the wholesale level

As the option would attribute unlimited (universal) access to each and every option owner, the auction would turn the (technical) natural monopoly into a (competitive) oligopolistic structure at the wholesale level – e.g. similar to the mobile market structure.

From the investor perspective, this artificial structural fragmentation would give further regulatory certainty, as, under the Regulatory Framework, it would resolve potential concerns of individual SMP at the wholesale level, as each and every option owner would have the faculty to supply (resell active line) access by virtue of its universal coverage/reach.

Otherwise, in case the auction went vacant, this would amount to regulatory forbearance for the incumbent.

Introduction of a healthier competitive mode

As option's ownership would bypass the need to achieve scale economies by granting downstream competitors immediate and universal coverage, those would uniquely focus on consumer satisfaction, rather than (pre-conditionally) local densities – e.g. no (geographically-restrained) entry trajectories through (opportunistic) cream skimming strategies. Arguably, this radical shift in the competitive mode would be conducive to widespread service innovation – e.g. the auction would convert the competitive mode from fixed to mobile.

Stated otherwise, this approach would be conducive to the deregulation of wholesale broadband access – e.g. Market 12 - whereby regulators would rely on *ex-post*, rather than *ex-ante*, regulation through the enforcement of general competition law.[5]

IV. What about contestability?

The only potential shortcoming of this approach might be in that the number of options is limited (i.e. 5/6),[6] which may be criticised as an undue restraint to downstream competition.

However, on reflection, this critique wouldn't stand close scrutiny:

- In Q4-06, even though there were around 500 ISPs offering broadband services in the UK, the top 5 operators accounted for roughly 85% of the overall BB retail market, primarily over cable and DSL (Ofcom, 2007b).
- Certain categories of minor access seekers - i.e. local authorities - may be allowed to jointly bid through syndicate – e.g. demand aggregation. Moreover, financial investors, may professionally facilitate this resource-pooling;
- Access seekers would still be able to negotiate access on voluntary terms with both incumbent and winning bidders (or options buyers in the secondary market); and
- Access seekers would still be able to purchase the option in the secondary market themselves.

V. Conclusions

Concluding, this solution has the potential to unleash NGA deployment in a regulatory-sound way, by:

- Addressing both the market failure arising from the combination of the natural monopoly feature on the supply-side and uncertainty about WTP on the demand side; and
- The regulatory failure, due to regulators' information asymmetry;
- Without escalating undue public intervention.

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[5] Arguably, this would be the ultimate goal of the Regulatory Framework, as witnessed by the recent delisting of a number of predefined markets – i.e. in particular, Market 15 for the provision of wholesale access and call origination on mobile networks (European Commission, 2007).

[6] Finiteness is needed to create supply scarcity to raise demand at the auction stage.

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