

Agenda

Advancing economics in business

How to regulate next-generation access (if at all)?

European telecoms regulators have, for some time, been faced with the question of how next-generation access (NGA) networks should be regulated. Based on Oxera's recent work for the Commission for Communications Regulation in Ireland, we provide insights into whether NGA networks warrant regulatory pricing obligations similar to those imposed on legacy access inputs, and, where price regulation is considered appropriate, we explore options for designing these remedies such that they are fit for purpose, given market developments

In July 2011, eircom, the Irish telecoms incumbent, announced that it would deploy an NGA network infrastructure and upgrade fixed-line broadband speeds in Ireland, with about 1m premises passed in a few years' time.¹ This investment follows a series of announcements and recent investments by incumbent operators elsewhere in Europe and beyond. Like eircom, other incumbents are investing partly to match the network speeds provided by cable operators, and partly to cope with consumers increasingly demanding bandwidth-hungry content.

While the investments are still occurring predominantly in densely populated areas, and are far from targets set by the European Commission in its Digital Agenda, the NGA roll-out is now taking place in Europe and an appropriate regulatory framework for (at least partly) new networks appears to be needed. For some time, incumbents have voiced concerns about how intrusive regulation might undermine the business case for any significant NGA investments. Access prices, according to the incumbents, should be commensurate with the high demand and costs risks associated with fibre-access networks. Entrant operators who would like to purchase such access services have disputed such arguments, and have noted that a vast majority of NGA deployments are necessary upgrades rather than 'greenfield' investments, so it is actually riskier *not* to invest.²

To complicate the matter further, the debate has recently focused on the relative prices of legacy-level copper access and next-generation services, with the (disputed) view from entrant operators, and some regulatory bodies, that lower copper prices would stimulate fibre roll-out, as enhanced services would become relatively more profitable.³ Yet there seems

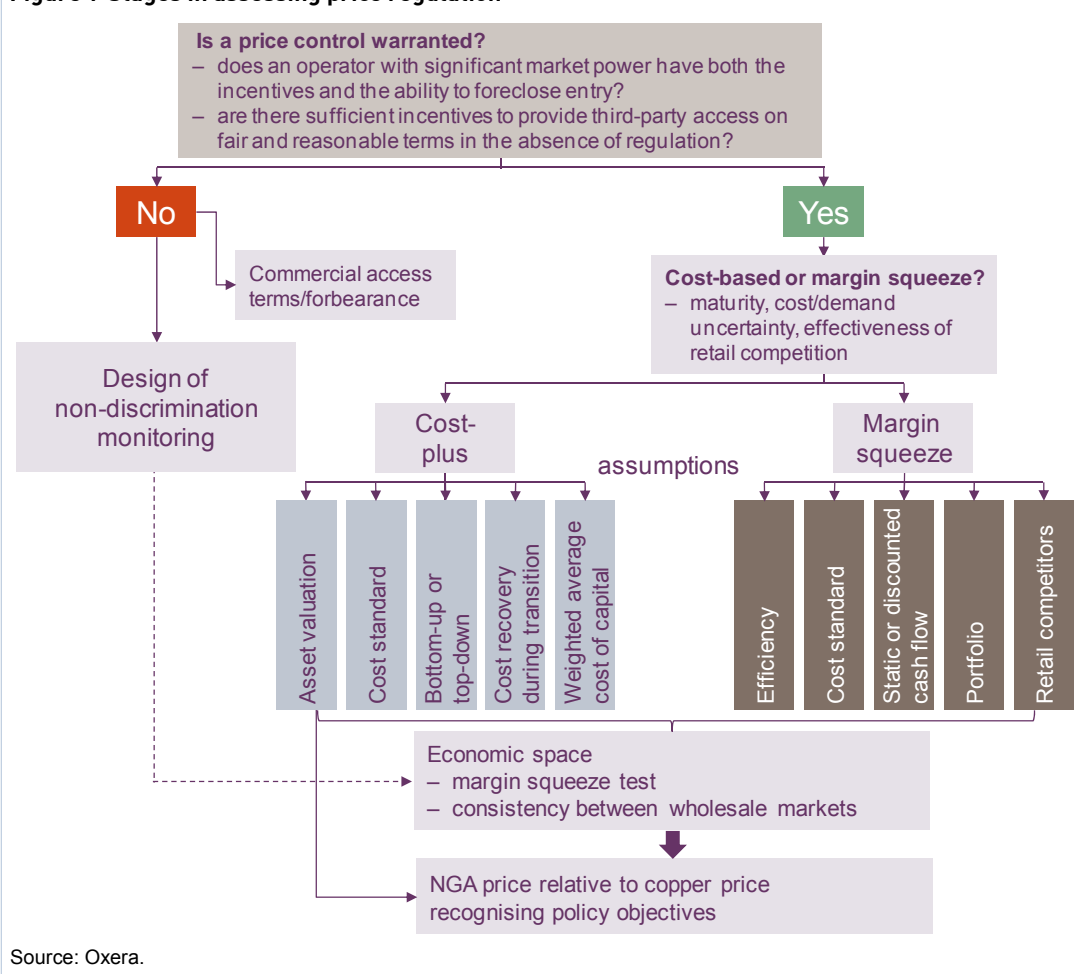
to be a degree of uncertainty surrounding the regulatory approaches going forward, and few national regulators have introduced long-term regulatory approaches towards NGAs.

In a recent report for the Commission for Communications Regulation (ComReg), Oxera developed a framework for assessing the rationale for, and specific form of, price regulation in the markets for physical local access and wholesale broadband access.⁴ Given the uncertainties surrounding NGA investments on the one hand, and the regulatory objective to maintain and increase competition on the other, this article contributes to the debate on whether and why price regulation is indeed needed, and, if so, how it could be designed to strike the right balance between different policy objectives.

One step back: is price regulation needed?

The first step of Oxera's framework, a simplified illustration of which is provided in Figure 1 overleaf, is to assess whether access regulation, and price controls in particular, are actually needed.

Conceptually, the presence of an economic bottleneck and incentives and ability to foreclose are cumulative conditions that need to be met in order to warrant access regulation. In essence, the incumbent faces a trade-off between costs in terms of lost profits upstream (because the downstream rivals are no longer buying), and the benefit of higher profit downstream (because some of the rivals' customers now buy from the incumbent, possibly at a higher price). The incumbent might not be indifferent between the two primary sources of revenue (retail and

Figure 1 Stages in assessing price regulation

wholesale); rather, there could be additional incentives for the incumbent to justify foreclosure—in particular, where the industry features are such that an entrant operator, by entering the downstream market first, can migrate to compete in the upstream market.

More specifically, aspects that influence the ability and incentives for foreclosure through excessive (and discriminatory) pricing include the following.

- **Entrants' ability to acquire customers that the incumbent cannot.** If rivals are expanding the market by acquiring customers that the incumbent would not otherwise serve, the incumbent has less incentive to foreclose because, in doing so, it would lose upstream profit that it could not gain if it provided the relevant retail service itself.
- **Switching costs—for example, in the form of contract lengths.** These can increase the incumbent's incentives to foreclose, particularly in new markets where, by capturing consumers at the start of the provision of the service, the incumbent can ensure a larger market share for itself, for a

longer period of time, even if it is forced to provide access at a later date.

- **Entrants' outside options and their attractiveness.** If rivals can switch easily to an alternative platform, the incumbent simply does not have the ability to foreclose in the wholesale market.
- **Information asymmetry.** For example, while the incumbent knows exactly when and where it is upgrading its upstream capability (and hence when and where it can offer new retail services), entrants may not have the same information. In this case, the incumbent could have a first-mover advantage in the retail market, which can make it easier for it to foreclose.
- **Wholesale processes.** The case for price regulation may be weaker if wholesale processes are otherwise functioning and the incumbent does not have the incentive, or is not able to, engage in anti-competitive non-price discrimination—for example, owing to the functional separation of regulated activities.

In this respect, a relevant regulatory precedent is Ofcom's decision not to impose stringent price controls on BT Openreach's Virtual Unbundled Local Access (VULA) offering (which is expected to be the key NGA access product in the UK), at least in the short to medium term. More specifically, Ofcom chose:

not to regulate the prices of the product(s) that BT provides under its VULA obligation. We consider that this approach will give BT the flexibility to price its VULA services according to emerging information on the demand for, and supply costs of, NGA services. At the same time, the prices of these services will be constrained by the availability of current generation broadband services and by competition from services provided over cable TV network infrastructure.⁵

There are considerable differences in how market structures have developed across European countries, and, while some of the conditions that could allow lighter-touch regulation may be met in some markets, they may well be absent in others. Indeed, not all countries have as rigorous regulation of equivalence as the UK, or any significant price constraints from local-loop unbundlers and cable. If the conditions for a more light-handed approach are not met, what form of regulation is needed?

Cost plus or retail minus?

Put broadly, the two main methods of price regulation used in the telecoms sector are cost-based approaches (with a number of variants), and approaches whereby wholesale prices are determined with reference to the retail prices of the products that use these wholesale inputs—ie, retail minus (or an ex ante margin squeeze test).

As noted above, much of the debate surrounding NGA regulation focuses on basing the prices on costs (including an appropriate rate of return). A number of pricing approaches have been put forward, ranging from bottom-up long-run incremental cost (BU LRIC)—which essentially estimates the costs of a hypothetical efficient operator placing significant emphasis on efficient 'make or buy' signals on a forward-looking basis—to approaches that set price paths according to an operator's business plan, subject to possible intervention by the regulator if returns are significantly higher than expected.⁶ Another part of the debate focuses on costing approaches and, specifically, how copper assets are treated in regulatory determinations.⁷

While these approaches have been discussed extensively elsewhere,⁸ it may be more appropriate for regulation of NGAs to start from scratch and ask

whether 'cost orientation' obligation (in any of its forms) is indeed needed. When choosing between the two approaches, the following need to be considered.

- **Competition concerns.** If the retail market is not competitive, the retail price, and hence the wholesale price resulting from retail-minus regulation, may be too high, leading to excessive prices for the wholesale products as well (and ultimately to over-recovery). On the other hand, cost plus, at least theoretically, aims to mimic the competitive outcome upstream.
- **Demand and cost uncertainty.** The greater the demand and cost uncertainties surrounding NGA services, the more operators need flexibility in their retail and wholesale pricing to maximise output in the market.⁹
- **Practicality and ease of implementation.** Practicality in terms of implementation hinges on data availability, but also needs regulatory decisions. In particular, the essentially forward-looking, cost-based methods require information on future costs and demand to derive wholesale unit prices.

Against this background, when choosing between cost plus and the margin squeeze test, it seems necessary to re-state what the regulator is trying to achieve, which is likely to include:

- providing a pricing framework that allows sufficient flexibility to reflect on consumer preferences and achieve sufficient penetration;
- ensuring that retail prices are not excessive (during the next regulatory period);
- ensuring that third-party (efficient) entry is possible on fair and reasonable terms, in order to promote a market structure with more than one or two (where cable is present) fixed broadband operators in the longer term.

Retail prices in some areas may be constrained over the regulatory period due to limited and uncertain consumer willingness to pay, price constraints from other platforms (mainly cable), and, to the extent that the two co-exist, competitive pressure from legacy-level local-loop unbundling (LLU) operators. If such retail constraints exist, there are few concerns about excessive retail prices—at least in the short term—and the rationale to regulate wholesale access stems from the third objective above. Therefore, an approach that ensures compliance with a margin squeeze test, and provides the industry with transparent principles on how such a test is implemented, could suffice.

What(ever) it takes to comply with a margin squeeze test?

An operator with significant market power (SMP) needs to comply with a margin squeeze test with or without ex ante remedies. However, regulators with objectives to promote competition and prevent competition problems before they arise may introduce transparent margin squeeze controls ex ante in order to provide entrants and incumbents with certainty regarding the price levels that are acceptable. Furthermore, depending on competitive conditions in the market, the ex ante test may build on a different set of assumptions in order to take into account entrants' smaller economies of scale and scope. From an economic perspective, such adjustments to the test make sense insofar as they are introduced as temporary measures, providing the right incentives to invest and grow.

The margin squeeze test should be designed to ensure consistency across the supply chain. While the rationale to prevent a margin squeeze between retail and wholesale charges is perhaps more apparent, the concept of economic space between wholesale inputs builds on a slightly different economic underpinning. In particular, insufficient headroom between, say, (NGA) bitstream and (virtual) unbundling could not only foreclose an entrant, but also impede the development of facilities-based competition, to the long-term detriment of competition. From an economic perspective, the economic space should be ensured between legacy and NGA products. This is because the two can rely heavily on the same infrastructure, and wholesale prices of substitutable products need to be consistent. Put another way, it may not be appropriate to keep, for example, legacy-level LLU 'artificially' expensive relative to a 'higher-quality' virtual unbundling.

Where retail prices are constrained by competition, conventional regulatory costing approaches may be problematic. To the extent that customers do indeed switch to cable or other platforms, the economic value of sunk copper assets in those areas is, conceptually, the residual of revenue less forward-looking costs. Consequently, there seems to be limited economic rationale to consider that the current LLU and sub-loop unbundling (SLU) price *ceilings*—which are regulatory constructs often based on bottom-up models—constitute 'cost-based' price *floors* below which a regulated incumbent cannot reduce its other tariffs, taking into account other relevant costs.¹⁰

Recognition of policy objectives and consistency over time

As noted above, the relationship between the prices of NGA and traditional copper access products may imply that the prices of legacy products decrease as a result

of the pricing of NGA services at the retail level. In any case, the appropriate pricing framework may take policy objectives into account and recognise the inherent trade-offs between them. Such objectives include:

- orderly migration to fibre-based services and total cost minimisation (avoiding lengthy 'dual-running' of legacy and NGA platforms);
- competition at the deepest level of the network to the extent economically feasible, and maximum scope for product differentiation.

Provided that the pricing and accessibility of NGA products are appropriate and allow enough innovation at the retail level, it would be efficient to migrate all operators in an orderly fashion to a single, next-generation, platform. This would avoid any additional costs of dual-running (even if these costs are small), and would be consistent with the objective of enhancing the take-up of advanced services. However, the prices of NGA products *relative to* copper-based access play an important role in providing the industry with incentives to stay on the copper platform or to migrate to NGA. Insofar as the two are close substitutes, entrants may prefer at least to recoup their existing investments in current broadband equipment before migrating to NGA.

Indeed, having a transition period seems sensible and consistent with regulators' earlier ambitions to promote unbundling-based entry. However, if the total costs of running two networks in parallel inflate retail prices in the longer term and hinder the take-up of high-speed broadband, there may be a case for allowing pricing structures that incentivises orderly migration to a single, next-generation, platform.

Striking the balance between pricing flexibility, long-term competition and practicality

Oxera's recent work for ComReg provides a generic framework to assess whether and how NGA products could be regulated. The recommendations from this work are applicable to the Irish context, but the principles set out in the report may provide useful insights for other countries where regulation of the vertically integrated incumbent's NGA network is being considered. Regulation of NGAs should provide the incumbent with sufficient pricing flexibility to remain competitive where it faces competition from other platforms, and to price-discriminate efficiently according to consumers' willingness to pay. The challenge that operators and investors are facing is that it is difficult for regulators to commit to certain rules of the game for a long period of time as long as third-party

entrants enter the retail market through the purchase of the vertically integrated incumbent's wholesale products.

Under circumstances where there are few concerns that retail prices would be excessive in the short term, clearly specified margin squeeze tests would appear to

suffice as a proportionate remedy with possibly less complex implementation. However, it seems unlikely that regulators would scale back access regulation in full or move to ex post supervision rather than ex ante intervention, unless more significant changes are made to the way the industry operates.

¹ See <http://www.nextgenerationnetwork.ie/ngn-access>.

² For example, fibre to the cabinet (FTTC) does not involve significant replacement of networks but builds largely on the existing copper infrastructure.

³ European Commission (2011), 'Questionnaire for the Public Consultation on Costing Methodologies for Key Wholesale Access Prices in Electronic Communications', October 3rd.

⁴ Oxera (2012), 'eircom's Next-generation Access Products: Pricing Principles and Methodologies', prepared for Commission for Communications Regulation, April.

⁵ Ofcom (2010), 'Review of the Wholesale Local Access Market - Statement on Market Definition, Market Power Determinations and Remedies', October 7th, para 1.27.

⁶ Plum Consulting (2011), 'Costing Methodology and the Transition to Next Generation Access', a report for ETNO, March.

⁷ WIK-Consult (2011), 'Wholesale Pricing, NGA Take-up and Competition', April 7th.

⁸ Plum Consulting (2011), op. cit.

⁹ See, for example, Oxera (2008), 'Dealing with Uncertainty: How to Encourage Investment in NGA Networks?', *Agenda*, December.

¹⁰ As a separate matter, an operator with SMP needs to comply with competition law.

If you have any questions regarding the issues raised in this article, please contact the editor, Dr Leonardo Mautino: tel +44 (0) 1865 253 000 or email l_mautino@oxera.com

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