FORSYTH BARR

Chorus

OUTPERFORM

Back on the High Fibre Diet; Upgrade to OUTPERFORM

We upgrade Chorus (CNU) to OUTPERFORM – we remain attracted to CNU's attractive fundamental value and the considerable long-term free cash flow we expect the company to generate once its ultra-fast broadband (UFB) fibre network is complete in 2022. We acknowledge the inherent and material uncertainty in the yet-to-be finalised fibre regulatory regime; however, our updated analysis has given us greater comfort over the range of possible outcomes. In the short-term, we believe, from a CNU perspective, there will likely be improvements to the regulatory picture when the Commerce Commission's (CC) announces its draft "input methodologies" decision on 5 November.

Improvement to CC's "emerging views" likely

The most material medium-term driver of CNU's valuation is the implementation of the new UFB regulatory regime, and the maximum allowable revenue (MAR) its fibre network will be allowed to earn from 1 January 2022. The CC released its first "emerging views" paper on the "input methodologies" (which feed into the regulatory regime) in May; a number of these views negatively surprised the market. We believe there are a number of areas where CNU could see an improvement as we progress through the regime's implementation. We see the greatest potential for change in asset beta, and compensation for "type II" (competition/uptake) risks, with revisions to the treatment of government funding and the calculation of pre-2022 losses that are incorporated into the regulatory asset base (RAB) also possible.

Attracted to CNU's strong long-term cash flow

We have reviewed our CNU regulatory model resulting in: (1) a higher depreciation rate meaning larger pre-2022 losses factored into the RAB (albeit the long-term valuation impact is minimal); and (2) a reduction in CNU revenue attributed to the regulated UFB (resulting in greater overall revenue allowed to be earned). (Where visible) our assumptions are in line with the CC's "emerging views" with the exception of asset beta where we believe a lift is probable.

We conclude that CNU offers attractive fundamental value (particularly in context of expensive defensive peers) underpinned by the considerable long-term free cash flow (FCF yield >10% from FY24 onward) we expect the company to generate once its UFB network is complete in 2022.

Comfortable with the uncertainty

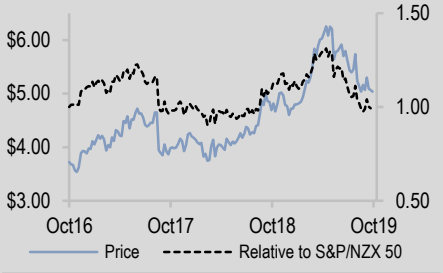
We acknowledge there is an inherently high margin of error in any CNU valuation given the range of possible regulatory outcomes, and the company's high operating and financial leverage. We get comfort over this uncertainty from: (1) a cautiously balanced base case assumption set including using a cost of capital above what the market is currently applying to defensive assets, and (2) our assessment that the risks from potential revisions to the CC's emerging views are positively weighted.

Investment View

We are attracted to CNU's fundamental value underpinned by the considerable long-term free cash flow we expect the company to generate once its fibre network is complete in 2022. OUTPERFORM.

NZX Code	CNU
Share price	NZ$5.04
Target price	NZ$5.80
Risk rating	High
Issued shares	439.3m
Market cap	NZ$2,214m
Average daily turnover	478.2k (NZ$2,546k)

Share Price Performance



Financials: June	19A	20E	21E	22E
NPAT* (NZ$m)	53.0	34.1	24.0	29.2
EPS* (NZc)	12.2	7.7	5.3	6.4
EPS growth* (%)	-39.7	-36.9	-30.9	21.0
DPS (NZc)	23.0	24.0	25.0	26.0
Imputation (%)	100	100	100	68

Valuation (x)	19A	20E	21E	22E
EV/EBITDA	7.2	7.6	7.7	7.6
EV/EBIT	18.8	22.1	23.8	22.6
PE	41.3	n/a	n/a	n/a
Price / NTA	2.8	3.0	3.3	n/a
Cash dividend yield (%)	4.6	4.8	5.0	5.2
Gross dividend yield (%)	6.3	6.6	6.9	6.5

*Historic and forecast numbers based on underlying profits

Matt Henry, CFA
matt.henry@forsythbarr.co.nz
+64 9 368 0115

Chorus Ltd (CNU)		Priced as at 09 Oct 2019: NZ$5.04				June year end
Forsyth Barr valuation						
Valuation methodology					DCF	
12-month target price (NZ$)*	**5.80**	**Spot valuations (NZ$)**				
Expected share price return	15.1%	1. DCF			5.44	
Net dividend yield	4.8%					
Estimated 12-month return	19.9%					
Key WACC assumptions		**DCF valuation summary (NZ$m)**				
Risk free rate	2.00%	Total firm value			4,723	
Equity beta	1.16	(Net debt)/cash			(2,335)	
WACC	6.1%	Value of equity			2,388	
Terminal growth	1.5%	Shares (m)			439	

Profit and Loss Account (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	990.0	970.0	951.7	941.0	938.7
Normalised EBITDA	**653.0**	**636.0**	**628.9**	**623.4**	**630.4**
Depreciation and amortisation	(387.0)	(393.0)	(413.6)	(421.5)	(417.8)
Normalised EBIT	**266.0**	**243.0**	**215.2**	**201.9**	**212.5**
Net interest	(144.0)	(165.0)	(166.4)	(167.6)	(170.7)
Associate income	-	-	-	-	-
Tax	(37.0)	(25.0)	(14.8)	(10.4)	(12.6)
Minority interests	-	-	-	-	-
Normalised NPAT	**85.0**	**53.0**	**34.1**	**24.0**	**29.2**
Abnormals/other	-	-	-	-	-
Reported NPAT	**85.0**	**53.0**	**34.1**	**24.0**	**29.2**
Normalised EPS (cps)	20.2	12.2	7.7	5.3	6.4
DPS (cps)	22.0	23.0	24.0	25.0	26.0

Growth Rates	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Revenue (%)	-4.8	-2.0	-1.9	-1.1	-0.2
EBITDA (%)	0.2	-2.6	-1.1	-0.9	1.1
EBIT (%)	-15.0	-8.6	-11.4	-6.2	5.3
Normalised NPAT (%)	-24.8	-37.6	-35.7	-29.7	22.0
Normalised EPS (%)	-27.3	-39.7	-36.9	-30.9	21.0
DPS (%)	4.8	4.5	4.3	4.2	4.0

Cash Flow (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**653.0**	**636.0**	**628.9**	**623.4**	**630.4**
Working capital change	2.0	14.0	(9.4)	(4.2)	(9.7)
Interest & tax paid	(144.0)	(131.0)	(136.4)	(128.8)	(123.5)
Other	(3.0)	(23.0)	-	-	-
Operating cash flow	**508.0**	**496.0**	**483.1**	**490.5**	**497.2**
Capital expenditure	(814.0)	(808.0)	(665.7)	(503.3)	(427.1)
(Acquisitions)/divestments	-	-	-	-	-
Other	140.0	167.0	162.1	109.0	77.1
Funding available/(required)	**(166.0)**	**(145.0)**	**(20.5)**	**96.1**	**147.2**
Dividends paid	(43.0)	(49.0)	(66.1)	(71.4)	(75.1)
Equity raised/(returned)	-	-	-	-	-
Increase/(decrease) in net debt	**209.0**	**194.0**	**86.6**	**(24.7)**	**(72.1)**

Balance Sheet (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	(216.0)	(220.0)	(210.6)	(206.5)	(196.8)
Fixed assets	4,439.0	4,823.0	5,040.0	5,100.3	5,089.5
Intangibles	182.0	198.0	205.7	197.9	187.4
Other assets	104.0	83.0	83.0	83.0	83.0
Total funds employed	**4,509.0**	**4,884.0**	**5,118.1**	**5,174.8**	**5,163.1**
Net debt/(cash)	1,994.0	1,714.0	1,800.6	1,775.9	1,703.8
Other non current liabilities	1,575.0	1,801.0	1,980.5	2,109.3	2,215.6
Shareholder's funds	1,022.0	979.0	947.0	899.6	853.7
Minority interests	-	-	-	-	-
Total funding sources	**4,591.0**	**4,494.0**	**4,728.1**	**4,784.8**	**4,773.1**

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	6.6	7.2	7.6	7.7	7.6
EV/EBIT (x)	16.2	18.8	22.1	23.8	22.6
PE (x)	24.9	41.3	65.5	94.8	78.3
Price/NTA (x)	2.6	2.8	3.0	3.3	3.4
Free cash flow yield (%)	-13.8	-14.1	-8.2	-0.6	3.2
Net dividend yield (%)	4.4	4.6	4.8	5.0	5.2
Gross dividend yield (%)	6.1	6.3	6.6	6.9	6.5
Imputation (%)	100	100	100	100	68
Pay-out ratio (%)	109	189	312	470	404

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	1.8	1.5	1.3	1.2	1.2
Interest cover EBITDA (x)	4.5	3.9	3.8	3.7	3.7
Net debt/ND+E (%)	68.7	71.8	73.3	74.2	74.8
Net debt/EBITDA (x)	3.4	3.9	4.1	4.1	4.0

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	5.4	4.4	3.8	3.5	3.7
Return on equity (%)	8.3	5.4	3.6	2.7	3.4
Return on funds employed (%)	5.1	3.9	3.7	3.3	3.7
EBITDA margin (%)	66.0	65.6	66.1	66.3	67.2
EBIT margin (%)	26.9	25.1	22.6	21.5	22.6
Capex to sales (%)	82.2	83.3	69.9	53.5	45.5
Capex to depreciation (%)	288	267	206	152	129

Operating Performance	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Revenue (NZ$m)					
Copper	581	468	361	267	202
Fibre	276	368	465	556	627
Other	133	134	126	118	110
Total revenue	**990**	**970**	**952**	**941**	**939**
Expenses (NZ$m)					
Labour costs	73	74	74	73	71
Provisioning	6	6	4	3	3
Network maintenance	87	75	71	68	66
Other network costs	34	33	30	30	31
IT costs	54	50	48	49	50
Other	83	96	96	94	88
Total expenses	**337**	**334**	**323**	**318**	**308**
Connections (000s)					
Copper	1,081	840	627	478	339
Fibre	445	610	782	885	978
ARPU (NZ$/month)					
UCLL	30.5	31.0	31.5	31.7	32.3
UBA	11.1	10.9	10.7	10.7	10.9
Fibre (average)	45.5	46.6	48.2	49.5	50.8

Capital expenditure (NZ$m)					
Fibre	620	664	546	393	324
Copper	132	81	59	49	41
Common	58	59	58	59	60
Capitalised interest	4	4	3	2	2
Total capital expenditure	**814**	**808**	**666**	**503**	**427**

* Forsyth Barr target prices reflect valuation rolled forward at cost of equity less the next 12-months dividend

Focus on fibre regulation …

The most material medium-term driver of CNU's valuation is the (currently work-in-progress) implementation of the new ultrafast broadband (UFB) regulatory regime, and the maximum allowable revenue (MAR) its fibre network will be allowed to earn from 1 January 2022. MAR will be determined by the Commerce Commission (CC) under a "utility style building blocks model (BBM)".

The CC released its first "emerging views" paper on the "input methodologies" (which feed into the BBM) on 21 May. In our view, a number of the CC's views surprised the market, including the low asset beta and CC's limited recognition of the risks of investing in a new fibre network, e.g. uptake uncertainty, competing technologies, long-dated investment. Since the announcement the stock's return of -17% contrasts to a rising market led by a sizeable rerating of defensive assets.

There remains a 20-month timetable before CNU's UFB revenue path is finalised. In our opinion, the CC is not dogmatic in its views and significant changes are possible. We acknowledge that prejudging regulatory outcomes in NZ over the years has been (at best) difficult; however, we believe there are areas where CNU will likely benefit from an improvement vs. the CC's emerging views. We see the highest potential for change in asset beta, and compensation for "type II" (competition/uptake) risks. We also believe there is potential for changes to the treatment of government funding and the calculation of initial losses.

We recognise there is still a range of possible outcomes for the regulatory input methodologies, and therefore, ultimately, CNU's allowable MAR. Given CNU's high operating and financial leverage, the valuation sensitivity to these input methodologies and MAR remains considerable.

Figure 1. Regulatory timetable

Process step	Date
Completed	
Publication of input methodologies (IM) emerging views	21 May 2019
Submissions on IM emerging views	16 July 2019
To be completed	
Publication of draft decision	5 November 2019
Submissions on draft decision due	17 December 2019
Cross submissions on draft decision due	4 February 2020
Publication of final decisions	2 June 2020
Determination of first price-quality path for Chorus	2Q 2021
Three-year regulatory period commences	1 January 2022

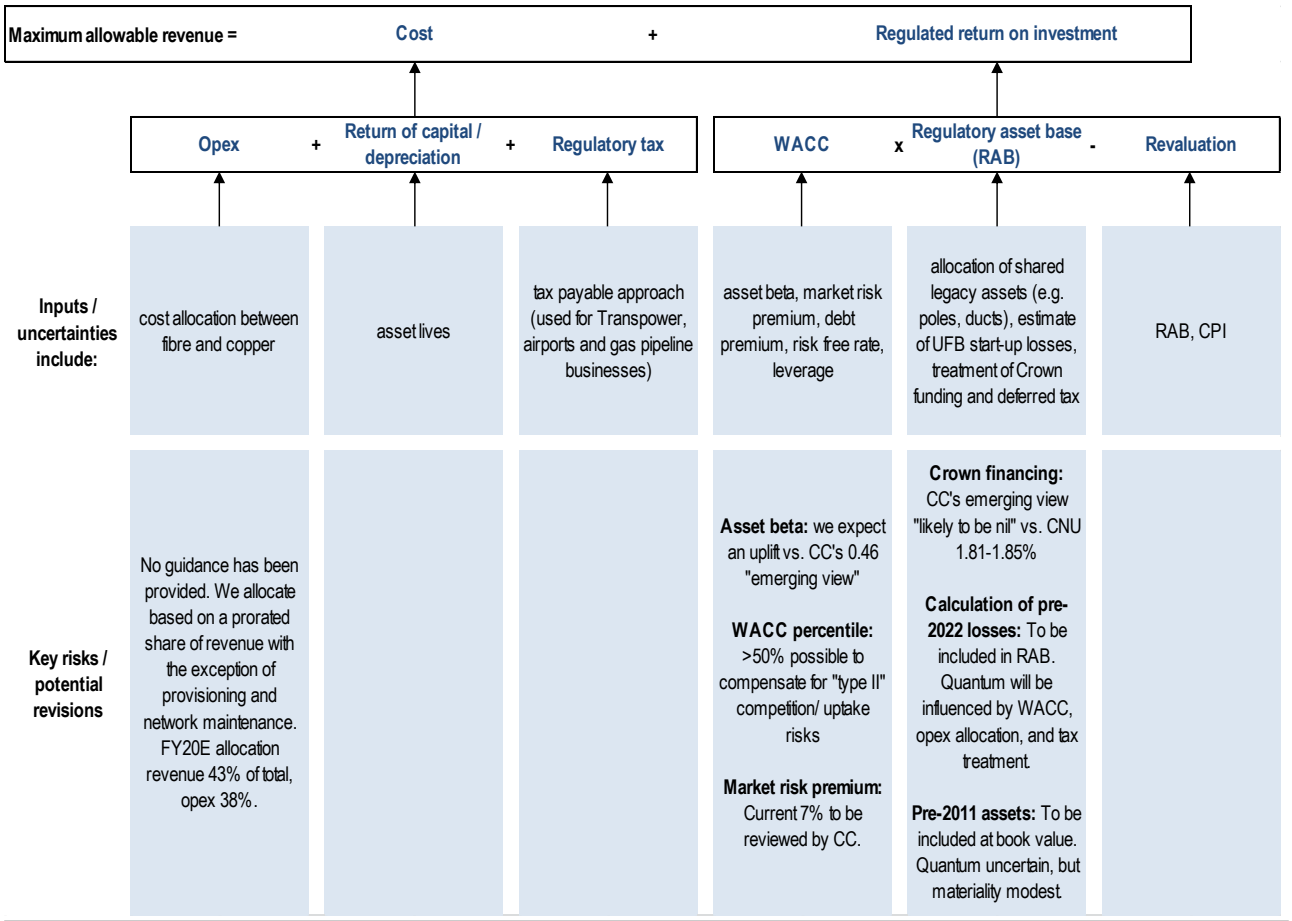
Source: Commerce Commission, Forsyth Barr analysis

… with improvements vs. ComCom's "emerging views" likely

In NZ the BBM framework is well established under Part 4 of the Commerce Act and its use for energy networks and airports. The CC has stated that the principles of Part 4 "are an appropriate starting point" for UFB regulation. This precedent, coupled with the relatively prescriptive Telecommunications (New Regulatory Framework) Amendment Act 2018, has narrowed the scope of CC subjectivity in instigating the new regime.

In our view, key input methodologies that can still materially influence the outcome are the (1) asset beta, (2) WACC percentile, (3) recognition of competition/uptake or "type II" risks (which could be reflected in the WACC percentile), (4) treatment of government funding, and (5) calculation of pre-2022 operating losses which are to be factored into the opening regulatory asset base (RAB). From a CNU perspective, we believe a number of these factors will ultimately improve vs. the CC's emerging views.

Figure 2. Building blocks inputs



Source: Forsyth Barr analysis

1. Asset beta — Changes to comp set probable

The CC sets the WACC inputs of asset beta, leverage, and credit rating based on a set of comparable global listed companies. The CC's emerging views included a report from consultancy Cambridge Economic Policy Associates (CEPA) which estimated CNU's asset beta at 0.42–0.51 with a 0.46 midpoint. CEPA acknowledged that there are no direct wholesale-only fibre peers for CNU and used a set of "wholesale-only" (mobile tower and satellite companies) and vertically integrated communication providers.

CEPA's conclusion is inconsistent with (1) Crown Fibre Holdings' 0.5–0.8x estimate during the UFB negotiation process, and (2) international regulatory precedent, with the vast majority of regulatory decisions concluding fibre has higher systematic risk than copper.

The submissions to the emerging views are, in our view appropriately, critical of the sample set used by CEPA. Satellite and mobile tower companies are significantly lower risk than CNU due to factors such as long-term wholesale contracts, lower demand variability, and less obsolescence or competitive threats.

Excluding the "wholesale-only" (mobile tower and satellite companies) from CEPA's sample set the asset beta range is 0.46–0.55, with a 0.51 midpoint. This is broadly consistent with a report CNU-commissioned report from Oxera in which it suggests an asset beta range of 0.46–0.57 with a mid-point of 0.52. Given the absence of pure play fibre companies in the sample set, Oxera concluded that the asset beta for a fibre network should sit above the mid-point to reflect the greater systematic risk of the fibre business (from higher elasticity of demand vs. copper, higher fixed costs meaning greater operating leverage early in an asset's life, the long life of the asset lifting the long-term cash flow uncertainty). UK regulator Ofcom is of the view the fibre is higher risk than copper, but that these risk factors would decrease over time as uptake grows. It applied an asset beta to BT's fibre-to-the-cabinet (FTTC) network of 0.83 in 2014 and 0.65 in 2018.

2. WACC percentile — How will the ComCom compensate for competition and uptake risks?

Two key principles of NZ regulation regime are:

1. The recognition of the "asymmetric consequences of under-investment and over-investment". For both electricity and gas energy networks the CC uses a 67th WACC percentile to reflect the inherent uncertainty in determining WACC and the asymmetric risks of underestimation (being under-investment in networks).
2. "Real financial capital maintenance (FCM)" which means the supplier of a regulated service should have the expectation of earning "normal (i.e. WACC) returns over the lifetime of an investment". In some international jurisdictions this is overlaid with the "fair-bet" principle, defined by Ofcom as being "upside potential from any investment to offset the downside risk of failure", i.e. the weighted average expected return is equal to WACC.

Both these principles can potentially be addressed by determining MAR at a targeted return above the mid-point of WACC.

CC views: A new fibre network has lower asymmetric risk …

The CC's emerging view is that is sees "limited evidence that there are likely to be material asymmetric consequences of underinvestment for fibre" with the benefits from mitigating under-investment outweighing the cost. The basis for this view is that (1) the civil and fibre layers of the network (which represent >90% of the cost of the UFB) are new and highly scalable, (2) these assets need minimal maintenance/replacement investment for the foreseeable future, and (3) as such, the case for using a >50% WACC to incentivise investment is limited to the electronics layer and new geographies. In contrast most NZ electricity distribution networks are >50 years old and require significant ongoing investment to meet growth and maintain quality standards.

Whilst the CC has left the door ajar with "we are open to further evidence" our (admittedly lay) view is the submissions do not address the CC's views and a shift in this stance feels unlikely.

… but does acknowledge competition/uptake ("Type II") risks

"Type II" risk is the risk that a regulated entity does not achieve a WACC return due to factors such as competition, technological innovations, or other factors resulting in lower than expected uptake. The risk is asymmetric. BBM regulation caps the upside, but there is no limit on the downside. The CC does acknowledge "type II" risks to fibre networks of an "unknown magnitude", and has proposed options that could be used to address the risk:

- The ability to assume shorter asset lives would mean higher early life depreciation and therefore greater near-term cash returns.
- Retention of any stranded assets in the RAB, meaning CNU could still theoretically earn a return on these obsolete assets.
- *Ex-ante* allowance of a revenue cap set at an allowance above WACC (i.e. a WACC percentile >50%), which compensates CNU for the risk of earning less than WACC.
- "Ring-fenced *ex-ante* compensation allowance" or a revenue cap set above WACC which would only be released to CNU if it is not able to fully recover its MAR.

It may be that the CC sees a combination of measures as appropriate. In our view, some form of *ex-ante* compensation seems required to allow for type II risks over the long-dated life of the UFB. This is the approach taken by Ofcom in the UK. It acknowledged the uncertainty in this calculation, "it is not possible to know for sure what the appropriate distribution of *ex ante* returns should be" to meet the fair-bet principle, but recognises it can be material including a c.1-3% premium to WACC for BT's FTTC investment. In a CNU-commissioned report by Oxera its "initial estimate" is that a 1.0-3.5% premium above WACC is required for UFB1 (the first and largest tranche of the UFB network) based on scenarios provided by Crown Fibre Holdings to a government select committee in 2011.

Whilst (1) an uplift of the magnitude proposed by Oxera feels unlikely, and (2) there is no precedent on and we have no insight into the CC's preferred compensation for type II risks, a WACC percentile >50% is used by regulators in other jurisdictions and used to compensate electricity, gas, and airport businesses for other risks in NZ. We expect the CC will introduce a mechanism to compensate for type II risks, and a lift in the WACC percentile >50% for CNU is possible.

3. Is there a cost to Crown financing?

Government provided "equity" and "debt" (both effectively interest-free debt) funding to support deployment of the UFB. During the legislative process the government select committee view was that allowing CNU and local fibre companies (LFCs) to earn a return on Crown financing would be tantamount to a "windfall gain" because "revenues would be higher than necessary to meet the actual costs incurred".

The legislation states that CNU and LFCs can only recover "the actual financing costs incurred" on the Crown financing, which the CC's emerging view is "likely to be nil". (Any "additional" capex or opex costs required to meet the mandated UFB rollout timeframes and geographies will be captured in the RAB, and therefore allowable MAR.)

CNU has put forward a case that the senior position of Crown financing (vs. the weighted average of other debt and equity holders) means (1) it bears less risk than the overall UFB project, and therefore (2) on average, the other debt and equity investors bear a commensurate greater risk. In a CNU-commissioned report Incenta has estimated the cost of this additional risk to non-government CNU investors at 1.81-1.85% pa.

How to treat Crown financing is an unprecedented issue for the CC, and, to our knowledge, regulators internationally. In our view, Incenta's overarching logic appears sound if all else is equal including or excluding the Crown financing. As such, we believe there is a possibility the CC could shift on this view.

4. WACC debate on pre-regulatory period losses

The value of the opening RAB is to include the present value of UFB financial losses incurred by CNU and LFCs prior to the first regulatory period starting 1 January 2022. The calculation of losses requires estimates of RAB, revenue, and cost attributed to UFB, and WACC to calculate the allowable revenue in each year. Additionally, WACC is required to calculate the present value of losses as at 1 January 2022.

The material CC emerging views are (1) to apply a consistent asset beta in the pre-and post-regulatory periods (before and after 1 January 2022), (2) to estimate the risk-free rate based on "a rolling average approach", and (3) pre-1 January 2022 tax losses "will not be carried forward" based on the assumption that they have already been used to offset profits in other parts of the business

CNU has argued:

1. **Asset beta:** The asset beta should be higher in the pre-regulatory period, with consultant Oxera arguing this reflected "the high operating leverage, high demand risk and the longer term cash flows in the construction and early growth phase". In the UK, Ofcom has reduced the asset beta applied to fibre networks over time. During the UFB negotiation process Crown Fibre Holdings used an asset beta of 0.5-0.8x and a WACC of 8-10% (CFH Response to Select Committee Questions),

2. **Risk-free rate:** The CC's proposed "rolling average" approach to estimating the risk-free rate is inconsistent with its standard approach of "matching the risk-free rate to the length of the regulatory period (to avoid) under- to over-compensating suppliers of regulated services". In 2011, the UFB regulatory rules and prices were fixed between 1 December 2011 and 31 December 2019 (which has since been extended to 31 December 2021). All-else-being-equal, the material decline in the risk-free rate over this period means the allowable returns will be higher if a 2011 rate is used rather than a rolling one (albeit this will be offset by a higher discount rate to calculate the present value of these losses as at 1 January 2022).
3. **Tax:** It is inappropriate to presume tax losses have been utilised given it (1) is inconsistent with Part 4 of the Commerce Act, (2) "has no benefit in advancing economic efficiency", and (3) requires assumptions about the tax status of non-UFB businesses. The CC's emerging view on tax is consistent with its policy on opex which requires companies to apportion cost across all (regulated and unregulated) businesses, and therefore pass efficiency benefits of owning multiple businesses through to customers of regulated entities. We do not see why the treatment of tax would be different.

CNU has not been explicit about the inputs into its calculation, but has stated its estimate of pre-regulatory losses is >NZ$2b. We believe to achieve this estimate requires both a significantly higher WACC and the ability to recover tax "losses". Our NZ$1.1b estimate assumes neither.

Regulatory model update

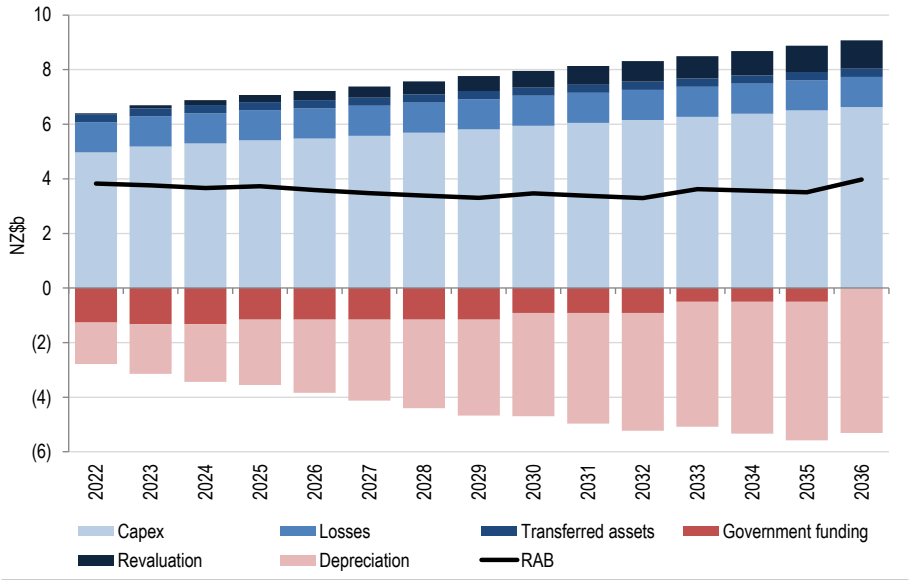
We have reviewed our CNU regulatory model. Key changes have been to our RAB assumptions: (1) a higher depreciation rate meaning larger early stage losses – the valuation impact is minimal with the near-term benefit offset by lower depreciation costs and therefore MAR longer-term; and (2) a reduction in revenue attributed to the regulated UFB (and more to fibre services outside the UFB such as backhaul) resulting in (i) greater pre-regulatory losses, and (ii) higher total revenue short- and long-term.

Regulatory asset base

Under a BBM regime a regulated entity is allowed to earn a specified return on its RAB. For CNU:

1. The opening RAB value is "determined on the basis of the unrecovered historic costs" incurred by CNU "as a direct result of meeting specific requirements in UFB or UFB extension programme contracts".
2. Post-2011 assets are to be included at the depreciated actual cost. Pre-2011 assets to be included at depreciated historic cost per CNU's financial statements. The potential materiality of pre-2011 assets is low with the opening book value of fibre cables at NZ$298m, ducts and manholes at NZ$388m, and property NZ275m (and only a portion will be allocated to CNU's UFB) vs. our estimate of UFB expenditure of c.NZ$5.6b by FY23. Our assumed allocation of pre-2011 assets is nominal, reaching NZ$300m in FY22.
3. "The value of the opening RAB is increased by the financial losses incurred by suppliers prior to" the implementation date, now 1 January 2022. Our NZ$1.1b assessment of these losses has increased with less revenue being attributed to the UFB and higher depreciation rates.
4. The CC's emerging view is to reflect Crown financing at nil value by reducing the RAB by the face value of this funding. This does result in volatility in RAB which would then need to be managed by the CC to achieve its objective of a "smooth" price profile.

Figure 3. CNU fibre RAB



Source: Forsyth Barr analysis

Estimating MAR

In estimating CNU's fibre MAR:

1. Our WACC assumptions are consistent with the CC's emerging views with the exception of asset beta where we believe an increase is likely (discussed above). A WACC percentile >50% is possible to compensate for type II risks.

Figure 4. WACC – NZ regulated companies

	UCLL/UBA	Electricity distribution	Wellington Aiport	Transpower	Gas pipelines (GasNet and Vector)	Akt & Chch airports	Gas pipelines (First Gas and Powerco)	CNU
Decision date	Dec-15	Apr-18	Apr-18	Jul-18	Jul-18	Jul-18	Oct-18	
Effective date	Dec-15	2019 disclosure	2019 disclosure	2019 disclosure	2019 disclosure	2019 disclosure	2019 disclosure	2022
Risk free rate	2.74%	2.40%	2.40%	2.36%	2.36%	2.36%	2.10%	1.02%
Tax-adjusted market risk premium	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
Gearing	38%	42%	19%	42%	42%	19%	42%	32%
Asset beta	0.43	0.35	0.60	0.35	0.40	0.60	0.40	0.51
Equity beta	0.69	0.60	0.74	0.60	0.69	0.74	0.69	0.75
Investor tax rate	28%	28%	28%	28%	28%	28%	28%	28%
Cost of equity	**6.80%**	**5.93%**	**6.91%**	**5.90%**	**6.53%**	**6.88%**	**6.34%**	**5.99%**
Debt premium	1.85%	1.72%	1.31%	1.72%	1.66%	1.24%	1.66%	1.65%
Debt issuance costs	0.25%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%
Cost of debt	**4.92%**	**4.33%**	**3.91%**	**4.29%**	**4.22%**	**3.80%**	**3.96%**	**2.87%**
Post-tax WACC (50th percentile)	**5.56%**	**4.75%**	**6.13%**	**4.72%**	**5.07%**	**6.09%**	**4.88%**	**4.73%**
WACC (67th percentile)		**5.19%**		**5.16%**	**5.53%**		**5.34%**	**5.18%**
WACC (67th percentile)		**5.19%**		**5.16%**	**5.53%**		**5.34%**	**5.18%**

Source: Commerce Commission, Forsyth Barr analysis

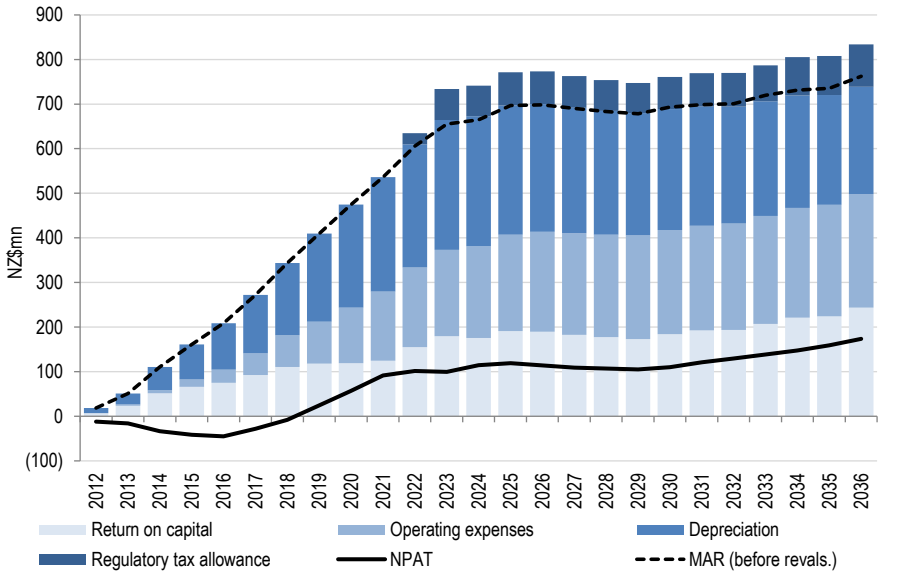
2. We allocate opex based on a prorated share of revenue with the exception of provisioning and network maintenance, which have a higher copper weighting in the medium-term. In FY20E this equates to an opex allocation to fibre of 38% vs. revenue 43%.

3. We assume the CC allows no cost to be recovered on Crown financing.

The results of our regulatory model are:

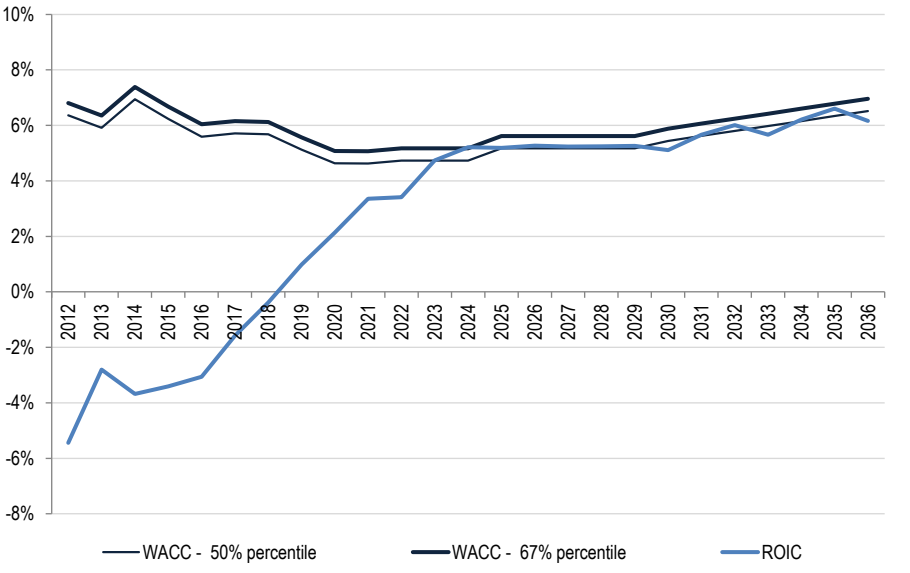
- An increasing MAR as the UFB is rolled out to 2025, after which it flattens.

Figure 5. CNU fibre MAR and NPAT



Source: Forsyth Barr analysis

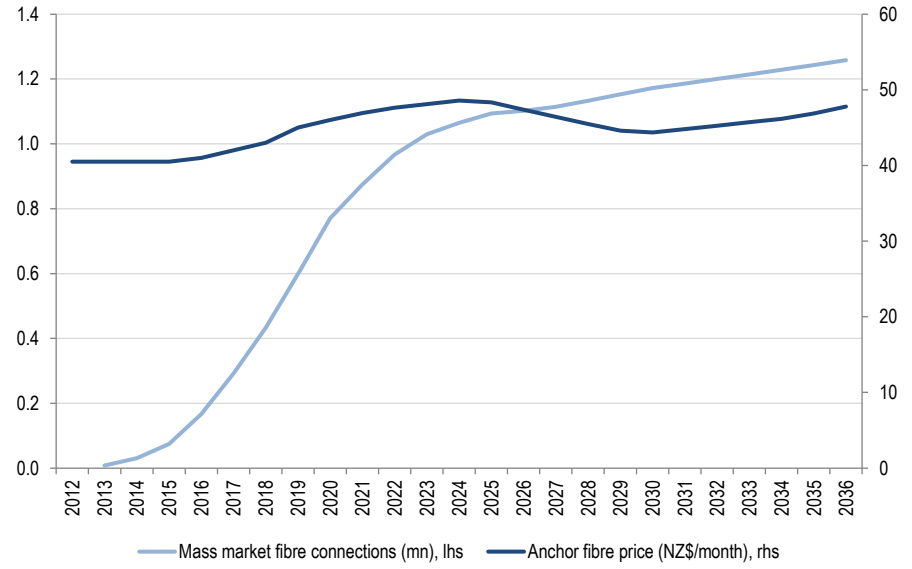
Figure 6. CNU fibre ROIC vs. WACC



Source: Forsyth Barr analysis

- A benign long-term fibre price path that is consistent with Government's policy objective of a stable fibre price path. Our anchor product price peaks at NZ$49/month in FY24 and eases to NZ$44/month our terminal in FY36 (Figure 7) vs. FY20 NZ$48/month (all nominal).

Figure 7. CNU average fibre price and connections



Source: Company reports, Forsyth Barr analysis

Strong future cash flows underpin attractive fundamental value

We conclude that CNU offers attractive fundamental value (our base case DCF valuation is NZ$5.44/share; Figure 8), particularly in context of expensive defensive peers, underpinned by the considerable long-term free cash flow we expect CNU to generate once its UFB network is complete in 2022.

We expect the strength of the FCF from FY23 onwards (FCF yield FY24E onward >10%) could facilitate a significant lift in the dividend (albeit this will initially be unimputed – CNU does not expect to pay tax through the medium-term, and we estimate current available imputation credits will be fully utilised in FY22). The CNU board anticipates reviewing its dividend policy once the CC finalises the UFB revenue path in 2Q CY21. Figures 11 and 12 below suggest this level of FCF and dividend would be attractive relative to domestic and international defensive peers.

We do recognise CNU is a long-dated business with substantial operating and financial leverage, and therefore, any assessment of the company's fundamental value can vary materially depending on the CC's input methodologies that underpin its MAR. It is unavoidable, in our view, that there is currently an inherently high margin of error in any CNU valuation. We are comfortable with this uncertainty given our views that (1) the assumption set underpinning our base case is cautiously balanced, (2) our DCF sensitivity highlights that upside weighted risk from changes to the CC's "emerging views" of which only an improved asset beta is factored into our base case valuation, and (3) the market is applying a significantly lower cost of capital to defensive assets than what we use in our DCF valuation (implied by Figures 10 to 12).

Figure 8. DCF valuation

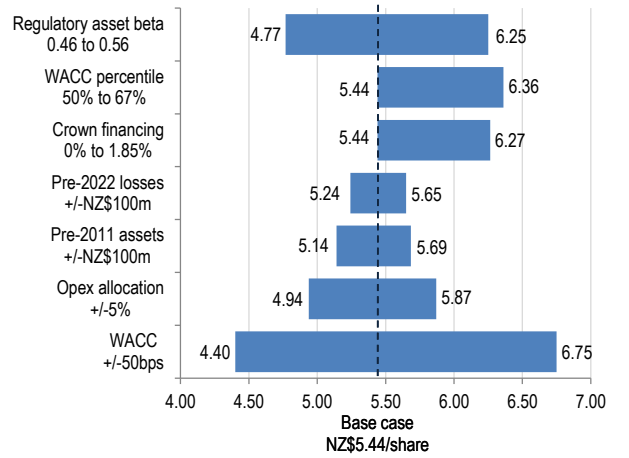
NZ$m	20E	21E	22E	23E	24E	25E	26E	27E	28E	29E	30E	31E	32E	33E	34E	35E	36E
EBITDA	629	623	630	632	635	627	606	592	589	584	593	612	622	633	645	660	678
Less interest paid	(136)	(129)	(124)	(116)	(108)	(102)	(103)	(103)	(103)	(89)	(105)	(114)	(114)	(121)	(128)	(127)	(137)
Less tax paid	0	0	0	0	0	(35)	(25)	(26)	(44)	(49)	(48)	(43)	(45)	(60)	(69)	(73)	(80)
Less working capital	(9)	(4)	(10)	(12)	(4)	4	7	6	6	6	5	3	5	5	5	4	4
Less capex	(666)	(503)	(427)	(313)	(212)	(219)	(166)	(191)	(218)	(229)	(235)	(217)	(223)	(229)	(235)	(241)	(224)
Crown funding	162	109	77	68	0	(172)	0	0	0	0	(246)	0	0	(405)	0	0	(507)
Free cash flow	**(20)**	**96**	**147**	**259**	**312**	**103**	**318**	**279**	**229**	**224**	**(36)**	**241**	**244**	**(177)**	**218**	**223**	**(266)**
Fibre																	
Connections (000)	782	885	978	1040	1075	1103	1111	1123	1141	1161	1180	1193	1207	1221	1235	1249	1264
ARPU (NZ$/month)	48.2	49.5	50.8	51.4	51.9	51.7	50.9	50.1	49.3	48.4	48.2	48.6	49.0	49.5	49.9	50.5	51.4
Copper																	
Connections (000)	627	478	339	243	191	145	118	124	129	128	151	153	155	157	159	161	163
ARPU (NZ$/month)	43.2	43.3	44.2	45.0	45.9	46.8	47.7	48.7	49.6	50.6	51.6	52.6	53.6	54.7	55.8	56.9	58.0

Equity valuation	
Enterprise value	**4,723**
Less net debt	(2,335)
Equity value	**2,388**
Equity value per share	**5.44**

Weighted cost of capital			
Risk free rate	2.0%	Cost of debt	3.0%
Market risk premium	7.5%	Target D/(D+E)	120%
Asset beta	0.53	**WACC**	**6.1%**
Cost of equity	**10.8%**		

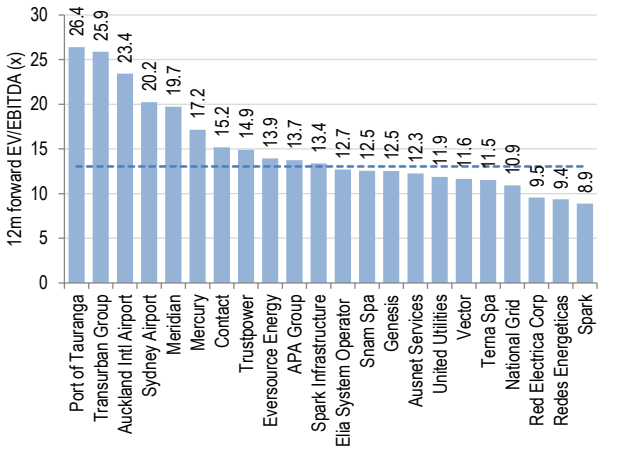
Source: Forsyth Barr analysis

Figure 9. DCF sensitivities



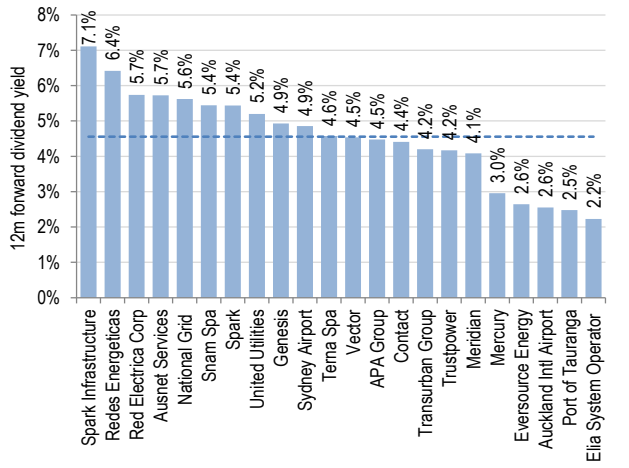
Source: Forsyth Barr analysis

Figure 10. Defensive peers 12m fwd EV/EBITDA (consensus)



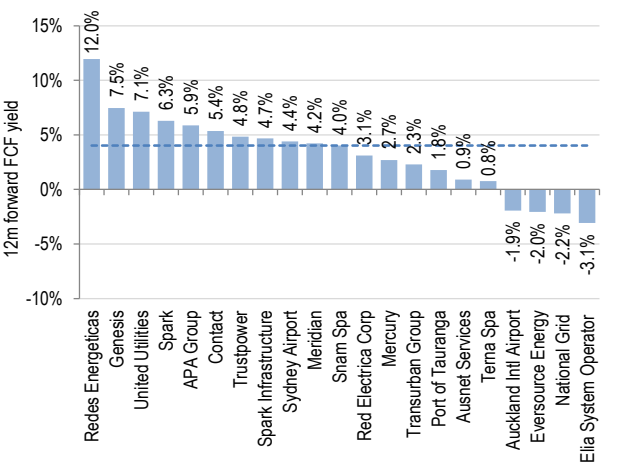
Source: Bloomberg, Forsyth Barr analysis

Figure 11. Defensive peers 12m fwd cash dividend yield (consensus)



Source: Bloomberg, Forsyth Barr analysis

Figure 12. Defensive peers 12m fwd free cash flow yield (consensus)



Source: Bloomberg, Forsyth Barr analysis

Investment summary

We are attracted to CNU's fundamental value underpinned by the considerable long-term free cash flow we expect the company to generate once its ultra-fast broadband (UFB) fibre network is complete in 2022. We believe a FCF yield of >10% from FY24E onward could facilitate a significant lift in CNU's dividend. OUTPERFORM.

Business quality

- **Building a high quality fibre network:** CNU is building c.75% of the government-sponsored ultrafast broadband (UFB) fibre network which will allow c.87% of NZers to access fibre-to-the-home by 2022. Uptake of the fibre network has been strong and is now >55% and expanding rapidly, albeit at a cost to CNU shedding its legacy copper customer base.
- **Fibre regulatory regime key value driver:** The most material medium-term impact on CNU's valuation is the implementation of a new regulatory regime for the UFB network which commences 1 January 2022. The next step is the Commerce Commission's draft decision on the input methodologies into this regime to be published on 5 November.

Earnings and cash flow outlook

- **Stabilising financials:** CNU's revenue/EBITDA has been falling as it sheds share with copper customers transitioning to fibre outside its regions, and to fixed wireless broadband. We expect both earnings and debt should start to stabilise with capex having peaked in FY19, fibre revenue surpassing copper in FY20, and CNU to deliver positive free cash flow from FY23 as the UFB capex moderates.

Company description

"CNU owns and operates the majority of NZ's fixed-line telecom access network including the legacy copper network and, when completed in 2022, c.75% of NZ's fibre network servicing c.65% of households. It offers open access, largely regulated fixed-line services to retail service providers. CNU is building its fibre network as part of the government-sponsored UFB fibre programme. The UFB programme will cover 87% of the population, with stage 1 (75% of the population) due to complete in 2020 and stage 2 (12%) in 2022. CNU was demerged from Spark (then Telecom NZ) "

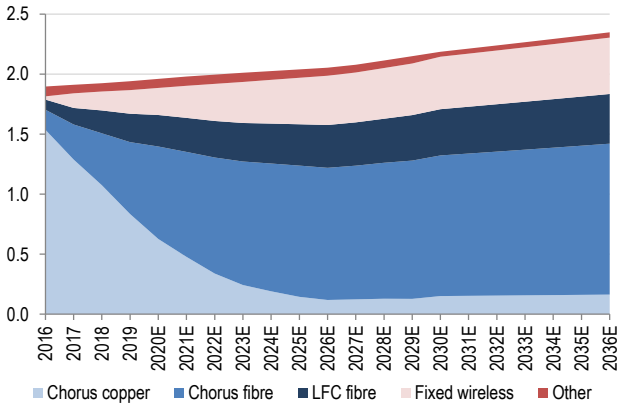
Financial structure

- **Balance sheet:** CNU debt has been rising as the UFB network has been rolled out. CNU expects debt to peak in FY21. Our FY20/21E net debt/EBITDA of 4.1/4.1x (includes the present value of interest free government funding) compares to S&P's and Moody's long-term hurdle of 4.75x and 4.2x respectively. We expect rating agencies to remain comforted by the clear path to debt reduction post UFB build.

Risks factors

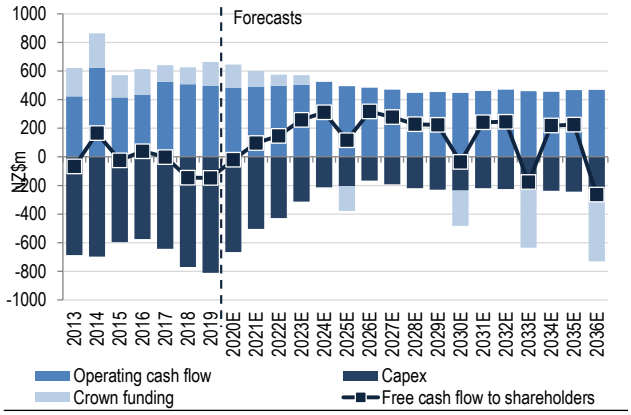
- **Implementation of the new fibre regulatory regime:** CNU is a long-dated business with considerable operating and financial leverage, and therefore significant valuation sensitivity to its allowable regulated fibre revenue.
- **Competition from wireless technologies, and loss of market share to mobile/5G:** We are watchful of improving wireless technology as a long-term risk to CNU. At this time we are not convinced the investment case will support early, broad based adoption of 5G in NZ.

Figure 13. NZ fixed line connections (m)



Source: Company reports, Forsyth Barr analysis

Figure 14. Cash flow



Source: Company reports, Forsyth Barr analysis

Figure 15. Substantial Shareholders

Shareholder	Latest Holding
L1 Capital Partners Pty	14.8%
The Vanguard Group	5.4%
ACC	5.0%

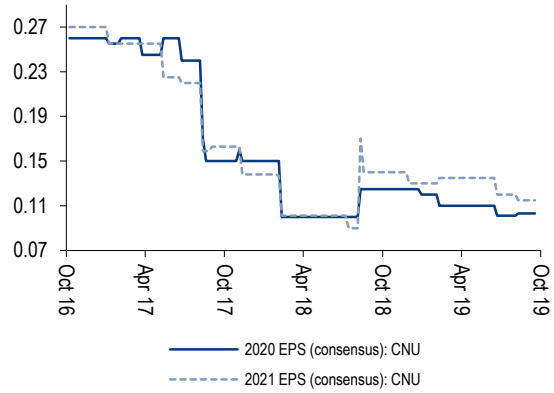
Source: NZX, Forsyth Barr analysis, NOTE: based on SSH notices only

Figure 16. International Compcos

Company	Code	Price	Mkt Cap	PE		EV/EBITDA		EV/EBIT		Cash D/Yld
(metrics re-weighted to reflect CNU's balance date - June)			(m)	2020E	2021E	2020E	2021E	2020E	2021E	2021E
Chorus	**CNU NZ**	**NZ$5.04**	**NZ$2,214**	**>50x**	**>50x**	**7.5x**	**7.5x**	**21.9x**	**23.3x**	**5.0%**
Spark NZ *	SPK NZ	NZ$4.65	NZ$8,542	20.5x	20.3x	8.9x	8.9x	15.7x	15.6x	5.4%
Vector *	VCT NZ	NZ$3.58	NZ$3,564	25.8x	31.0x	10.7x	10.8x	19.4x	20.7x	4.7%
AusNet Services	AST AT	A$1.80	A$6,642	24.4x	23.8x	12.1x	11.6x	19.7x	18.6x	5.9%
Spark Infrastructure Group	SKI AT	A$2.12	A$3,602	28.3x	39.5x	13.4x	14.5x	14.6x	17.7x	6.6%
Telstra Corp	TLS AT	A$3.46	A$41,151	16.6x	17.3x	6.5x	6.7x	13.5x	14.2x	4.5%
TPG Telecom	TPM AT	A$6.96	A$6,458	25.7x	28.2x	10.8x	10.8x	18.9x	20.6x	0.8%
Vocus Group	VOC AT	A$3.49	A$2,166	21.3x	19.0x	8.8x	8.2x	16.4x	15.1x	0.3%
BT Group PLC	BT/A LN	£1.76	£17,406	7.2x	7.0x	3.8x	3.7x	7.7x	7.6x	7.8%
NetLink NBN Trust	NETLINK SP	S$0.91	S$3,527	40.7x	38.6x	15.4x	14.7x	41.0x	37.5x	5.8%
			Compco Average:	**23.4x**	**25.0x**	**10.0x**	**10.0x**	**18.5x**	**18.6x**	**4.6%**
EV = Current Market Cap + Actual Net Debt			**CNU Relative:**	**n/a**	**n/a**	**-25%**	**-25%**	**+18%**	**+25%**	**+7%**

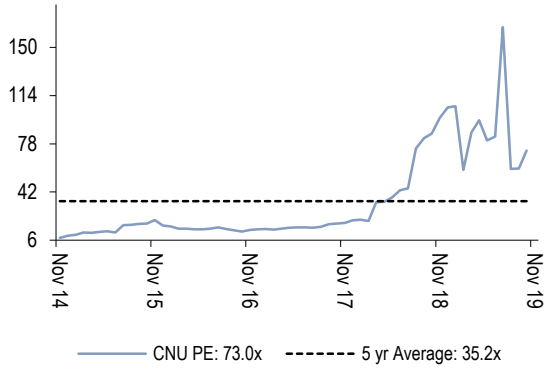
Source: *Forsyth Barr analysis, Bloomberg Consensus, Compco metrics re-weighted to reflect headline (CNU) companies fiscal year end

Figure 17. Consensus EPS Momentum



Source: Forsyth Barr analysis, Bloomberg

Figure 18. 12 Month Forward PE



Source: Forsyth Barr analysis