INCLUDE FIBRE IN HOUSING POLICY

With so much equity tied up in the world's housing stock it makes sense to direct a proportion towards stalled fibre broadband rollouts, argues **RICHARD FEASEY**

Movements in the value of almost any nation's housing stock massively exceed the costs of deploying fibre to every one of those households.[1] Global housing equity is about 2.7 times that of global gross domestic product (GDP). In Europe, where house prices are growing at about 4% annually, the total cost of deploying fibre to every home would absorb less than a quarter of the annual increase in the value of the region's housing stock. Yet housing policy and broadband policy remain totally disconnected. In this article, I explain why policymakers around the world need to think about how to use house price inflation to finance fibre roll out.

Three pieces of evidence inspire this thought:

- An excellent academic paper, published by Gabriel Ahlfeldt and colleagues,[2] explains that house prices in the UK rose by as much as 3% when broadband speeds improved
- Sweden is a leading nation in fibre to the home network deployment, with almost 60% of households passed by fibre and fibre accounting for almost 50% of all broadband subscriptions.[3] One distinctive feature of the Swedish model is that householders first have to pay a connection charge which averages SEK19,000 ($2,000) if they want to obtain access to the fibre network
- Companies building new fibre to home networks often use 'demand led' strategies. In the UK, firms like Gigaclear (disclosure – to which I am an adviser) and Virgin Media will not start construction until a certain proportion of householders in the local area (30% in Gigaclear's case) have committed to subscribe to the service.[4]

These examples suggest that it ought to be possible to persuade householders to contribute to the cost of deploying fibre networks today in the expectation that they will more than recoup these costs when they later sell the property.[5] The first challenge is to connect the future buyers of properties (who are willing to pay for fibre through inflated house prices) to decisions to deploy fibre networks which need to be made today. The second challenge is to avoid the risk that some householders might 'free ride' by seeing the value of their houses rise without themselves contributing to the costs of the network which produces those gains.

INTERGENERATIONAL ASPECTS

There is an important intergenerational aspect which may contribute to the challenge. Homeowners in many countries are, of course, invariably older than the average: in the UK 10% of under 24s owned a home in 2012 (down from 30% in 1991) whereas over 70% of the over 70s do (up from under 50% in 1991).[6] In contrast, those who are likely to attach greatest value to fibre broadband are generally younger than the average, with 80% of under 24s having fixed broadband but only 54% of over 65s.[7] If we assume that those who value fibre broadband most today will (eventually, somehow) become the homeowners of tomorrow, then we can use current expectations about future house

prices to connect today's older homeowners (who may themselves see little value in fibre broadband but are in a position to pay for it from future capital gains) with tomorrow's broadband users (who may see great value in fibre broadband, but are in no position to pay for it today).

Rented property, which may combine older landlords with younger tenants, may have similar connections, with the older landlord capturing the value of broadband both in higher rents today and in higher sales prices in the future.

Any arrangement which tries to harness house price inflation in this way must ensure that the householder is not forced to pay away all the anticipated capital gain. Householders who pay for fibre today are taking a risk on what future house buyers will be prepared to pay for fibre (although many are accustomed to speculative investment in property). If the commitment by the current householder is too low then operators are unlikely to be able to fund the network at all. This suggests that there ought to be a 'sweet spot' at which the level of financial commitment is low enough to ensure householders take the risk, but high enough to ensure that the operator captures enough of the anticipated surplus to get the network built.

WHO PAYS – AND MINIMISING 'FREE RIDING'

The other key challenge is about who pays. The Gigaclear model could suffer from 'free riding', since as many as 70% of householders in a given area could benefit from higher house prices provided at least 30% of their neighbours do commit to buy fibre now. The model relies on collective action and on those households that see enough value from fibre to want it irrespective of the impact on house prices (a group which Gigaclear is very adept at identifying) persuading others that they will also benefit, whether from having a fibre connection today or from the impact fibre will have on the value of their property.

The challenge arises if there are not enough of these kinds of people and some householders will need to subscribe before they might otherwise wish to in order to get the network built at all. These householders may then discover benefits from having fibre which they had not previously appreciated, but they may also feel that they have had to pay for something which they would have preferred to defer and from which other neighbours might still benefit without having made any such commitment. This is not likely to encourage good community relations.

There are various policies which might address this problem. One is provided by the Swedish case, in which each household has to commit individually to access the fibre network. There is presumably some benefit for all households when the basic network is built in the neighbourhood, but without a connection to that network the effect on the value of the individual property is likely to be modest and full value only obtained once the property is connected. This model minimises free riding, avoids coordination issues, and requires each household to make its own valuation of costs and benefits. (The models could also be combined, so that the network only gets built if (a) a certain proportion of households commit to purchase a connection at a later date, e.g. within the next 5 years, or (b) a certain proportion of households acquire an option at a lower price than currently to buy a connection, for which they would then pay a further fee at some later date.) The 57% coverage in Sweden suggests that the fibre network can be built quite extensively using that model, while the very high connection rate suggests that the connection charge is not a barrier to adoption.

> **The 57% coverage in Sweden suggests the network can be built extensively using this model.**

The other approach involves requiring all households to commit collectively to access the network, irrespective of any individual householder's own valuation. This would be akin to Gigaclear saying that it would build only if 100% of households in the area committed in advance to subscribe to the service. It is, of course, how the telephone network was first built in most countries. It entirely removes the free riding problem, but it is very difficult to obtain 100% commitment to anything on a voluntary basis. This model, therefore, is only likely to work if public authorities oblige all householders to contribute.

This is of course what existing government broadband programmes do, by requiring all taxpayers to fund broadband deployments, irrespective of whether a ratepayer then chooses to subscribe to the service or indeed, whether they live in an area (or even own a property) which stands to benefit from the deployment.

GOVERNMENT INTERVENTION

It is possible that new models to finance fibre to the home could emerge commercially and without government support, as the Gigaclear model did. Operators could, for example, simply decide to offer debt to householders who wanted to purchase a connection (although there would need to be an appropriate regulatory regime to allow them to do so cost effectively). But governments could also encourage these models in various ways – previous government and industry campaigns to promote home insulation and energy efficiency in many countries come to mind.

Governments could themselves provide low cost finance or tax incentives to support capital improvements by householders, or could ensure that existing lenders were doing so. Tax incentives seem a particularly interesting option to consider further, especially if they would reduce the subsidies which governments might otherwise have to provide to achieve their fibre goals.

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REFERENCES

1 I refer to 'fibre' and 'fibre broadband' in this article, otherwise often referred to as fibre to the home (FTTH) and fibre to the building (FTTB).

2 Ahlfeldt GM et al. (2014). Speed 2.0: Evaluating access to universal digital highways. SERC discussion paper 161. bit.ly/2oSUVy1

3 European Commission (2016). EDPR country profiles – telecom annex. bit.ly/1Ud0bDy

4 See gigaclear.com, and Virgin Media's Cable my street bit.ly/2nY9HQa

5 Ahlfeldt et al. studied the impact of DSL broadband and concluded that the impact diminishes as speeds improve. I am not aware of any similar studies for FTTB/H. But even if the impact is only 1% on house prices on average, that equates to almost £4bn across the UK's private housing stock.

6 ONS. Perspectives 2016: Housing and home ownership in the UK. bit.ly/2ofdbk7

7 Ofcom (2015). The communications market report 2015. p269. bit.ly/2omB1ei