new|street RESEARCH

18 June 2021
Australia/New Zealand
Equity Research
Telecommunications Services

Company Note

Chorus and New Zealand Broadband Policy

Grasping failure from the brink of success

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The UFB model has delivered fibre outcomes far better than expected … but now threatens to under-deliver

- A regulatory settlement approved by Parliament led to the separation of Chorus from Telecom in 2011 and to shareholders making a long-term equity commitment to fund and manage UFB fibre rollout.
- Chorus and the other local fibre companies have delivered fibre outcomes far better than were expected in 2011 mainly because of the nature of the agreed PPPs that left the bulk of risk to be managed by the private sector.

Failure to recognize UFB investment risk and allow an appropriate return will undermine value-in-use of fibre

- In establishing the new regulatory regime, the NZ Commerce Commission has ignored equity risk and instead applies a debt lens to its analysis. It also incorrectly considered the loss-correction regime an offset to equity risk.
- The result is an unrealistically low regulated return on invested capital that stands in stark contrast to other international fibre benchmarks. Ofcom, the UK communications regulator, says fibre investment requires a 'fair bet' based on the risks faced and the cost of capital at the point when the decision to invest was made.
- We estimate Chorus' UFB investment at more than $7 billion in capital (in present value and reflecting equity risk managed through the build), compared with Chorus' estimate of $5.5bn when applying the Commission IM 'rules'.
- The artificially constructed RAB of $5.5bn indicates a regulated revenue cap below the level Chorus has forecasted it requires during a period of expected continued growth in fibre demand. The Commission has proposed bringing forward depreciation of $200m to try bridge this punitive revenue gap, further penalising equity investors.

The consequences of misregulation … undermining investment in the digital economy and distrust of NZ PPP

- With prices for anchor fibre products capped and a sub-economic WACC, a tightly constrained revenue cap means Chorus has no incentive to drive new services that will empower the digital economy in New Zealand.
- Crown Funding was pivotal to shareholder support for the demerger and UFB commitment, but the benefit of it has been retrospectively removed by the Commission, reducing incentive for further fibre investment. These arbitrary policy reversals mean there is no incentive to further reduce the digital divide. Chorus has said it will not expand its fibre footprint beyond current commitments given the low WACC and treatment of Crown funding.
- Chorus' share price has been impacted severely by misregulation and investors' views on value creation. There is growing distrust among equity investors about the New Zealand PPP model. Revocation of government policy statements, under-valuing of risk and arbitrarily reducing returns post investment effectively 'take' equity value committed in good faith. Investors face many market risks that may cause them to lose value, but when policy and regulation contrive to do that, it causes investors to rethink sovereign risk and participation in PPPs.

Consequences of misregulation: undermines investment, mistrust of PPP

Misregulation … dismissing equity commitment in favour of preferred debt measures

- Prices for anchor fibre products are capped, a primary layer of regulation well-appreciated and agreed by equity investors. Investors expected an ongoing price control for fibre beyond the build period when they voted for Telecom to support the UFB project and demerge Chorus. The long term value investors that supported Chorus in its management of risk through the UFB build also expected scope to recover initial losses and earn a fair return on their investment subject to the UFB rollout being well managed and meeting targets.
- Chorus has well exceeded these targets and delivered outcomes well beyond those expected in 2011. Instead of scope to generate an appropriate return it now finds the additional layer of allowed revenue regulation dismisses the equity commitment made in 2011. The regulatory framework resets the timing and duration of capital commitment to a series of arbitrary debt measures, despite the UFB project being funded by equity, and references risk measures below those faced in the primary equity commitment.

The consequences of misregulation … undermines confidence in investment in the digital economy in New Zealand

- The extent of misregulation threatens to constrain revenue so tightly that it creates a disincentive to drive value beyond established core products. With no possibility of further revenue gain there is no incentive to expand the fibre product set to drive new services that will empower the digital economy in New Zealand. There is no incentive to expand fibre connections to new devices and points of connection. There is no incentive to reduce the digital divide.
- That tight constraint stands in contrast to proposed regulation of fibre in the UK and Australia. Ofcom is explicit in noting the long term revenue incentive for Openreach to expand fibre rollout and service beyond a standard 40Mbps service. NBN Co has a wide revenue incentive and is encouraged to explore new wholesale services that support the digital economy in Australia.
- Without that revenue incentive in a “carefully considered and negotiated regulatory model” the UFB investment model won’t capture the innovation and expertise of private equity and won’t deliver fibre solutions that best contribute to New Zealand’s economic future.

The consequences of misregulation … distrust of NZ PPP

- There is a growing distrust among equity investors about the New Zealand PPP model and the sense that a regulatory ‘mugging’ is in progress with systematic rejection of equity commitment. Changing the model post-commitment of equity, under-valuing risk and arbitrarily reducing returns effectively ‘take’ equity value committed in good faith. Investors face many market risks that may cause them to lose value if not well managed. But when policy and regulation do that, that is something that causes investors to rethink their interest in PPPs in large part because that is a set of risks that are arbitrary and not able to be managed in the normal course of business.

None of this misregulation is about prices for residential and business broadband services, it’s about equity incentive

- Chorus’ wholesale broadband prices are the subject of a separate price cap which will continue at least until 2025. Instead the impact of misregulation is about the revenue incentive and confidence in the regulatory model Chorus will have to expand usage to higher value services and develop and promote new services as the digital economy evolves in New Zealand.

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The provision of Crown Funding was a key part of the 2011 commitments

CFH funding was predicated on helping bridge the gap between commercial risk and early investment in FTTH

- John Key said FTTH investment would be worthwhile from a public policy point of view given FTTH "promises huge gains in productivity, innovation, and global reach for New Zealand. Against that the lack of investment "represents a significant market failure. There is no obvious will from the private sector to invest in a wider fibre-to-the-home network.
- "I think this is a case where a future-thinking Government, with a view to the long-term and an appreciation of the wider public benefits, needs to step in. But, as with any market intervention, we must be very careful about how that is done. Government, Key said, has "two key tools available for speeding up the roll-out of fibre-to-the-home. The first is regulation, and the second is capital investment from the Crown Account."

  (Source: Achieving a Step Change: Better Broadband for New Zealand, John Key MP, Leader of the National Party, Tuesday, 22 April 2008.)

… and was a central factor in Telecom's agreement to support the UFB PPP ... and set a total return threshold of 16%

- The analysis undertaken by Grant Samuel indicates that TCNZ shareholders are likely to be better off in NPV terms under the cooperate scenario. The difference can be attributed primarily to the payments from CFH and the benefits from not competing with a new high speed network.
- These benefits are in part offset by the impact of the significant capital expenditure that will be undertaken if the Proposed Separation is implemented.
- Flexible Crown Investment Terms: The investment from CFH will take the form of equity and debt, in equal components … (with) repayment dates … a function of the success or otherwise of the UFB network. If the fibre uptake is low, then the debt repayment period is shortened. The CFH equity instruments are similarly flexible.
- Warrants have been issued that provide CFH with the right to purchase New Chorus shares if the total shareholder return exceeds 16% per annum, which if achieved, will mean that New Chorus will have been very successful in generating shareholder value. The existence of the warrants is not a major value imposition on New Chorus shareholders.
- Grant Samuel concluded that TCNZ has entered into a contract with CFH on terms that it considers are advantageous and financially beneficial to its shareholders. The separation of TCNZ into New Telecom and New Chorus is a condition of the CFH Agreements. In other words, realisation of the value in Crown Funding was only possible if shareholders agreed to demerge Chorus.

  Source: Grant Samuel, Independent Expert's Report, Proposed Structural Separation of Telecom Corporation of New Zealand Ltd, Sept 2011.

The value of the CFH funding to the 2011 commitments has been removed by legislation and regulation

- Despite agreeing to demerge and contract to build the UFB network, the value of CFH funding has been substantially removed from the proposed RAB with the effect of limiting potential revenue growth options. (CFH funding will ultimately be returned to the Government.)
- Removing the Crown Financing component from the regulated asset base undermines the 2011 commitments and undermines investor confidence.

Consequences … mistrust in New Zealand Public Private Partnership model

L1 Capital: UFB regulation is punitive … New Zealand is not reliable for investing in regulated assets

Chorus "has been impacted by a punitive determination by the New Zealand Commerce Commission on the allowed rate of return for Chorus's fibre assets. The very low allowed rate of return severely underestimates the real risks investors have taken on building and operating the fibre network.

"We are hopeful this will be corrected through a much more commercial approach to the assumptions underlying the asset base and a re-examination of other assumptions through the rest of this year. Failure to do so would send a strong signal that there is a huge risk in entering into long term public private partnerships with the New Zealand Government and that New Zealand is not a reliable destination for investing in regulated assets." (L1 Investment Report March 2021.)

Investors Mutual: we will not invest in New Zealand infrastructure again given the goal posts shift post investment

It's frustrating that the Commerce Commission has adopted regulatory proposals significantly harsher than Ofcom, the AER and other benchmarks noting that Chorus faces fixed wireless and other technology competition. Chorus has undoubtedly built a very high quality network with excellent speeds being reflected in high data usage. This was not assumed from day one and now they are being treated almost punitively for doing such a good job.

If the RAB parameters are not significantly improved we would never invest in NZ infrastructure again, and would warn others of how the goal posts could move. For example the commission with hindsight assumes Chorus could access lower interest rates over time rather than sensibly commit to long term finance up front.

We don't expect super profits but an adequate return should be based on capital invested and risk undertaken and forecast. There should also be an incentive to be efficient; there is currently a disincentive to invest further. (Correspondence with analyst, May 2021.)

River Capital: we would not have invested in the UFB PPP if it had known how the Commission proposed to regulate UFB

"If we were investors in Telecom/Chorus being presented with the same fibre investment case again — and were aware the Commission would apply the interpretations currently proposed for the key components of the loss asset— we would be strongly against investment in the project.

"We encourage the Commission to recognise the substantial contribution investors have made to New Zealand's fibre public-private partnership, by considering the broad implications of its approach to the financial loss asset. Infrastructure investment requires providing the opportunity for a fair return." (Letter to the Commerce Commission, 8 September 2020.)

NSR ANZ: We are aware of similar views from other institutional investors in Australia and globally including many that have determined that the New Zealand UFB regulatory model is too risky and too arbitrary to support considered investment.

Consequences of undermining equity support for UFB and NZ PPPs

Professor George Yarrow … effective regulation requires the honouring of commitments

- "Regulatory certainty, or, more generally, regulatory reputation, is one of the factors that is relevant to initial RAB determination. Effective regulation requires the honouring of commitments and promises which, ex post, and considered in isolation or over-narrowly, it may appear preferable to a regulator not to keep.
- "Given the scale and non-recoverability (sunkness) of assets in sectors such as telecoms, the chief concern for capital markets is usually the risk of partial expropriation of capital. Initial RAB valuation therefore needs to take account of this factor, not least because any initial under-valuation may, by damaging regulatory reputation/credibility, lead to higher costs of capital in the longer term, to the ultimate disadvantage of consumers."
  (Source: Professor George Yarrow, a former Chairman and current council member of the Regulatory Policy Institute, and a highly respected authority on economic regulation, Gilbert and Tobin submission to the ACCC on access pricing principles, October 2010.)

For a regulatory regime to work it has to have credibility … or it will be inefficient in the long run

- "If one is at the start of a new regime, which is hopefully a new beginning and a new partnership, it seems difficult to think that that would work well if it starts with a mugging of one side by the other. So I would say that there is a fairly narrow range actually of possible valuations that will give you a mugging free start."
- "Because for a regulatory regime to work it has to have credibility and it has to be legitimate and it has to be legitimate for all parties involved. And I think rate shocks are to be avoided for that kind of reason, because they do undermine legitimacy and a regime which loses legitimacy or is lacking or lacks credibility is going to operate inefficiently in the long run.
  (Source: Transcript of Commerce Commission Part 4 IM conference, 17 September 2009, page 351.)

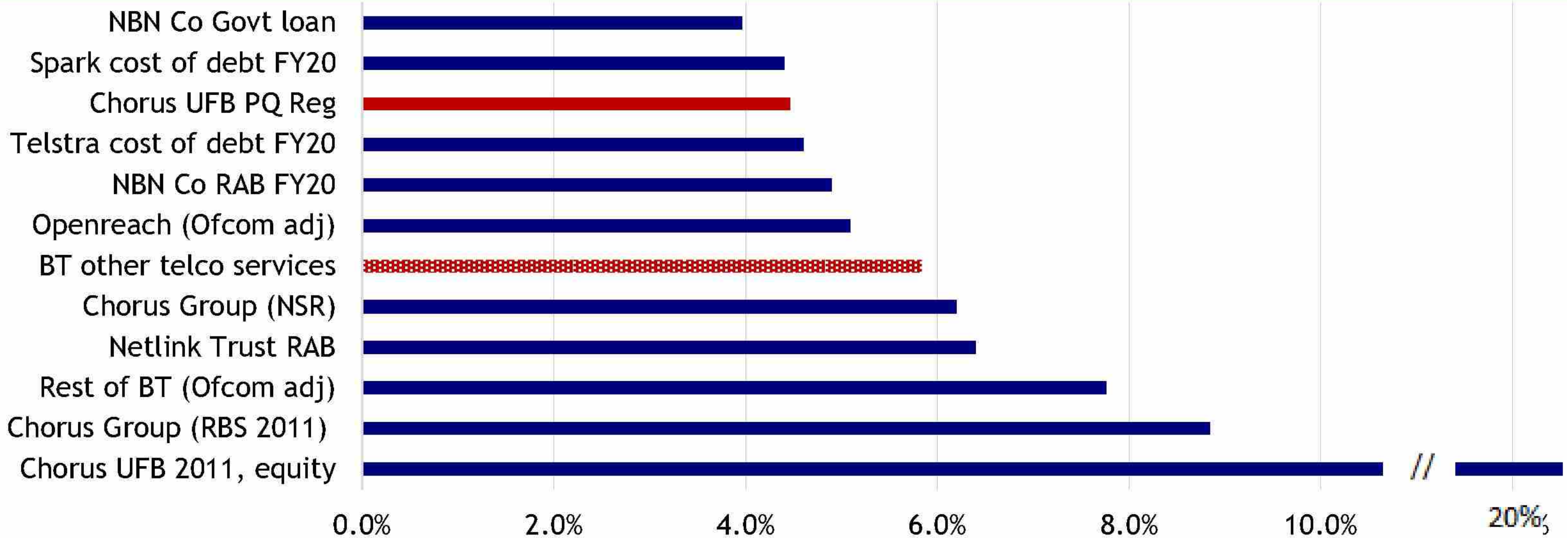
Reference what happened to the Australian NBN when the ACCC reneged on equity investment … an equity strike on fibre

- In 2005 — prior to the Government's T3 selldown — the ACCC reviewed and reset regulation of copper access prices applying to Telstra. It moved to de-average wholesale copper prices and established a regulated value for the copper network at A$32bn based on written-down replacement cost. In 2006 the Howard Government sold its remaining stake in Telstra with the copper network being the main part of the valuation achieved (in the days before mobile smartphones became the main driver of value).
- In 2009, as the Rudd government sought to reacquire the copper network to underpin the NBN, the ACCC dropped its valuation of the copper network from A$32bn to A$17.5bn using an arbitrary historic cost approach. It also moved back to average prices in a way which substantially disadvantaged Telstra, an example of misregulation known among equity investors as 'the great double-backflip'.
- The effect of these arbitrary regulatory decisions was a key factor causing Telstra's share price to fall c$1 below the T3 price of A$3.60. Our global clients compared this arbitrary taking of equity value to nationalisation that might be expected in certain markets where there is little or no respect for committed equity investment. Without fair, reliable regulation, committed capital is there for the taking!
- When the Rudd government canvassed private investor interest in the NBN in 2009 none was forthcoming. The case for NBN investment was highly uncertain at that point, and the equity market had a deep reluctance to take telecom's access regulation in good faith.

Chorus UFB PQ regulated cost of capital less than benchmark debt

- **The Commerce Commission has throttled Chorus' UFB fibre Price Quality (PQ) cost of capital components to a WACC of 4.46%**
  - Only 50bp above the rate NBN Co pays to the Australian Government on its fixed rate government debt (3.96%).
  - It is the same rate as Spark NZ's cost of debt (4.4%, FY20) and less than Telstra's cost of debt (4.6%, FY20).
  - NBN Co's RAB WACC was 43bp higher at 4.9% in FY20, despite that being a default rate based on the risk free rate plus 3.5%.
- **The closest benchmark for Chorus UFB Fibre is BT's other (ie non-Openreach) regulated telecoms services (WACC of 5.8% adj)**
  - In addition Ofcom advises: "It is important to provide sufficient potential for BT to earn more than the cost of capital when the investment goes well to compensate for the losses BT could incur if the investment goes badly." (See page 31.)
  - The March 2021 WACC for BT Openreach is 63bp higher at 5.1% (ie adj to NZ) although that business is predominantly copper access.
  - BT's non-regulated services have an indicative WACC estimated at 7.8% (ie adj to NZ).
  - Singapore's Netlink Trust has a post-tax regulated WACC of 6.4%; that is nearly 200bp higher than the rate proposed for Chorus despite NLT being a relatively low-risk passive infrastructure NBN, the rollout being completed and operating in a densely populated city-state.

Chart 1: Chorus UFB PQ WACC benchmarked to NBN, Spark and Telstra cost of debt, well below Openreach and Netlink Trust WACC benchmarks and 2011 WACC.



Note: Ofcom rates for BT and Openreach as published in March 2021 adjusted to NZ RFR and tax rate. All rates adjusted to post tax except costs of debt. See page 24.
Source: NZCC 27 May 2021, NBN Co, Spark and Telstra Annual Report 2020, NBN Co LTRCM Report Dec 2020. Netlink Trust IPO document, NSR reports and estimates..

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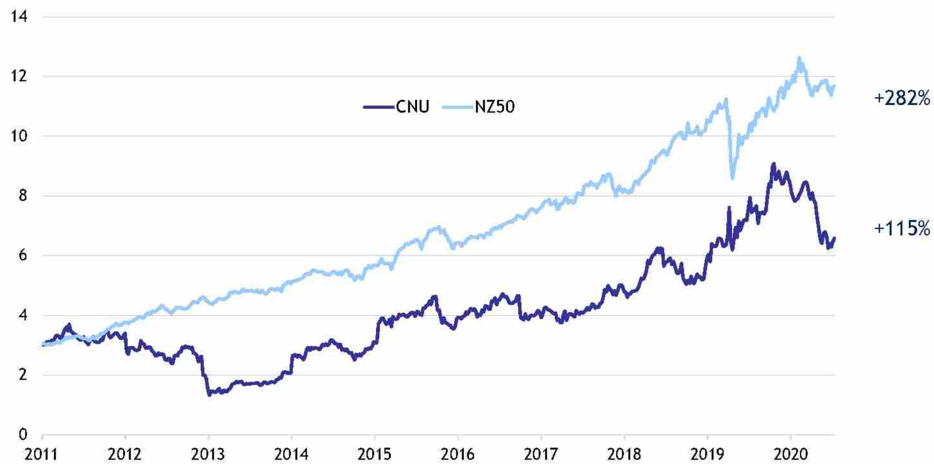
Chorus share price has under-performed … greatest risk is misregulation

- **Despite meeting and beating 2011 expectations and operational targets, Chorus long term value shareholders would have been better off investing elsewhere since 2011**
  - While Chorus share price has increased by 115%, a little more than doubling in equity value.
  - Over that c10 year period the NZ50 benchmark index has nearly doubled twice, an increase of 282%.
  - Market-wide factors that drove the NZX performance include recovery from post-GFC concerns, a period of sustained low interest rate and expectations about the digital economy.
  - Chorus share price performance would have aligned better with these themes, especially as it reached the end of its capital spending program, but for two periods of unproductive and destabilising misregulation, in 2012-2015 and 2020-2021.
- **All Chorus' valuation gains of 2020 have been given up by the market due to uncertainty about MAR regulation**
  - Chorus share price increased in 2020 from around \$6 per share to a peak of \$9 per share – in large part reflecting low interest rates and increased market interest in infrastructure – and service continuity in the initial impact of COVID-19 lockdowns.
  - We would ordinarily expect Chorus to outperform as it reaches the end of its capital intensive UFB rollout, capital risks reduce and considers further opportunity for growth in the digital and capital returns to shareholders in a low interest rate environment. Instead, risks are seen to have increased.
  - That expectation has been lost as the market weighs how much value will be taken by punitive regulation, and what constraint will apply to further value growth in the digital economy.
- **Chorus currently trades around 8.7x cash earnings (EV/EBITDA) … a good growth fibre company facing the digital economy should be trading comfortably above 10x.**

Chart 2: Chorus (NZX: CNU) share price over 10 years relative to NZX50 (NZ\$).



Source: NZX, 9 June 2021

Chart 3: Chorus (NZX: CNU) share price performance since 1 Jan 2020 (NZ\$)

Source: NZX, 9 June 2021

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UFB PPP has delivered better industry outcomes than expected in 2011

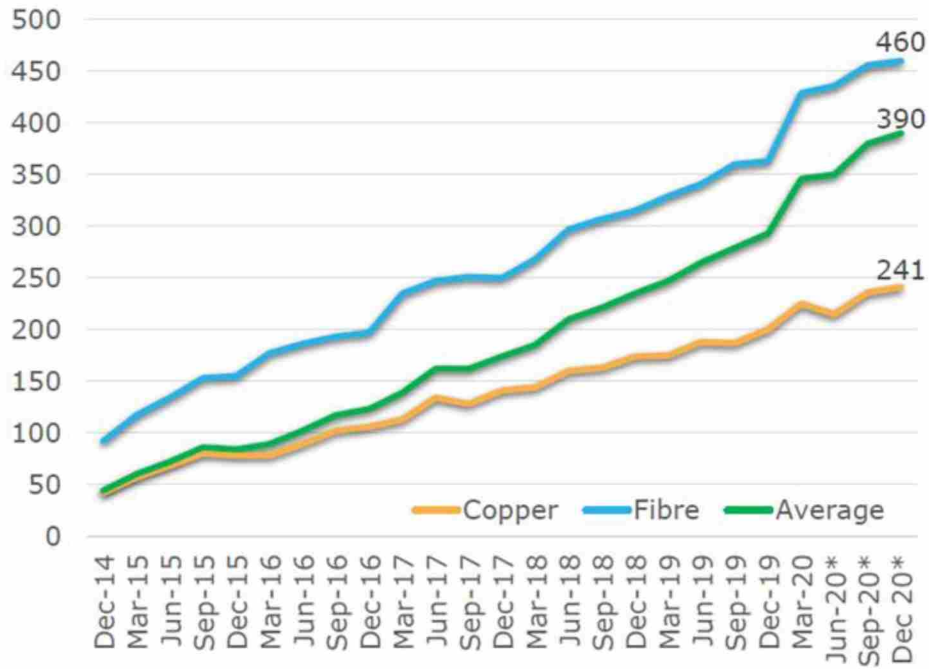
The 2011 Infrastructure Plan set out four measures of success, all of which have been met or exceeded.

- Improved ranking on consumer cost indicators: Achieved, with broadband affordability improving by c6% pa.
- Improved broadband penetration rates: Realised, with broadband penetration increasing from 25 per 100 pop in 2010 to 35 in 2020 (see chart 5 on page 9 which shows New Zealand broadband penetration lifting well above OECD average rates).
- Increasing average consumer broadband connection speed: Exceeded, with increasing fibre connections as well as steady migrations of fibre services initially to 100 Mbps plans and now, increasingly, gigabit and Hyper-Fibre services driving rapid speed increases.
- Industry investment in telecommunications infrastructure continues at a steady or increasing rate compared to the previous decade. This too has been achieved, with average industry capex in FY16 to FY20 of $1.63 bn compared with $1.28 bn in the period to FY10.

Increased competition: Delivered, more coming

- In 2011 Communications Minister Steven Joyce said "the fibre-optic network will be open to retailers on equal terms, boosting market competition." In approving the open access Deeds of Undertaking he said a robust open access environment would be vital to the success of faster broadband in New Zealand: the "Deeds will encourage a competitive marketplace for faster broadband services."
- Almost ten years later these competition expectations have been met. The share of all broadband connections held by smaller rivals to incumbents Spark and Vodafone was 23% in 2013 and increased to 38% by 2020. However, the new competitors' share of fibre connections was higher still at 47%. (Source: IDC data quoted by Chorus.)
- As well there is a good base of infrastructure competition including rival fixed wireless access networks, Vodafone's HFC network and three rival local fibre companies. Our expectation is that 5G mobile will further add to access network competition through the 2020s.

Chart 4: Chorus average monthly data usage (GBpm)



*Note: * Includes upstream traffic from June 2020.*
Source: Chorus 2Q21 connections update, 26 Jan 2021.

Disclosures

This report on NZ UFB investor outcomes was commissioned by Chorus.

The content reflects the findings and views of New Street Research.

12 month historical recommendation changes are available on request

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