JT's Non-Confidential Response to Wholesale Broadband Access Service – Price Review

Non-statutory Draft Decision (Consultation)
Document No JCRA 21/01

24th March 2021

1. Introduction

This non-confidential response is provided on behalf of JT (Jersey) Limited (JT) and can be published in full. This response is provided in addition to the discussions held between JT and the JCRA and its advisors Frontier Economics.

2. Answers to Consultation Questions

Question 1: Do you agree with the proposed approach to only include the wholesale bitstream service in scope of the price review and to exclude wholesale access products? If you do not agree you should provide all of your analysis and assessment.

We agree that the wholesale bitstream product is the input product purchased by all Jersey retail broadband providers and therefore agree that this product only should be in scope of the price review.

Question 2: Do you agree with the proposed approach to adopt cost orientated wholesale prices for the price review, rather than use an ex-ante margin squeeze test? If you do not agree you should provide all of your analysis and assessment.

Retail minus and cost orientation are both valid approaches to wholesale price setting when properly executed. We recognise that the JCRA has invested significant time and resources in a cost orientated approach and also has not updated its ex-ante price squeeze model to reflect current circumstances. Given these considerations, JT agrees that a cost based approach to price control is reasonable.

Question 3: Do you agree with the proposed approach to modelling cost orientated prices using a top down approach? If you do not agree you should provide all of your analysis and assessment.

We agree that a top down approach is appropriate.

Question 4: Do you agree with the proposed specification of the cost model, including in particular:

- **model scope;**
- **model methodological choices; and**
- **approach to JT's WACC**

If not, what alternative would you propose and why?

We have made comments next to each element of the approach in the table below:

Area	Element	JCRA Approach	JT Comment
Model Scope	Service Scope	Wholesale broadband (bitstream), and all other JT services provided using the same network / cost elements (fixed voice, leased lines, retail and mobile services)	Agreed and detailed responses have been provided on the elements where changes need to be made to reflect the products that use these shared network elements.

	Network Scope	The existing JT network as of June 2020 (does not reflect the additional cost of serving new-build premises, or demand from these premises)	We agree that given the market size, this is a proportionate approach. However, care needs to be taken with the rate of real price changes estimated over the price control period because contrary to the JCRA's assumption JT considers that the cost of adding new-build premises on a piecemeal basis could lead to an increase in the average cost to serve the totality of premises.
	Costs considered	Network capital costs (e.g. FTTH access network, buildings), network operating costs (e.g. repair and maintenance, service platform costs) and wholesaling costs (e.g. JT wholesaling team). Does not include potential cost of replacing assets from High Risk Vendors (HRVs)	We have made detailed representations on costs to be included and these are not repeated here. Frontier has stated that *"It's a policy decision whether these costs should be recovered from broadband customers or from Government."* Or that they *"can be reflected in w/s prices at a later date when decisions on HRVs have been made."* This approach, while accepting that there may be future costs which must be recognised simply ignores them assuming that a solution will be found in the future. How does the JCRA propose that the additional cost of HRVs can be added at a later date? There has been no mechanism suggested on how this could be achieved. JT believes that there needs to be some allowance made in the price control for future HRV costs.
	Time Period	2021-2025 - consistent with the EC recommendations and provides longer-term regulatory certainty, to support both investment in the fibre network and competition in the retail market	JT agrees with the term of the price control but note that in JT's case the investment in fibre network is substantially complete.
Model method-ological choices	Price base	Nominal (cost trends are inclusive of expected inflation)	JT agrees that costs should be modelled in nominal terms. It is therefore important that input cost inflation estimates are realistic. We attach a confidential excel sheet detailing the purchase price of key elements in 2012 and the equivalent 2020 price. This should be used as an input into the cost trends. In addition, JT considers that the adopting an RPI estimate for labour costs is likely to result in an underestimate forecast of labour costs.
	Model type and cost standard	Top-down, Fully Allocated Costs (FAC)	Agree

	Asset valuation method	Current Cost Accounting (CCA)	Agree
	Capital cost annualisation approach	Non-replicable assets (e.g. ducts): Regulatory asset base-type (RAB) approach, with holding gain adjustment Replicable assets (e.g. fibre cables): tilted annuity reflecting asset price and demand trends	JCRA treat fibre and drop wires as replicable and as a result adopts the wrong annualisation method. JT believes this is incorrect because: • there is no prospect of another operator replicating the fibre to home network; and • the States of Jersey policy is to focus on service rather than broadband infrastructure competition. The JCRA's tilted annuity method incorrectly conflates input price changes and demand effects which has the effect of mis-estimating annualised capital costs. We have provided a worked example of the tilted annuity calculation to illustrate the significance of the error and attach this in the confidential appendix.
	Efficiency adjustments	Opex trends reflect inflation and efficiency gains	We have provided a detailed response to this separately and attach this again in the confidential appendix.

Approach to JT's WACC

JT has presented a detailed assessment of the appropriate WACC to be used as an input into the assessment of the broadband costs and prices. While the JCRA's advisor's, Frontier Economics, agreed with most of the parameters of the CAPM WACC assessment submitted by JT it proposes to make three adjustments which we believe are not appropriate. These are discussed below:

1. Small company equity premium

JT is a very small company compared to typical regulated firms simply because the Jersey market is small. We believe investors in such companies do require a higher return when investing in small companies to reflect the additional risks associated with such companies (e.g. limited liquidity, fewer diversification possibilities, fewer resources to adjust to competition and avoid distress in economic slowdowns, less publicly available information on which to base investment decisions etc.).

Based on premia used by independent valuation practitioners, we considered a small company premium in a range up to 2.25% to be appropriate. Frontier Economics proposes to limit this to a range of between 0% and 0.9% largely based on recent regulatory precedent (e.g. in the UK water sector). This, however, does not fully recognise that JT is very significantly smaller than these regulated companies.

2. Cost of debt

JT proposes that the cost of debt should be set at the level of interest paid on its current debt. Frontier Economics recommended that the actual cost of debt be diluted by Ofwat's estimate of the cost of new debt for water companies. The UK water sector should not be used as a direct comparator to assess the cost of capital components specific to JT given the differences in size, risk and service offering. Larger companies, such as those in the UK water sector, require higher levels of debt financing and typically access debt capital markets on a yearly basis, therefore benefitting from access to more liquid corporate bond markets. This results in a lower cost of debt when compared to smaller companies that are not large enough to issue bonds, and have to access debt funding via more expensive routes such as private placements. Moreover, JT last issued debt financing 9 years ago and is still subject to the same interest rate payment on this capital. Therefore it is not appropriate to assign a significant weighting to 'new debt' in the calculation of its cost of capital. JT believes that its actual cost of debt, which is a matter of empirical fact, is the more appropriate standard.

3. Point estimate within range

Our estimate of WACC was in the range 7.6% to 11.5%. Frontier Economics range estimate, allowing for the factors discussed above, was 6.7% to 10.7%. Therefore, there is a substantial overlap in estimate ranges. Frontier Economics uses the midpoint of the range as its point of WACC.

In contrast, because of the importance of the telecommunications sector, its exposure to technological change and the potential for significant innovation, we consider the risks and potential wider costs to the sector of setting too low a WACC are greater than those of setting too high a WACC. This asymmetrical risk argues for the selection of a point estimate above the midpoint of the estimated range. We believe selecting a point at the 67th percentile is appropriate. We note the regulatory precedent for 'aiming up' within the range estimate in the water sector but more particularly in the telecoms sector for the reasons we set out. There is an additional reason for aiming-up in JT's case which concerns JT's cost of capital. Because JT is unlisted, we have estimated JT's beta by reference to benchmark companies. However, JT's deployment of a ubiquitous point to point full fibre to all homes and offices is highly unusual. We consider that JT's fibre investment will tend to raise JT's fixed costs as a proportion of its total costs increasing its operational gearing. The concept of operational leverage is well established in financial theory: it postulates that firms which have a greater proportion of fixed costs relative to variable costs are exposed to greater cyclicality in their earnings and therefore have a higher asset beta and contribute to a higher WACC.

Frontier Economics argued that the JCRA should not be concerned about asymmetric risks or even setting a regulated cost of capital sufficient to incentivise private investors because JT has already made its investment in fibre and that it is publicly owned. Frontier Economics go so far as to say *"that the risk to future investment if the returns is set too low does not apply in this case as the Jersey Government can influence JT through the Memorandum of Understanding with JT/it's role as shareholder."* JT is very concerned that Frontier position represents a substantial move away from the tried and tested model of independent regulator regulating to create an environment which provides for competitive outcomes and rational market led investment incentives.

We believe it is crucially important that the JCRA sets an appropriate regulatory cost of capital which provides a rational investor a reasonable prospect of earning a normal return. The rate of return should not be abated because some investments are sunk or because the States of Jersey is a shareholder in JT. JT's regulated cost of capital is a matter of significance for all participants in Jersey's telecoms sector not just JT. We therefore urge the JCRA to reconsider its and Frontier Economics' assessment and set an appropriate regulatory cost of capital in the higher end of the identified range estimates.

Question 5: Do you agree with the proposed fixed fee approach set out in this Consultation and Frontier report? If not, what alternative would you propose and why?

A fixed fee approach is the approach currently in the market and it is straightforward from a charging perspective. In addition, it ensures that both JT and the OLOs have certainty over the cost of the wholesale input and can set retail prices accordingly. JT supports the continuation of this pricing approach as it is straightforward for JT to administer and requires no change to current processes.

Question 6: What are your views on the relative merits of a two-part tariff approach over a fixed fee approach? If your view is that a two-part tariff approach is appropriate, do you agree with the proposed approach set out in this Consultation and Frontier report? If not, what alternative would you propose and why?

We have very strong reservations with the two-part tariff approach proposed by Frontier Economics and the JCRA. Our concerns broadly relate to cost orientation, cost recovery and practicality.

The main argument for two-part charging structures is that they better reflect how costs are incurred, since some costs vary with respect to the number of users and some with respect to the volume of traffic. The costs of the JT point to point fibre access network are driven by the number of individual connections or users, and much less, or not at all, by the volume of traffic. The point to point architecture of JT's access network makes this even more so than for other networks which may comprise mixed media technologies such as FTTC and typically utilise GPON structures for FTTP. Nonetheless, there are some costs in the core network, prior to the handover point, which do vary with respect to traffic. These however are very small.

We understand that two-part charging models where they have been implemented were designed to be more cost reflective. This is not the case here. The Frontier and JCRA two-part charging approach proposes to ignore underlying cost causality: to offer connection below cost and raise the price for traffic above cost. This move away for cost orientation has several important implications which are not considered by the JCRA.

Allocative efficiencies and consumer welfare will be lost as prices diverge from the underlying costs. The proposed subsidies between users will inevitably flow through to transfers between operators as some operators focus on groups of users who do not contribute fully to the network costs of serving them, without having to worry about serving other users in order to recover any shortfall of costs from them. They can leave it to other operators to try to recover those costs from high traffic users. This will create a strong, and presumably unintended, likelihood of niche competition based on a regulatory set subsidy at the expense of broader based retail competition. Neither Frontier Economics nor the JCRA describe how they will ensure that JT can recover its total network costs if it is to be required to provide bitstream services to some operators at below cost? For example, what happens if JT, or other operators, find themselves unable to raise prices to insensitive customers sufficiently to make good the shortfall?

In addition, the proposed two-part charging structure does not address at all the important practical issues of how usage will be measured and what probes, meters and processes would be required to be put in place by JT and access seekers. Such mechanisms do not currently exist and will entail additional costs which have not been considered in the broadband price control. It is essential that there is a proper understanding of the measurement solution before any decision on two-part charging is made.

We understand the motivation for two-part charging is to stimulate retail providers to make available lower speed / lower price services to attract currently unserved users. The JCRA and Frontier Economics do not present any analysis which attempts to quantify the size of this segment. Notwithstanding the size of the segment, we suggest that the JCRA should consider more targeted approaches to provide affordable broadband to the unserved.

JT has already suggested a discounted "JT Lifeline" product targeted at the areas of education, income support, health and community support. Similar schemes are already in operation in other jurisdictions such as Singapore.[1] The Infocomm Media Development Authority in Singapore provide a "Home Access" programme where households can apply for a subsidised fibre broadband service based on certain eligibility criteria without any reduction in the speed of the service being provided, thereby closing the digital divide.[2] We think such a voucher concept is likely to be a more effective tool for extending broadband usage in Jersey. JT's wholesale pricing arrangements would remain unchanged, ensuring that every wholesale customer contributes fully and proportionately to the share of network costs associated with them. Budget conscious users, who face barriers at current retail prices, would be able to overcome them with the assistance of a voucher, which would discount the retail price they pay to any operator. Operators would compete for customers and for the vouchers associated with them.

In summary, we believe that the Jersey market is too small and too important to experiment with theoretical and largely unspecified highly tilted two-part charging models with undefined benefits and unknown costs with high risks of unintended consequences at the expense of simple and pragmatic approaches to wholesale price setting. Put another way, we consider the approach to be disproportionate in light of the known problem. Rather than radical changes to the wholesale pricing structure, other steps can be taken to better achieve the desired outcomes.

Question 7: Do you agree with the proposed approach to other charges? If you do not agree you should provide all of your analysis and assessment.

Agreed.

Question 8: What are your views on the impact of the proposals set out in this Consultation? Are there any other impacts the Authority should take into account? You should provide all of your analysis and assessment.

We have set out our views under the earlier questions but we would once again highlight that we consider the two-part charging proposals to be insufficiently developed and the practical implications do not appear to be have been thought through.

[1] Home Access - Infocomm Media Development Authority (imda.gov.sg)

APPENDIX A

26th February 2021

JT Comments on Efficiency Assumptions

As previously discussed, we consider the 4.5% estimate which FE has drawn from Ofcom's analysis of achievable efficiency gains for Openreach undertaken as part of the WFTMR to be an inappropriate benchmark for JT.

Ofcom's assessment of potential efficiency gains on BT's aged access network includes catch up efficiencies associated with network modernisation and BT's ongoing roll out of FTTP which would no longer be available to JT because it has already rolled out an island-wide full fibre access network. As we have already noted, this is also Ofcom's position*: "we would expect future efficiency gains for our modelled network to be lower than what we have assumed for Openreach's existing coper/fibre network." and "We would expect efficiency gains for our modelled FTTP network to be mainly driven by frontier efficiency rather than by both frontier and catch-up efficiency."*

Ofcom go on to say at A17.80 of the same document *"Our base case assumption for our modelled FTTP network is an efficiency factor of 1.5% for capex cost elements such as fibre, duct, passive components and civils, and 2.5% for opex cost elements such as SLG, system and processing costs. For opex cost elements modelled as a percentage of GRC, we have not applied an efficiency factor as this is indirectly captured through the GRC measure."*

We understand that in FE's model there is no new network capex modelled. Ofcom's 2.5% efficiency gain target is applied to a very narrow set of operating expenses:

- Service Level Guarantee (SLG) costs – costs faced by the network provider when it fails its service level guarantees.
- Systems and per order processing costs – costs associated with processing and recording new orders

In JT's case, with the network already built and expected subscriber growth per FE's model at around 1.5% per annum, the scope for realising such efficiencies is strictly limited.

We have also examined ONS Multifactor Productivity Measures released in January 2021. This data is for large sector groupings. It does include a high-level SIC Section grouping called Information and Communication which comprises the following sectors:

J INFORMATION AND COMMUNICATION
- 58 Publishing activities
  - 58.1 Publishing of books, periodicals and other publishing activities
    - 58.11 Book publishing
    - 58.12 Publishing of directories and mailing lists
    - 58.13 Publishing of newspapers
    - 58.14 Publishing of journals and periodicals
      - 58.14/1 Publishing of learned journals
      - 58.14/2 Publishing of consumer, business and professional journals and periodicals
    - 58.19 Other publishing activities
  - 58.2 Software publishing
    - 58.21 Publishing of computer games
    - 58.29 Other software publishing
- 59 Motion picture, video and television programme production, sound recording and music publishing activities
  - 59.1 Motion picture, video and television programme activities
    - 59.11 Motion picture, video and television programme production activities
      - 59.11/1 Motion picture production activities
      - 59.11/2 Video production activities
      - 59.11/3 Television programme production activities
    - 59.12 Motion picture, video and television programme post-production activities
    - 59.13 Motion picture, video and television programme distribution activities
      - 59.13/1 Motion picture distribution activities
      - 59.13/2 Video distribution activities
      - 59.13/3 Television programme distribution activities
    - 59.14 Motion picture projection activities
  - 59.2 Sound recording and music publishing activities
    - 59.20 Sound recording and music publishing activities
- 60 Programming and broadcasting activities
  - 60.1 Radio broadcasting
    - 60.10 Radio broadcasting
  - 60.2 Television programming and broadcasting activities
    - 60.20 Television programming and broadcasting activities
- 61 Telecommunications
  - 61.1 Wired telecommunications activities
    - 61.10 Wired telecommunications activities
  - 61.2 Wireless telecommunications activities
    - 61.20 Wireless telecommunications activities
  - 61.3 Satellite telecommunications activities
    - 61.30 Satellite telecommunications activities
  - 61.9 Other telecommunications activities
    - 61.90 Other telecommunications activities
- 62 Computer programming, consultancy and related activities
  - 62.0 Computer programming, consultancy and related activities
    - 62.01 Computer programming activities
      - 62.01/1 Ready-made interactive leisure and entertainment software development
      - 62.01/2 Business and domestic software development
    - 62.02 Computer consultancy activities
    - 62.03 Computer facilities management activities
    - 62.09 Other information technology and computer service activities
- 63 Information service activities
  - 63.1 Data processing, hosting and related activities; web portals
    - 63.11 Data processing, hosting and related activities
    - 63.12 Web portals
  - 63.9 Other information service activities
    - 63.91 News agency activities
    - 63.99 Other information service activities n.e.c.

We can find no disaggregation of ONS MTP measures below this level of detail. This is problematic because we would expect many of these subsectors to be able to achieve greater efficiencies than the fixed telecoms sector because of technological advancements.

ONS measures of MFP are summarised below:

MFP %	Total Market Sector	Information and Communication	Simple average of Information and Communications, Electricity, Water, and Admin and Support Sectors *
full data set 25 years to 2019	0.67	2.36	0.30
10 years to 2019	0.46	1.84	0.24
5 years to 2019	0.22	3.16	-

* Comprises the following SIC Sections:
- D. Electricity, Gas, Steam and Air Conditioning Supply
- E. Water Supply; Sewerage, Waste Management and Remediation Activities
- J. Information and Communication
- N. Administrative and Support Service Activities

As noted, the overall Information and Communications category is inappropriate to use since it is dominated by non-telecoms activities. SIC division 61-Telecoms carries a weight of 18 over a total of 66 for sector J (see attached for industry weights for the ONS sectors (link)) and SIC division 61 includes fixed, mobile, satellite and other telecoms activities. Within that division fixed telecoms will represent a small part in particular because of the size of mobile telecoms activities.

We believe that the overall market may be more representative measure, but we have also constructed a simple average of Sections D, E, J and N because of some inherent similarities with the functions of running a fixed access network, which may also be informative.

Based on Ofcom's WFTR analysis and ONS productivity measures we believe an annual real efficiency gain for JT FTTP network of less than 1% is indicated. Our view is informed by the following considerations:

- JT has already implemented and stabilised a world leading FTTP network. As such we anticipate frontier shift efficiencies will be more relevant than catch up efficiencies
- Given the decommissioning of the copper network forecast volume growth at the new line level is limited so scale growth efficiencies are limited.
- ONS data is at a highly aggregated sector level which means it must be treated with caution and it by definition includes both catch up and frontier efficiency effects.

This spreadsheet is intended to illustrate the concern we have with FE's specificiation of the tilted annuity used in its bitsteam model.

1 *Consider an asset acquired at the very start of the year for a cost of A. The price of an equivalent asset is subject to inlation at a rate of t. The asset has a useful economic life of l years. The cost of capital is k. For convenience of exposition, return on capital is calculated on opening year asset value.*

k	10%	Cost of capital
t	5%	Asset inflation
A	100	Initial asset investment
l	10	Useful economic life

End of year	Gross replacement cost	**Annual capital charge/allowed revenue**	Return on capital	Depreciation charge	Written down value of asset	NPV of remaining allowed revenue to end of life
0	100				100	100.00
1	105	**13.44**	10.00	3.44	96.56	96.56
2	110	**14.11**	9.66	4.46	92.10	92.10
3	116	**14.82**	9.21	5.61	86.49	86.49
4	122	**15.56**	8.65	6.91	79.58	79.58
5	128	**16.34**	7.96	8.38	71.20	71.20
6	134	**17.15**	7.12	10.03	61.17	61.17
7	141	**18.01**	6.12	11.90	49.27	49.27
8	148	**18.91**	4.93	13.99	35.29	35.29
9	155	**19.86**	3.53	16.33	18.96	18.96
10	163	**20.85**	1.90	18.96	0.00	-
				100.00		
NPV of allowed revenue over life		**100.00**				

The annual capital charge provided by the annuity growing at the rate of asset price inflation provides a lifetime allowable revenue with a net present value exactly equal to the investment cost. The sum of the annual depreciation charge is also exactly equal to the initial investment and the net present value of the remaining allowed revenue to the end of the assets life is equal to the written down value of the asset throughout its life. ***All is coherent and internallly consistent.***

2 *Now consider exactly the same situation but let's add an additional factor to the annuity shape - FE's annual rate of change in demand d, which I will call productivity since strictly it relates to the the rate of change in the output of the asset(s) in question.*

d	2%	Productivity

End of year	Gross replacement cost	**Annual capital charge/allowed revenue**	Return on capital	Depreciation charge	Written down value of asset	NPV of remaining allowed revenue to end of life
0	100				100	92.39
1	105	**12.42**	10.00	2.42	97.58	89.21
2	110	**13.04**	9.76	3.28	94.30	85.09
3	116	**13.69**	9.43	4.26	90.04	79.91
4	122	**14.38**	9.00	5.37	84.67	73.53
5	128	**15.09**	8.47	6.63	78.04	65.78
6	134	**15.85**	7.80	8.05	69.99	56.51
7	141	**16.64**	7.00	9.64	60.35	45.52
8	148	**17.47**	6.04	11.44	48.91	32.60
9	155	**18.35**	4.89	13.46	35.46	17.51
10	163	**19.26**	3.55	15.72	19.74	-
				80.26		
NPV of allowed revenue over life		**92.39**				

The introduction of this productivity factor throws the whole coherent structure out of kilter. Now, the discounted present value of allowed revenue does not equal the initial investment outlay, nor does lifetime depreciation and the written down value is no longer equal to the net prestent value of remaining allowed revenues.