

The price of telecoms – getting it right, why it matters

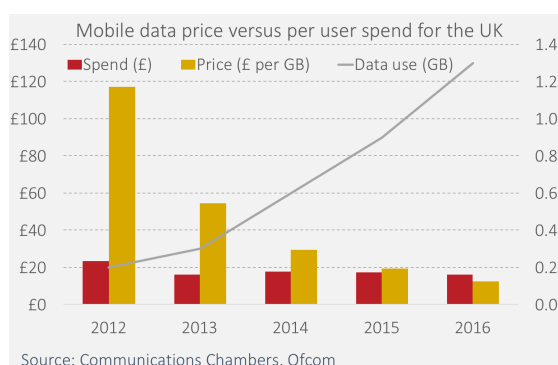
Brian Williamson¹, February 2018

What is wrong with existing 'price' measures in telecoms?

Price is normally defined as the payment in return for a unit of a good or service. But that is not typically what is reported for telecoms services, rather individual expenditure is reported and referred to as the price.

Statistical authorities, national regulators² and the European Commission³ all do so; and doing so is misleading in assessing outcomes and devising policy.

For mobile, as the price per gigabyte of data has plummeted, data consumption has soared.⁴ More or less constant spend is not indicative of what is happening to the price of mobile data, as the following illustrates for the UK.⁵



If one were buying say electricity, one would report the price per kilowatt hour; and expenditure might rise even as the price per unit fell.

What about voice and SMS?

In the past the only, or primary, service was voice and SMS. However, with the pivot to multi-touch smartphones and apps (from 2008), and the shift to 3G and 4G networks, the primary service has shifted to data. The volume of mobile data had overtaken data for voice globally by 2010. Mobile network operators have also moved to include unlimited voice and SMS within tariff plans, primarily differentiating plans according to data allowances. The time is overdue when prices should reflect the shift to data as the primary service and be expressed in per GB terms.

Why does this matter?

The current practice of reporting expenditure as though it were the price of telecoms matters, for a number of reasons:

- Regulators tend to place emphasis on lower prices as a measure of success. Reporting expenditure, rather than unit prices, understates what the market has delivered.
- Since progress in terms of unit price declines largely comes about through investment in more capable and efficient technology, say mobile 4G versus 3G networks, reporting expenditure rather than unit price de-emphasises the importance of investment and dynamic gains.
- Competition assessments may be biased, potentially impacting merger decisions,

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² For example, Ofcom, Award of the 2.3 and 3.4 GHz spectrum bands - Annexes to the statement, July 2017. Paragraph A1.120 https://www.ofcom.org.uk/data/assets/pdf_file/0013/104305/Statement-annexes-Award-of-the-2.3-and-3.4-GHz-spectrum-bands.pdf

³ European Commission, Mobile Broadband Prices in Europe 2016, October 2016. <https://ec.europa.eu/digital-single-market/en/news/mobile-broadband-prices-europe-2016>

⁴ The falling unit cost, and price, of mobile data is a primary cause of growth in mobile data consumption. Williamson and Wood, Mobile value, spectrum and data demand – a bootstrap approach to estimation, *Digital Policy, Regulation and Governance*, Volume 19(1).

⁵ Ofcom, Pricing report, 2017. https://www.ofcom.org.uk/data/assets/pdf_file/0028/98605/Pricing-report-2017.pdf

post-merger assessments and decisions over spectrum caps.⁶

- Cross country comparisons are distorted. For example, mobile consumers in the US typically spend more on mobile than those in Europe but consume more data - 7.1 GB per month per smartphone versus 4.2 GB per month per smartphone in Western Europe in 2017⁷.
- The contribution of telecoms, along with cloud services, to productivity and GDP growth is understated.⁸ The Office of National Statistics in the UK is reassessing the appropriate basis for deflating telecoms output.⁹

An overarching point is that lower unit costs come about via investment in new technology. Reporting unit prices would therefore tend to increase the weight accorded to the dynamic benefits of investment and providing a policy environment conducive to investment and innovation.

What about fixed access?

Mobile access is comparatively straightforward – consumers pay for data and the price of data is declining. Fixed broadband is conceptually less straightforward.

Consumers of fixed broadband may see access speed as a primary measure of output quality, and operators tend to differentiate pricing on the basis of speed. Data allowances may be unlimited (reflecting the low incremental cost of data for fixed versus mobile).

Whilst mobile output may reasonably be thought of as a linear function of data use, the value of fixed access is unlikely to be a linear

function of speed. What about the logarithm of speed, which implies a doubling in willingness to pay for each 10-fold increase?

Even this feels to me like a strong assumption (the reader can engage in their own thought experiment – at what point would you no longer be willing to pay twice as much for a further 10-fold increase in speed?). Evidence in relation to stated and revealed preferences for fibre in Australia suggests that willingness to pay falls off more sharply than a log-function as speeds approach 100 Mbps.

Revealed and stated preference evidence regarding willingness to pay for incremental speed enhancements could provide a basis for assessing value for money and quality adjusted unit prices for fixed access.

What should be done?

National regulators, the European Commission and other agencies should quickly move to reporting prices for mobile on a per GB basis (alongside expenditure).

Fixed access is less straightforward, though some measure of output quality could serve as denominator in reporting quality adjusted prices. In the short term, the log of speed might be utilised, pending analysis of willingness to pay.

National statistical authorities should also consider revised price deflators for telecoms and cloud services, though adopting revised measures can be expected to take longer given the importance of consistency and continuity in relation to national accounts.

⁶ For example, H3G in the UK argued, in respect of the proposed auction of 2.3 GHz and 3.5 GHz spectrum, that a rise in mobile expenditure was evidence of a competition problem, yet the per gigabyte data price has declined rapidly.

⁷ Ericsson, Mobility report, 2017. <https://www.ericsson.com/assets/local/mobility-report/documents/2017/ericsson-mobility-report-november-2017.pdf>

⁸ Bryne and Corrado, ICT Prices and ICT Services: What do they tell us about Productivity and Technology?, July 2016. https://www.conference-board.org/pdf_free/workingpapers/EPWP1605.pdf

⁹ FT, ONS's crossed telecom wires raise questions over inflation figures, January 2018. <https://www.ft.com/content/abc14c66-fb78-11e7-a492-2c9be7f3120a>