



Interaction between business context and an appropriate WACC for ESBN

A REPORT PREPARED FOR ESB NETWORKS

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|--|-----------|
| Executive Summary | 1 |
| 1 Introduction | 7 |
| 2 Precedent for the interaction between the broader business context and allowed WACC | 9 |
| 3 Implications of regulatory precedent for ESNB | 15 |
| 4 Practical application of regulatory precedent to ESNB Networks | 17 |
| 5 Conclusions and Recommendations | 23 |

Interaction between business context and an appropriate WACC for ESNB

| | |
|---|----|
| Figure 1. The impact of re-profiling capex on ESNB's equity return | 4 |
| Figure 2. Overview of risk-return calibration | 10 |
| Figure 3. Estimated RoRE ranges in RIIO-T1 and RIIO-GD1 | 12 |
| Figure 4. Estimated RORE ranges in PR3 compared to Ofgem max/min | 13 |
| Figure 5. The impact of re-profiling capex on ESNB's equity return | 21 |

Executive Summary

There have been major changes to the context within which ESBN operates since the third price control (PR3) for ESB Networks (ESBN) was concluded:

- there have been reductions in GDP and reductions in electricity consumption, as well as reduced connections of renewables generation. These have led ESBN to propose a significant cut in the capex programme agreed at PR3, with projected spend falling from €4.2bn to €2.4bn. This reduction had as its principal objective the reduction of pressure on DUOS charges and hence on end customer bills; and
- there have been on-going changes to the financial market conditions which influence the cost of raising finance to invest in the network. At the time PR3 was agreed, this was expected. In particular, the CER indicated that they would carry out a “mid term review”; and

ESBN have asked Frontier Economics to consider the impact of the first of these changes, and in particular to assess the extent to which any review needs to take into account changes in the wider business context in setting an appropriate level of WACC.

To address this question we have considered the following three key issues:

- regulatory precedent, in particular from GB, in relation to the linkages between the broader context of the business and the allowed WACC;
- the implications of this precedent for ESBN’s mid-term review; and
- considerations in relation the practical application of this precedent, given the details of ESBN’s situation.

The key conclusion of our analysis is that the re-profiling of ESB Networks capex is likely to have had significant knock on effects on ESB Network’s ability to achieve its opex allowances and its incentive targets. This would in turn result in a price control ‘package’ that is much more asymmetric than that agreed at PR3 – based on their data, ESB Networks faces considerably greater downside risk now than had been envisioned when PR3 was agreed.

In order to re-calibrate the price control so as to bring it back in line with the original PR3 symmetric determination, we recommend that as part of any review the CER should consider a mix of:

- increasing ESB Network’s WACC to re-balance the overall PR3 package; and/or
- increasing ESB Network’s opex allowance and developing a revised capex delivery incentive in line with the re-profiled capex package.

Finally, we note that failure to undertake any recalibration would effectively imply putting in place a package which is inconsistent with the CER's view at the start of PR3 of the appropriate balance of risk and reward. Or put another way, it would represent a decision to increase the risk on ESNB without any corresponding increase in reward. It is clear that such a move would be viewed negatively by the investment community, and would impact significantly on cost of capital because it would undermine the perceived predictability of the regime.

We summarise the findings on which these conclusions and recommendations are based below.

Regulatory precedent

Regulators have explicitly recognised the links between exposure to uncertainty in relation to regulatory incentives and the allowed WACC and its components. In particular, following the completion of the new RIIO regulatory framework, Ofgem set out explicitly how they would take linkages between likely incentive performance (including opex and capex performance relative to allowance) and WACC into account in considering the financeability of network companies.

In describing RIIO, Ofgem recognises that “the potential scale of penalties and rewards for output delivery” has a “particularly close relationship with a network company's cost of capital”¹. If companies are subject to greater risk through the regimes for output delivery, they may require a higher WACC to compensate. Ofgem uses “Return on Regulated Equity (RoRE)” analysis to calibrate the overall price control settlement to achieve this balance. RoRE looks at the returns to equity which each company can make, taking into account:

- baseline allowed revenue and estimated efficient costs;
- reasonable upside and downside risks from opex and capex incentives;
- reasonable upside and downside risks from other incentives.

Ofgem states they regard “an appropriately calibrated price control package as one in which RoRE upside (i.e. the reward available for the best-performing companies) provides the potential for double-digit returns on (notional) equity, and RoRE downside (i.e. the penalties that would apply to the worst-performing companies) is at or below the cost of debt”². Put another way, Ofgem is saying they believe the price control settlement should be viewed as a whole, and all the elements should be calibrated to achieve particular outcomes in terms of the overall financial risk faced by the companies.

¹ Ofgem RIIO handbook, pp 105-6

² Ofgem RIIO-T1 final proposals, Finance document, p36

Executive Summary

Implications of regulatory precedent for ESBN

Based on this precedent, it is reasonable to view PR3 as a package, consisting of both baseline remuneration for opex and capex, and performance incentives in relation to opex and capex efficiency, and a range of broader “outputs”. As a result of the reduced capex programme, it is likely that risk to which ESBN is exposed has increased. Specifically, reducing capex could result in:

- increased and more uncertain opex - ESBN have identified planned maintenance and fault repair opex gaps relative to PR3 allowances; and
- reduced likelihood of hitting broader incentive targets (including capex delivery).

Comparing an Ofgem-style RoRE analysis at the time of PR3 with how things stand now, we observe that risks are more asymmetric. ESBN faces a lower upside and a greater downside than at the time of PR3, as a result of reduced likelihood of hitting opex and broader incentive targets. Following the logic of Ofgem’s RoRE analysis if the overall PR3 settlement was deemed to have been “appropriately calibrated” by the CER, it would now be in need of recalibration, as the likely position in relation to incentives has changed.

Failure to undertake any recalibration would effectively imply putting in place a package which is inconsistent with the CER’s view at the start of PR3 of the appropriate balance of risk and reward. Or put another way, it would represent a decision to increase the risk on ESBN without any corresponding increase in reward.

It is clear that such a move would be viewed negatively by the investment community. Far from representing the results of a pre-announced mid-term WACC review to reflect updated capital market conditions, it would be the equivalent of, midway through the price control, reopening the settlement and imposing significantly more challenging cost targets in unsignalled and unexpected way.

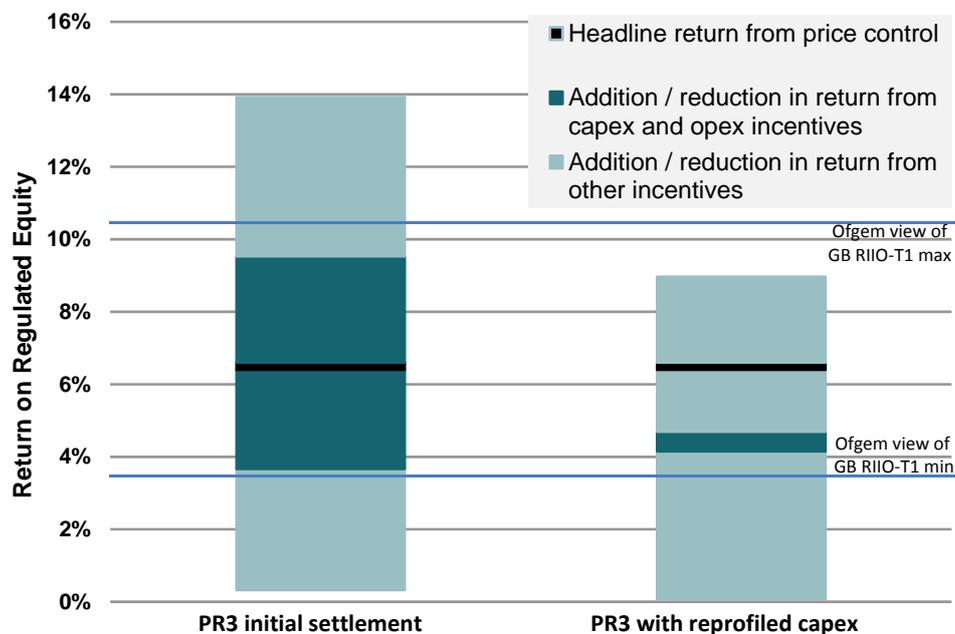
Any such move would impact significantly on cost of capital because it would undermine the perceived predictability of the regime. The risks which investors thought they were buying into at the start of PR3 would be deliberately made larger and more asymmetric by the CER. We note that in relation to the recent Competition Commission (CC) enquiry in the Northern Ireland gas networks sector, the CC noted in relation to regulatory uncertainty that “both Fitch and Moody’s take the predictability of the regulatory regime into account when setting credit ratings, hence we consider that there is clear effect on the cost of debt”.

Implications for the calibration of ESBN's price control package

We have estimated the impact of reduced capex, and the effect on ESBN's opex and incentive performance, on the RoRE calibration of ESBN's PR3 package. We have estimated RoRE based on PR3³ and re-estimated RoRE based on ESBN's revised view of the opex and incentive performance it could achieve given the reduction in capex.

ESBN consider that, as a result of the re-profiling of capex, the capex delivery target is no longer achievable, and there is no longer any scope to beat the opex target. The impact of these changes on RoRE is set out in the Figure below.

Figure 1. The impact of re-profiling capex on ESBN's equity return



The left-hand column shows the potential range of ESBN's equity return when PR3 was agreed. This shows that the settlement was largely symmetric, although it allowed for a potentially larger range of outcomes than Ofgem's view of the RIIO-T1 settlement (we note in this regard that estimating credible ranges of performance in relation to multiple incentive schemes is inevitably subjective).

³ Our estimate of RORE is based on ESB Network's central estimate that at PR3 it was reasonable to consider scenario's in when ESBN might beat its opex allowance by 10% or exceed its opex allowance by 10%.

Executive Summary

The right-hand column shows the impact of the capex re-profiling on the potential range of ESBN's equity return. The Figure shows that the revised package is much less symmetric than the original PR3 package with the downside risks now substantially greater than the potential upside. The upside under the revised package has declined by over 4%, and the downside risk has increased slightly. While ESBN's minimum equity return exceeds Ofgem's view of the maximum, it is no longer possible for ESBN to achieve the level of return that the best performing UK companies can expect to earn.

Recommendations

The key conclusion of our analysis is that:

- the re-profiling of ESB Networks capex has had significant knock on effects on ESB Network's ability to achieve its opex allowances and its incentive targets; and
- this has resulted in a price control 'package' that is much more **asymmetric** than that agreed at PR3 – ESB Networks faces considerably greater **downside risk** now than had been envisioned when PR3 was agreed.

In order to re-calibrate the price control so as to bring it back in line with the original PR3 symmetric determination, we recommend that as part of any review the CER should consider a mix of:

- increasing ESB Network's WACC to re-balance the overall PR3 package; and/or
- increasing ESB Network's opex allowance and developing a revised capex delivery incentive in line with the re-profiled capex package.

1 Introduction

Following the conclusion of discussions on the third price control (PR3) for ESB Networks (ESBN), there have been two major changes to the context within which ESBN operates:

- first, there have been substantial reductions in GDP and commensurate reductions in domestic and industry electricity consumption, as well as reduced connections of renewables generation. These have led ESBN to propose to the CER a significant cut in the capex programme agreed at PR3, with projected spend falling from €4.2bn to €2.4bn. This reduction had as its principal objective the reduction of pressure on DUOS charges and hence on end customer bills; and
- second, there have been ongoing changes to the financial market conditions which influence the cost of raising finance to invest in the network. At the time PR3 was agreed, this was expected. In particular, the CER indicated that they would carry out a “mid term review” of the WACC agreed with ESBN. This was because the WACC was set at a high level to reflect uncertainty around financial market conditions at that point in time; and

The second of the changes and an estimation of the appropriate level of WACC for the “second half” of ESBN’s price control is being addressed elsewhere. ESBN have asked Frontier Economics to consider the first, and in particular to assess the extent to which any mid-term WACC review needs to take into account changes in the wider business context in setting an appropriate level of WACC.

At the outset, it is important to understand the scale of the changes in business context.

In PR3, the CER provided for a very significant capital expenditure programme of €4.2 billion across the transmission and distribution businesses.

Since 2011, GDP has grown considerably more slowly than anticipated. Given the strong correlation between economic growth and energy demand, the impact has been that outturn demand has been significantly below that envisaged when the PR3 determination was arrived at. For example, new connections have reduced by two thirds from c. 30,000 pa to 10,000 pa, whilst electricity demand is significantly below forecast.

Delivery of the allowed capex programme (even allowing for reduced load-related capex in line with reduced demand) would have led to very substantial increases in DUOS charges for customers. In consequence, we understand that ESBN approached the CER with a proposal to defer a substantial element of the

capex programme to PR4 in order to alleviate the impact of higher DUOS charges.

ESBN proposed a revised 2011-15 capex programme of €2.4 billion, representing a 40% reduction in capex for the period. While an element of the proposal relates to capex that may not now be required due to lower outturn demand (e.g. generator connections and new business) a substantial element relates to capex that will still be required but which is deferred to future periods in order to alleviate pressure on DUOS charges.

For example, we understand that this includes over €400 million of planned distribution re-enforcement expenditure, almost €150 million of asset replacement expenditure and almost €200 million of non-network expenditure. This deferral of investment has been risk assessed to determine the most efficient mix of CAPEX deferral and OPEX minimisation while maintaining reliability and safety of the network.

It is the scale of impact of these changes which make it important to understand how they may interact with the mid-term WACC review. In the remainder of this document, we therefore present:

- in Section 2, regulatory precedent, in particular from GB, in relation to the linkages between the broader context of the business and the allowed WACC;
- in Section 3, the conceptual implications of this regulatory precedent for ESBN's mid-term WACC review;
- in Section 4, some considerations in relation the practical application of this precedent, given the details of ESBN's situation; and
- in Section 5, a brief summary of our findings and our recommendations.

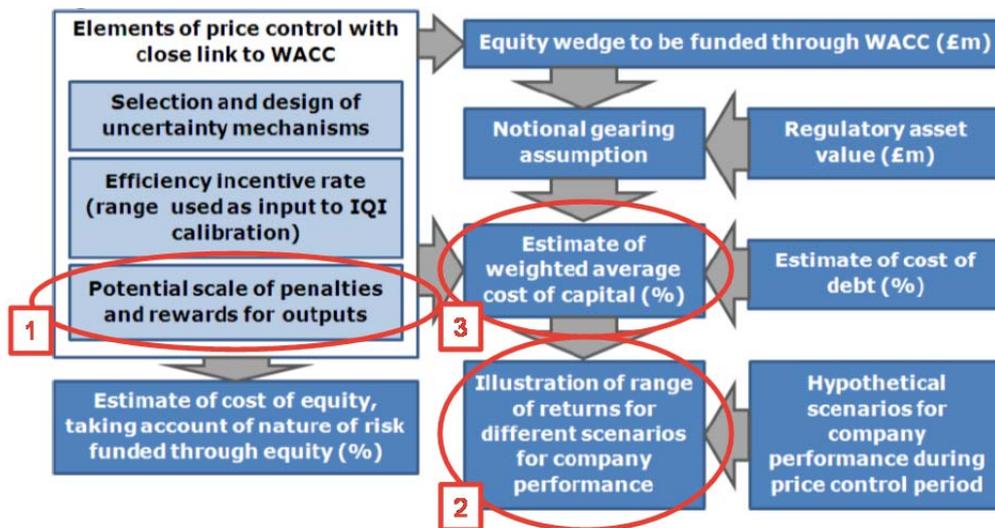
2 Precedent for the interaction between the broader business context and allowed WACC

In this chapter we set out the precedent for the interaction between the broader business context and allowed WACC. In many ways, the reduction in the scale of capex being undertaken by ESNB could be considered likely to reduce ESNB's WACC, as the cashflow risk faced by a company is a function of, among other things, the scale of investment being undertaken. Lower levels of investment may be taken as meaning lower levels of cashflow risk and hence a lower WACC.

However, there are other factors which move in the opposite direction, depending on the nature of the capital expenditure which has been cut. In particular:

- if this capex is non-load related, deferring it may result in opex becoming more unpredictable, as the cost of “repair” may be more difficult to predict than that of “replace”. It may also lead to higher levels of network opex, and hence more difficulty in hitting stringent regulatory opex targets; and
- if the capex is targeted at other incentivised outputs (e.g. customer satisfaction), it may result in worse than expected performance on specific incentive targets.

Other regulators have explicitly recognised the links between the exposure of regulated entities to uncertainty in relation to regulatory incentives and the allowed WACC and its components. In particular, following the completion of the design process for the new RIIO regulatory framework, Ofgem went to some effort to set out explicitly how they would take linkages between likely incentive performance and WACC into account in considering the financeability of network companies. A schematic of the process they set out in Figure 2.

Figure 2. Overview of risk-return calibration

Source: Ofgem, RIIO handbook

There are three specific aspects to Ofgem’s process which are important to recognise here, highlighted in the above figure:

- first, the definition of the potential scale of penalties and rewards for outputs;
- second, the illustration of the range of returns possible; and
- third, the estimation of the weighted average cost of capital.

We discuss each in detail below, before drawing conclusions for ESNB’s situation from Ofgem’s approach.

Definition of penalties and rewards

In their description of the RIIO model, Ofgem recognises that “the potential scale of penalties and rewards for output delivery” has a “particularly close relationship with a network company’s cost of capital”⁴. If companies are subject to greater risk through the regimes for output delivery, they may require a higher WACC to compensate.

They note that the way in which this balance is achieved will vary. For some outputs, the strength of incentive will effectively be a subjective regulatory judgement. This means that the regulator may set it at a level which itself balances a reasonable allowed return for the company with continuing incentivise

⁴ Ofgem RIIO handbook, pp 105-6

Precedent for the interaction between the broader business context and allowed WACC

the company to deliver things which are in customers' interests. In contrast, for other incentives, there may be empirical data (e.g. on customer willingness to pay) which will allow the incentive mechanism to be specified with greater objectivity. In this situation, it may be appropriate to use this data to set the strength of the incentive, and to seek to achieve balance either via changes to other related incentive mechanisms, or directly in the cost of capital itself.

Illustration of range of returns

Ofgem uses "Return on Regulated Equity (RoRE)" analysis to calibrate the overall price control settlement to achieve this balance. This RoRE analysis looks at the returns to equity which each network company is capable of making, taking into account:

- baseline allowed revenue and estimated efficient costs;
- reasonable upside and downside risks from operating cost and capex incentives (under Ofgem's regime, collectively termed totex incentives); and
- reasonable upside and downside risks from other incentives.

Ofgem states they regard "an appropriately calibrated price control package as one in which RoRE upside (i.e. the reward available for the best-performing companies) provides the potential for double-digit returns on (notional) equity, and RoRE downside (i.e. the penalties that would apply to the worst-performing companies) is at or below the cost of debt"⁵.

Put another way, Ofgem is saying that they believe the price control settlement should be viewed as a whole, and all the elements should be calibrated to achieve particular outcomes in terms of the overall financial risk faced by the companies. If the range of possible financial outcomes is too narrow, the company will be exposed to too little incentive to perform in customers' interests, and may have a WACC which is too high. If the range of financial outcomes is too large, the company may need to be remunerated for it through a premium to the cost of capital estimated using standard techniques or parameters.

The outputs from Ofgem's RIIO-T1 and RIIO-GD1 RoRE analysis are presented at Figure 3⁶. This figure shows:

- the baseline return on equity for each of the companies, with the Scottish electricity transmission companies at around 7%, National Grid

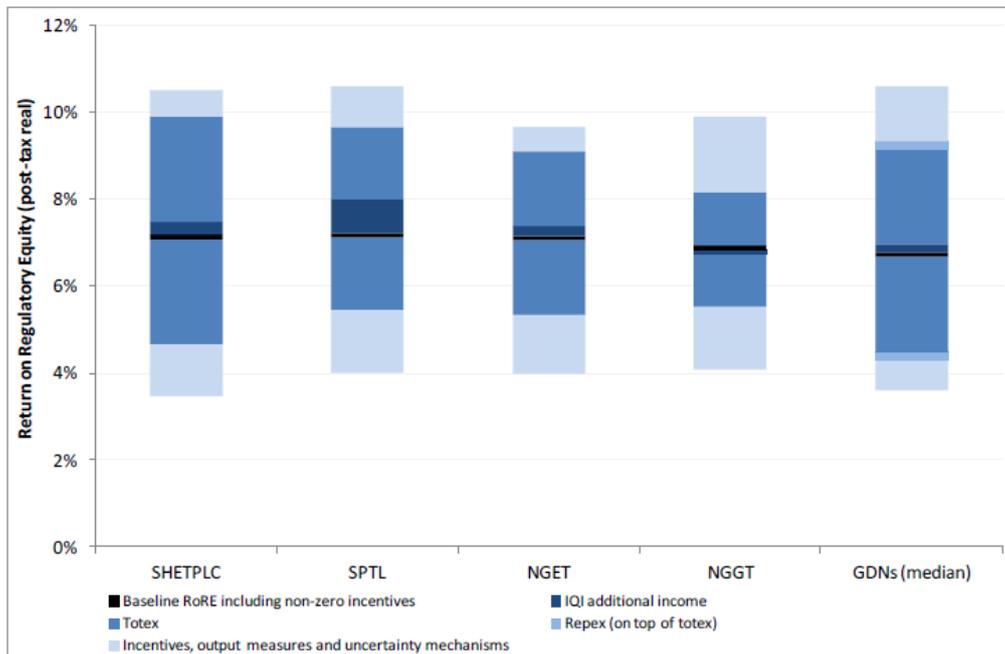
⁵ Ofgem RIIO-T1 final proposals, Finance document, p36

⁶ We note that this approach to analysis should not be considered new or specific to the RIIO regime. It was also used by Ofgem during the last electricity distribution price control under the old RPI-X regime in 2009.

Electricity Transmission (NGET) at 7%, National Grid Gas Transmission (NGGT) at 6.8%, and the gas distribution companies slightly lower still;

- the opex and capex incentives (a combination of the “IQI additional income”, “totex” and where relevant “repex” bars); and
- the incentives on other metrics.

Figure 3. Estimated RoRE ranges in RIIO-T1 and RIIO-GD1



Source: Ofgem

It is notable from the graph that:

- the ranges which Ofgem analyses are broadly symmetric – in other words, the incentive regimes which they have put in place provide equal possibility of upside or downside risk for the companies; and
- as Ofgem themselves state, performance against totex allowances has the largest impact on overall return on equity.

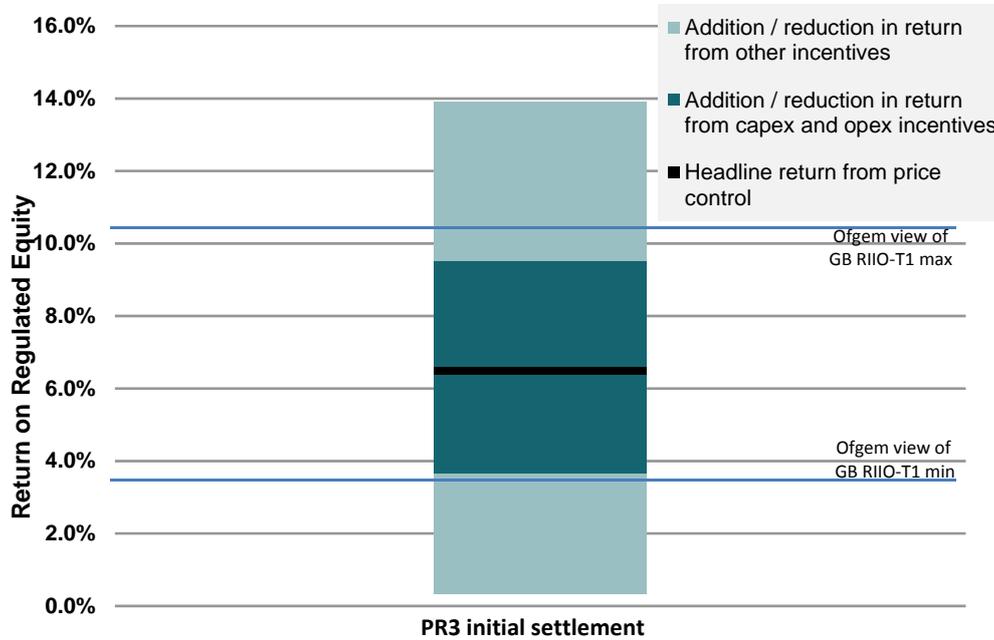
We have applied the same methodology as that described above to data provided by ESNB⁷ to assess the calibration of ESNB’s original PR3 package. This is

⁷ We have relied upon ESNB Network’s views of the likely range of opex performance. We recognise that it is a matter of judgement as to how wide the likely bands of potential under-or over-performance may be.

Precedent for the interaction between the broader business context and allowed WACC

shown in the figure below, which also shows Ofgem’s view of maximum and minimum equity return ranges for RIIO-T1.

Figure 4. Estimated RORE ranges in PR3 compared to Ofgem max/min



The Figure shows that, like Ofgem, the CER set a relatively symmetric package at PR3. ESNB’s view on capex, is that it anticipated largely being in line with the allowance set, with little scope for either over/under performance. On Opex, ESNB estimated at PR3 that the likely scope for over/underperformance was 10%. On incentives, the CER noted that the package was largely symmetric, stating that “In the CER’s view the targets which have been approved here are challenging yet achievable, and will encourage the DSO to maintain or improve its performance”.

Overall, this shows that, had ESNB maximised performance over PR3, there was a potential to earn an equity return of up to 14%. This is in line with the Ofgem view that “an appropriately calibrated price control package as one in which RoRE upside (i.e. the reward available for the best-performing companies) provides the potential for double-digit returns on (notional) equity”.

Estimation of WACC and other financial parameters

Within the context of this overall approach to setting a price control, Ofgem uses a relatively standard approach to estimating the allowed cost of capital of a network company. They calculate an allowed return on equity using a range of

**Precedent for the interaction between the
broader business context and allowed WACC**

models including CAPM, and they calculate an allowed cost of debt using a benchmark index.

The notional gearing assumed by Ofgem sets the relative proportions of equity and debt which are assumed to be used to finance each network company. Ofgem notes that “there is scope for companies within the same sector to have different levels of notional gearing where there is a significant difference in the risks facing them”. In other words, if the regulatory regime exposes a company to greater risk, it may be reasonable to assume a lower notional gearing, as other things being equal, the company would require a larger equity buffer to achieve an investment grade credit rating. Indeed, under RIIO-T1, NGET and NGGT were given different notional gearings reflecting different views on risk.

**Precedent for the interaction between the
broader business context and allowed WACC**

3 Implications of regulatory precedent for ESBN

Based on the regulatory precedent set out in the previous chapter, it would be reasonable to view the PR3 settlement put in place by the CER as a package, consisting of a baseline set of remuneration for operating costs and investment, with performance incentives in relation to opex and capex efficiency on one hand, and a range of broader “outputs” on the other.

As a result of the scaling back of the capex programme, it is likely that the level of risk to which ESBN is exposed has increased. Specifically, as we have noted above, reducing capex could result in:

- increased opex;
- more uncertain opex; and
- reduced likelihood of hitting some broader incentive targets (in particular the capex delivery targets).

If the CER compares what an Ofgem-style RoRE analysis would have looked like at the time of striking PR3 and as things stand now, two changes can therefore be observed:

- the risks are more asymmetric – ESBN now faces a lower upside and a greater downside than at the time of PR3, as a result of reduced likelihood of hitting opex and broader incentive targets; and
- the overall risk is greater, as a result of greater opex uncertainty.

Ofgem tends to apply symmetric incentive arrangements with a standard assessment of the WACC. This would perhaps suggest that strongly asymmetric targets would not be consistent with such an approach. However, even more fundamentally, following the logic of Ofgem’s RoRE analysis, if the overall PR3 settlement was deemed to have been “appropriately calibrated” by both ESBN and the CER, it would now be in need of recalibration, as the likely position in relation to incentives has changed.

This recalibration could involve an increase in ESBN’s WACC, relative to that estimated using a standard CAPM method, to take into account the higher, asymmetric risks faced. Alternatively, it could involve a reduction in ESBN’s notional gearing, to reflect risks faced, or a reformulation of allowances to make them symmetric once more

Failure to undertake any recalibration would effectively imply putting in place a package which is inconsistent with the CER’s view at the start of PR3 of the appropriate balance of risk and reward. Or put another way, it would represent a

decision to increase the risk on ESBN without any corresponding increase in reward.

It is clear that such a move would be viewed negatively by the investment community. Far from representing the results of a pre-announced mid-term WACC review to reflect updated capital market conditions, it would be the equivalent of, midway through the price control, reopening the settlement and imposing significantly more challenging cost targets in unsignalled and unexpected way.

Any such move would impact significantly on cost of capital because it would undermine the perceived predictability of the regime. The risks which investors thought they were buying into at the start of PR3 would be deliberately made larger and more asymmetric by the CER. We note that in relation to the recent Competition Commission (CC) enquiry in the Northern Ireland gas networks sector, the CC noted in relation to regulatory uncertainty that “both Fitch and Moody’s take the predictability of the regulatory regime into account when setting credit ratings, hence we consider that there is clear effect on the cost of debt”.

4 Practical application of regulatory precedent to ESB Networks

4.1 Introduction

In the previous sections we have set out the appropriate conceptual approach to considering the extent to which any mid-term WACC review needs to take into account changes in the wider business context in setting an appropriate level of WACC.

Whilst we understand that ESBN is confident it can still operate the networks in line with its license requirements, we suggest that the reduction in planned capex may have a number of important impacts when thinking about the ability of ESBN to achieve other elements of the PR3 package. In particular, our assessment of ESBN's revised capex programme suggests that the very significant reductions in planned capex may give rise to the following challenges which should be factored in to any assessment of the appropriate level of WACC:

- the likely need for increased opex;
- potentially significant increase in volatility and risk associated with opex expenditure; and
- greater risk in relation to meeting performance measures.

We discuss each in turn below, before considering the implications for the calibration of ESBN's price control package.

4.2 Increased opex

There is a well-recognised link and trade-off between opex and capex. Typically, as network reinforcement and refurbishment expenditures are carried out, O&M costs can be reduced. Network assets are newer and in need of less frequent inspection and maintenance, and reliance on individual assets to avoid failures may be reduced. Moreover, as such refurbishments are carried out, advantage can be taken of technological developments and improvements (e.g. SCADA, smart monitoring devices, etc.) to change work practices and reduce operating costs.

The converse is also true – if necessary reinforcements are not undertaken and asset renewal is deferred, pressures on O&M costs are likely to increase. At a minimum, one would anticipate an operator incurring higher inspection and monitoring costs in relation to a network run using older assets. Moreover, it is likely that, as some of the assets begin to fail, emergency response costs also

increase. With reduced investment, it also becomes more difficult to take advantage of technological improvements to deliver efficiency savings.

Overall, we suggest that the deferred capital programme (particularly those referring to asset replacement, network re-enforcement and non-network) is likely to put upward pressure on O&M costs.

A concrete example of the types of costs referred to above relates to the impact of extending the life of old 38kV cables in Dublin. Deferring cable replacement may lead to higher than normal 38kV cable faults. To mitigate the higher potential for faults, greater amounts of cable testing and route inspections are being carried out to extend the life time of these assets. This would result in direct increases in opex as a result of the increased amount of time spent patrolling the network and carrying out maintenance. It also increases the risk of customer disturbance in fault situations and the subsequent costs of repairing and attending to faults, and electrician time involved in switching and isolating the network for work. There is also an associated opportunity cost of not doing other planned work.

We understand that ESBN have already identified planned maintenance and fault repair opex gaps in opex outturn compared to the regulatory allowances set at PR3. ESBN estimate that the gap in opex associated with planned opex over the last two years has been over €20 million.

In this context, it is also important to note that the CER, whilst recognising ESBN's efficiency in PR2, set extremely stretching opex efficiency targets for ESBN. With respect to PR2, the CER noted that:

"The DSO spent over its operating cost allowance by €12.3m or less than 1% of an over expenditure i.e. €1,272m versus €1,260m. This represents a significant achievement as the operating costs set by the CER were challenging and required significant increases in efficiency over the period"

For PR3, the CER determined that ESBN needed to find a further €150 million of efficiency savings in relation to its opex, and €175 million in relation to capex. We suggest that, given the deferral of capex, it may be materially more difficult for ESBN to achieve such stretching targets in context of network that is under greater stress.

4.3 More volatile opex

In addition to the potential increase in opex as a result of the capex deferrals, there is also a risk that ESBN's opex will become more volatile. For example, when the life of existing assets is stretched due to deferred replacement, the risk of failure increases. Typically, the O&M costs are higher when assets are replaced due to failure than due to a planned replacement.

**Practical application of regulatory precedent to
ESB Networks**

The higher volatility associated with ESBN's opex is likely to increase the risk facing the business (in terms of its ability to meet its opex allowances). Such risk was not factored in as part of the price control settlement, and needs to be given consideration.

4.4 Incentives

As part of the PR3 settlement the CER agreed a package of incentives with ESBN. For distribution, the CER stated the following:

“The CER approves financial incentives for the DSO to improve quality of supply and customer service over the period. The incentives (with the exception of the “worst served customer” and capex delivery mechanisms, the details of which will be consulted on separately) are capped at 4% of annual revenue which equates to €151m over the period or an additional 0.5% to the allowed return on capital. Some additional incentive categories have been added and the CER believes that, while the targets are challenging, the incentives can be achieved by the DSO. The CER has included an annual provision of €8m for incentive payments within the allowed revenue on the expectation the DSO will at least achieve this level of incentive payment.”

We note that the capex delivery mechanism was worth an additional €8 million per year. So the total distribution incentive package was worth over €190 million to ESBN.

It is important to note that a number of the incentives related directly to network security (i.e. the CML and CI incentives, alongside the customer satisfaction incentive), while €40 million of incentives related to the delivery of the capex programme (on which ESBN is no longer in a position to deliver). We understand that CER has accepted this as part of the recent tariff discussions for 2013/4.

It is also important to note that the CER has explicitly recognised the link between network investment and the achievement of quality standards in relation to network security:

“A historic period of underinvestment in the distribution network in Ireland has been followed in recent years by an increased level of expenditure on capital, maintenance and network renewal programmes from 2000 onwards. This has been required to cater for new connections during the recent boom and to make up for a previous lack of investment. This expenditure, coupled with the DSO's response to incentive mechanisms put in place by the CER, has greatly increased the quality of the electricity supply that customers receive. There are substantially fewer interruptions to supply (both planned and unplanned) and customers that are interrupted have their supply restored within a shorter timeframe. Over the period the average annual number of interruptions per hundred customers is expected to fall by 46% to 147.5 in 2010, with the average annual duration of a customer being without supply falling by 71% to 153 minutes.”

It follows that, with investment in network reinforcement and asset replacements deferred, it will now be more difficult for ESBN to meet the targets set out in the incentive package than would have been anticipated when the package was

**Practical application of regulatory precedent to
ESB Networks**

agreed. Additionally, ESNB is no longer able to achieve the €40 million of incentives associated with capex delivery.

While ESNB is not likely to move to the bottom of ranges on all of the incentive measures, there is a significant risk that these incentives are not now set in an “unbiased” way and that over time the expected outcome will be negative, or at least no longer positive. Given the materiality of the measures (worth c.0.63% on the equity return for distribution), as argued above, it is important that any such risk be factored in to the assessment of the overall setting of the amended WACC and overall price control package for ESNB for the remainder of the period.

4.5 Implications for the calibration of ESNB’s price control package

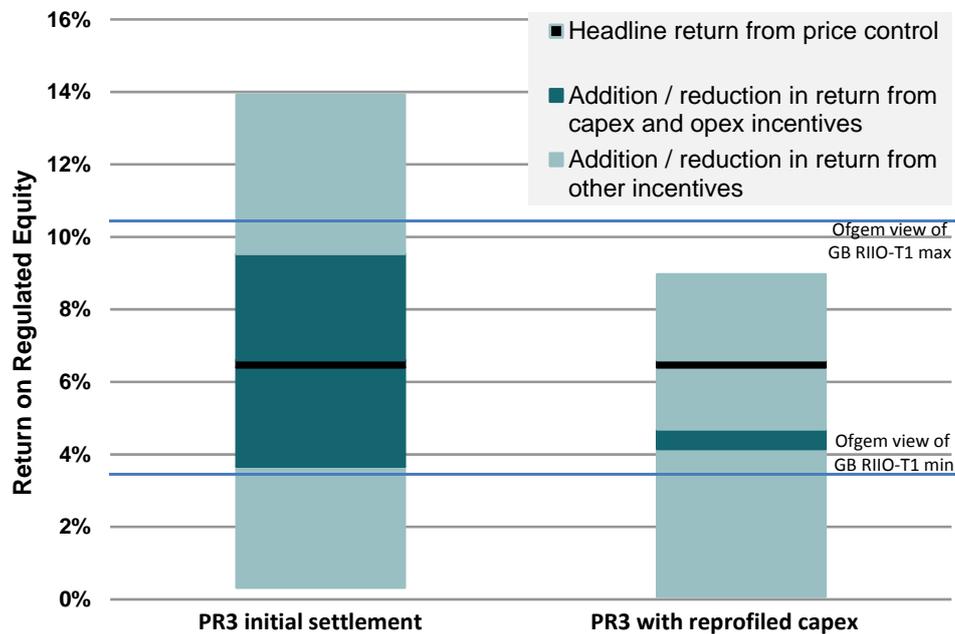
The sections above have set out the impacts of the revised capex programme on ESNB’s ability to achieve its opex allowances and to perform against its other incentives (most notably its capex delivery incentive).

To provide an indication of the impact of these changes on the RoRE calibration of ESNB’s PR3 package, we have re-estimated RoRE based on ESNB’s revised view of the opex and incentive performance it could achieve. Our approach has been to ask the following question: “Assume PR3 had been determined on the basis of the revised capex package – what would be the impact on ESNB’s opex relative to allowance and on ESNB’s ability to deliver on the incentive package?”

ESNB’s assessment is that, in such a scenario the capex delivery target is clearly no longer achievable, and there is also no longer any scope to beat the opex target. In fact ESNB have estimated that the best they could do in terms of opex would be an overspend of at least €70 million relative to allowance.

The impact of these changes on RoRE is set out in the Figure below.

Figure 5. The impact of re-profiling capex on ESNB's equity return



The left-hand column shows the potential range of ESNB's equity return when PR3 was agreed. This shows that the settlement was largely symmetric, although it allowed for a potentially larger range of outcomes than Ofgem's view of the RIIO-T1 settlement (we note that judging the credible minimum and maximum outturns across a range of interacting incentive schemes is inevitably subjective, and that therefore direct comparisons between different regulatory regimes and jurisdictions is likely to be difficult).

The right-hand column shows the impact of the capex re-profiling on the potential range of ESNB's equity return. The Figure shows that the revised package is much less symmetric than the original PR3 package with the downside risks now substantially greater than the potential upside. The upside under the revised package has declined by over 4%, and the downside risk has increased slightly. One can also now see that while ESNB's minimum equity return exceeds the Ofgem view of the maximum for RIIO-T1, it is no longer possible for ESNB to achieve the level of return that Ofgem expects the best performing UK companies to earn.

This implies that in order to re-calibrate the price control so as to bring it back in line with the original PR3 symmetric determination, as part of any review the CER should consider a mix of:

**Practical application of regulatory precedent to
ESB Networks**

- increasing ESB Network's WACC to re-balance the overall PR3 package; and/or
- increasing ESB Network's opex allowance and developing a revised capex delivery incentive in line with the re-profiled capex package.

5 Conclusions and Recommendations

ESBN have asked Frontier to assess the extent to which a review should take into account changes in the wider business context in setting an appropriate WACC. Our key findings are that:

- **Regulators have explicitly recognised the links between exposure to uncertainty in relation to regulatory incentives and the allowed WACC and its components.**
- **The most useful precedent is from the UK where following the completion of the new RIIO regulatory framework, Ofgem set out explicitly how they would take linkages between likely incentive performance and WACC into account in considering the financeability of network companies.**
- **In this context, it is reasonable to view PR3 as a package, consisting of both baseline remuneration for opex and capex, and performance incentives in relation to opex and capex efficiency, and a range of broader “outputs”.**
- **ESBN’s revised capex programme is likely to have impacted on their ability to achieve opex and incentive performance targets. Consequently, it is likely that risk to which ESBN is exposed has increased.**
- **Following the logic of Ofgem’s RoRE analysis, if the overall PR3 settlement was deemed to have been “appropriately calibrated” by the CER, it would now be in need of recalibration, as the likely position in relation to incentives has changed.**
- **Failure to undertake any recalibration would effectively imply putting in place a package which is inconsistent with the CER’s view at the start of PR3 of the appropriate balance of risk and reward.**
- **It is clear that such a move would be viewed negatively by the investment community and would impact significantly on cost of capital because it would undermine the perceived predictability of the regime.**

5.1 Recommendations

In order to re-calibrate the price control so as to bring it back in line with the original PR3 symmetric determination, we recommend that as part of any review the CER should consider a mix of (a) increasing ESB Network's WACC to re-balance the overall PR3 package, and/or (b) increasing ESB Network's opex allowance and developing a revised capex delivery incentive in line with the re-profiled capex package.

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