Early 5G fixed-wireless access retail offers have yet to truly disrupt the fixed broadband market

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Increasing numbers of operators are launching 5G fixed-wireless access (FWA) retail offers. However, there are still questions about how such offers will measure up technically (for instance, in terms of speeds, data allowances and installation processes) and how they should be priced. This comment examines the rationale for launching 5G FWA, gives the characteristics of retail 5G FWA offers and outlines the implications of these offers for subscriber take-up.

In this article, we consider the three different types of operators that have launched 5G FWA offers (Figure 1).

Figure 1: The three types of operators that have launched 5G FWA offers

Operator type	Description	Examples
Wholesale fee avoider	Integrated operators with an existing fixed broadband base that use incumbent wholesale offers to launch 5G FWA to avoid paying wholesale fees	Optus, Sunrise
Existing 4G FWA operator	MNOs that have established 4G FWA propositions and are trying to expand and enhance these with 5G FWA	3 Austria, 3 UK, Vodafone Germany
mmWave FWA operator	Operators that are rolling out mmWave to compete with US cablecos	Verizon

Source: Analysys Mason, 2020

5G FWA speeds lag behind those of FTTP, but unlimited 5G FWA data allowances are common

The speeds that 5G FWA can offer are a key determinant as to whether such launches will garner commercial success. One important consideration is the difference in speeds from deployments using 5G mmWave spectrum and those using mid-band spectrum. Verizon's mmWave deployment currently uses 400MHz of spectrum, and has typical download speeds of 300Mbit/s and maximum download speeds of 940Mbit/s. Operators often advertise maximum download speeds of several hundreds of Mbit/s (and up to 1Gbit/s in some cases) for mid-band deployments, but real-world speeds are likely to be significantly lower. For example, Vodafone Germany markets maximum speeds of 500Mbit/s, but notes that the real-world speeds measured by a third-party test were just 67Mbit/s. Regulators in some markets are more stringent in terms of speed marketing than others; the Advertising Standards Agency in the UK, for example, mandates that operators advertise the average speed of the package (defined as the median download speed available to at least 50% of customers at peak time). 3 UK therefore advertises average download speeds of 200Mbit/s for its 5G FWA offers. Optus in Australia has taken

a different approach to promoting download speeds and offers a speed guarantee of just 50Mbit/s. Customers that do not receive this speed are able to cancel their contract without any penalty.

The uploads speeds offered by both mmWave and mid-band 5G FWA deployments are well below those from FTTP networks, and operators are often not transparent on what their customers can expect. 3 in Austria has deployed mid-band 5G FWA, and notes that upload speeds will be between 50Mbit/s and 100Mbit/s.

The marketed and real-world speeds that 5G FWA operators are offering suggest that 5G FWA should be able to compete with VDSL in terms of speed. This helps to explain why 3 in the UK, Optus in Australia and Sunrise in Switzerland have been early deployers of FWA because these countries have extensive VDSL coverage. However, it is more difficult to compete with FTTP on a speed basis, especially for mid-band 5G FWA roll-outs.

5G FWA offers fare better than wireline next-generation access (NGA) offers in terms of data allowances. Unlimited plans are commonplace for both mid-band and mmWave 5G FWA deployments.

Not many additional services are hard-bundled into 5G FWA offers

5G FWA offers tend to include fewer additional services than typical wireline NGA offers. This reflects the fact that FWA operators are challengers in the fixed broadband market. However, the approach of including an optional OTT video service in a mid-band 5G FWA offer is common and is being used by players such as 3 in Austria and Optus in Australia. Verizon's 5G Home offer is clearly targeted at cable cord-cutters and includes 1 free year of the OTT service Disney+ (after which subscribers can cancel the service) as well as a free 1-month trial of YouTubeTV.

5G FWA offers have so far had somewhat high prices

5G FWA offers are not necessarily cheaper than entry-level NGA tariffs. In the case of 3 UK, higher prices are justified by speeds that are well above those offered on entry-level VDSL packages. In other cases, such as for Vodafone in Germany, 5G FWA offers are considerably more expensive than entry-level NGA tariffs because 5G is currently a niche solution that is partly targeted at more-rural areas that do not have wireline NGA coverage. For those that do not take Verizon's mobile offers, the operator has been conservative in terms of providing significant discounts over cable competitors' plans, perhaps because it considers mmWave to be able to compete on a technical basis with cable broadband. However, existing Verizon mobile subscribers may be tempted to take the 5G Home offer thanks to the USD20 discount that is available to them each month.

For operators using 5G FWA to circumvent incumbent wholesale fees, retail 5G FWA prices are not necessarily lower than that same operator's wireline NGA prices. For example, in Switzerland, Sunrise's entry-level VDSL and 5G FWA offers both cost CHF50 (USD52) per month. Conversely, over the course of a 24-month contract, Optus's 5G FWA offer is 6% cheaper than its entry-level VDSL package, which will encourage those in 5G coverage areas to migrate to FWA rather than using VDSL on the NBN network.

Most operators offer 5G FWA self-installation

The ability to offer subscribers the convenience of self-installing their broadband service is important in driving take-up, especially given that 5G FWA offers may not be able to compete with FTTP on a technical basis. Mid-band 5G FWA operators such as 3 UK and Optus in Australia offer self-installation as standard. Verizon's initial 5G Home launch involved a compulsory professional installation, but the company now offers self-

installation in the cities of its new roll-out, which Verizon believes most subscribers will be happy to use. The potential trade-offs of self-installation versus technical performance will become more apparent as 5G FWA take-up grows.

There are still question marks over the take-up of 5G FWA

Truly disruptive 5G FWA offers have yet to appear and 5G FWA pricing has generally been somewhat high. There are also still questions over the real-world performance of 5G FWA. Nevertheless, we expect that it will account for around 9% of all fixed broadband connections in Western Europe at the end of 2024, and that penetration growth will be particularly rapid in countries where operators can migrate an existing sizeable fixed broadband base to 5G FWA.