

Europe Economics

# WACC update for the Irish mobile, fixed-line, and broadcasting sectors

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# 1 WACC update

## 1.1 Introduction

This paper provides an update of the WACC for the Irish telecommunication sector based on the updating methodology set out in our report “The Cost of Capital for the Irish Communications Sector — Final Report” published in October 2020 and dated May 2020 (henceforth the “2020 Report”).<sup>1</sup> This report represents the fourth WACC update, and follows three separate update reports carried out in 2021, 2022 and 2023 (henceforth the “2021 Update Report”, the “2022 Update Report”, and the “2023 Update Report”).<sup>2</sup> This report is structured as follows:

- We first provide an update of each WACC parameter, namely:
  - Inflation;
  - Risk-free rate;
  - Total Market Return (TMR) and the Equity Risk Premium (ERP);
  - Asset beta;
  - Debt premium.
- We then provide updated figures for the cost of equity, the cost of debt, and the overall WACC.

## 1.2 Inflation

Figure from our 2023 Update Report: 2.1 per cent

The European Commission Notice suggests using the 5-years-ahead Eurozone inflation forecast published by the European Central Bank (ECB). At the time of writing this report the longer term (5-years ahead) inflation forecast of the ECB<sup>3</sup> is 2.0 per cent (i.e., a decrease from the value used in our 2023 Update Report).

Updated figure: 2.0 per cent

## 1.3 Risk-free rate

Figure from our 2023 Update report: -1.36 per cent

The European Commission Notice’s method<sup>4</sup> for estimating the risk-free rate prescribes:

- using domestic government bonds with a residual maturity of 10 years;
- using an averaging period of 5-years;
- calculating average values based on the arithmetic mean; and
- using data with a weekly frequency.

Consequently, under the EC Notice’s proposed methodology, the risk-free rate for Ireland is determined by the 5-year average of weekly yields obtained from Irish government bond with a residual maturity of 10-years. Under such an approach, the Irish nominal risk-free rate on 22 March 2024 is 1.09 per cent. The

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<sup>1</sup> Europe Economics (2010) “The Cost of Capital for the Irish Communications Sector — Final Report” [[online](#)]

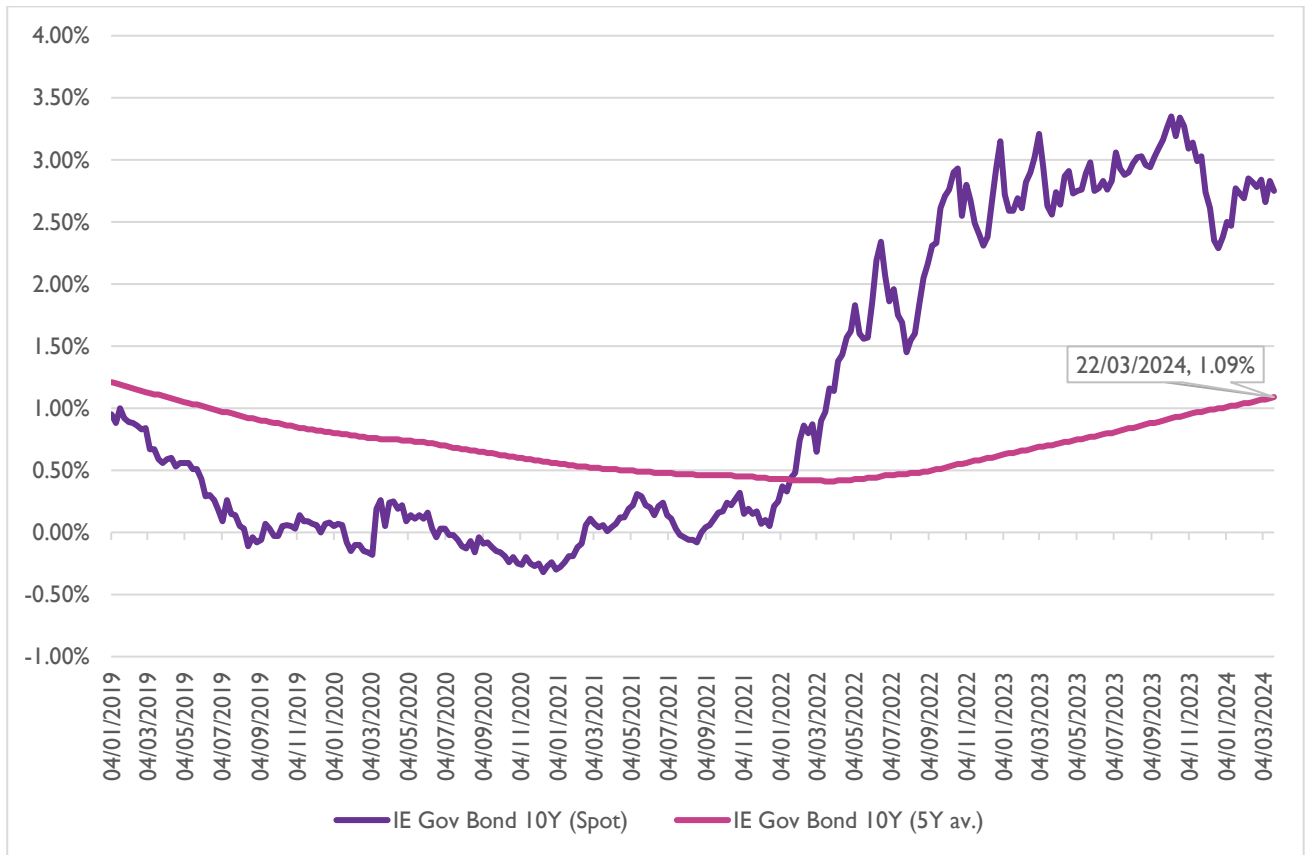
<sup>2</sup> Comreg (2023) “Weighted Average Cost of Capital - Annual Update” [[online](#)]

<sup>3</sup> ECB “HICP inflation forecasts” – 2024 Q1, reviewed as of 8 April 2024. [[online](#)]

<sup>4</sup> European Commission (2019), “Accompanying the document: Commission Notice on the calculation of the cost of capital for legacy infrastructure in the context of the Commission’s review of national notifications in the EU electronic communications sector”, *Commission Staff Working Document*, SWD(2019) 397 final.

nominal risk-free rate value in the 2023 Update Report was 0.71 per cent (as of 31/03/2023). The evolution of Irish government bond yields is reported in the figure below.

**Figure I.1: Recent evolution of 10-year Irish Government bond yield**



Source: Refinitiv Eikon and Europe Economics calculations.

Given the inflation assumption of 2.0 per cent the **real-risk free rate** is therefore **-0.89 per cent**.

Updated figure: **-0.89 per cent**.

### 1.4 Total Market Return (TMR) and Equity Risk Premium (ERP)

Figure from our 2023 Update report: **7.66 per cent**

As we explained in our 2020 Report, for the purpose of implementing what we termed the “EC approach”, we move away from a literal reading of the then-EC guidelines which prescribe a direct estimation of the ERP. Instead, we form a view on the appropriate TMR value based on the arithmetic mean of long-term historical series (we note that this specific estimation approach is consistent with EC guidelines) and derive an ERP by subtracting the recommended risk-free rate value from the TMR.

According to the latest Dimson, Marsh and Staunton (DMS) figures,<sup>5</sup> the real TMR for Europe is 6.0 per cent whilst the real TMR for Ireland is 6.8 per cent. We use these figures to determine a **real TMR range of 6.0-6.8 per cent**, with a **real TMR point estimate of 6.40 per cent** (i.e. the mid-point of the range). Since the real risk-free rate under the EC approach is -0.89 per cent, the **ERP range is 6.89-7.69 per cent**, with an **ERP point estimate of 7.29 per cent** (the mid-point of the range).

Updated figure: **7.29 per cent**

<sup>5</sup> See UBS Global Investment Returns Yearbook 2024.

## 1.5 Beta

### 1.5.1 Mobile and fixed-line sector

Figures from our 2023 Update Report:

- Mobile: 0.39
- Fixed line: 0.38

Following the European Commission's recommendation, the relevant comparators' set should be composed of:

- Firms with liquid and frequently traded stocks.
- Firms that own/invest in electronic communications infrastructure.
- Firms with main operations located in the EU.
- Firms with investment grade credit rating (BBB- or above according to S&P rating system).
- Firms not involved in any substantial mergers and acquisitions recently.

The set of relevant telecoms (fixed-line and mobile) comparators that fulfil these criteria is the same set that was chosen in the 2020 Report.<sup>6</sup> The final set of comparators from the 2020 report, together with the split of revenues according to the segment where these are generated, is provided in the table below.

**Table I.1: Final comparators set for mobile and fixed-line**

Company	Country of exchange	Mobile revenues share	Fixed-line revenues share <sup>7</sup>	Other telecom revenues share
<b>BT</b>	UK	22.48%	28.56%	48.97%
<b>Elisa</b>	FI	60.33%	39.67%	0.00%
<b>KPN</b>	NL	25.90%	30.21%	43.88%
<b>NOS</b>	PT	48.29%	17.66%	34.06%
<b>Orange</b>	FR	42.96%	41.33%	51.72%
<b>Proximus</b>	BE	33.23%	16.36%	50.41%
<b>SwissCom</b>	CH	26.19%	26.70%	47.11%
<b>Telefonica</b>	ES	73.94%	22.13%	3.93%
<b>Tele2</b>	ES	40.71%	27.35%	31.94%
<b>Telekom Austria</b>	AT	45.17%	37.81%	17.01%
<b>Telia</b>	SE	44.55%	16.83%	38.62%
<b>Vodafone</b>	UK	73.84%	26.16%	0.00%

Source: 2020 report, based on financial statements and Refinitiv Eikon data.

Consistent with the approach adopted in our 2020 Report and update Reports, in order to differentiate between the mobile sector and fixed-line sector unlevered betas, we estimated a weighted average of the

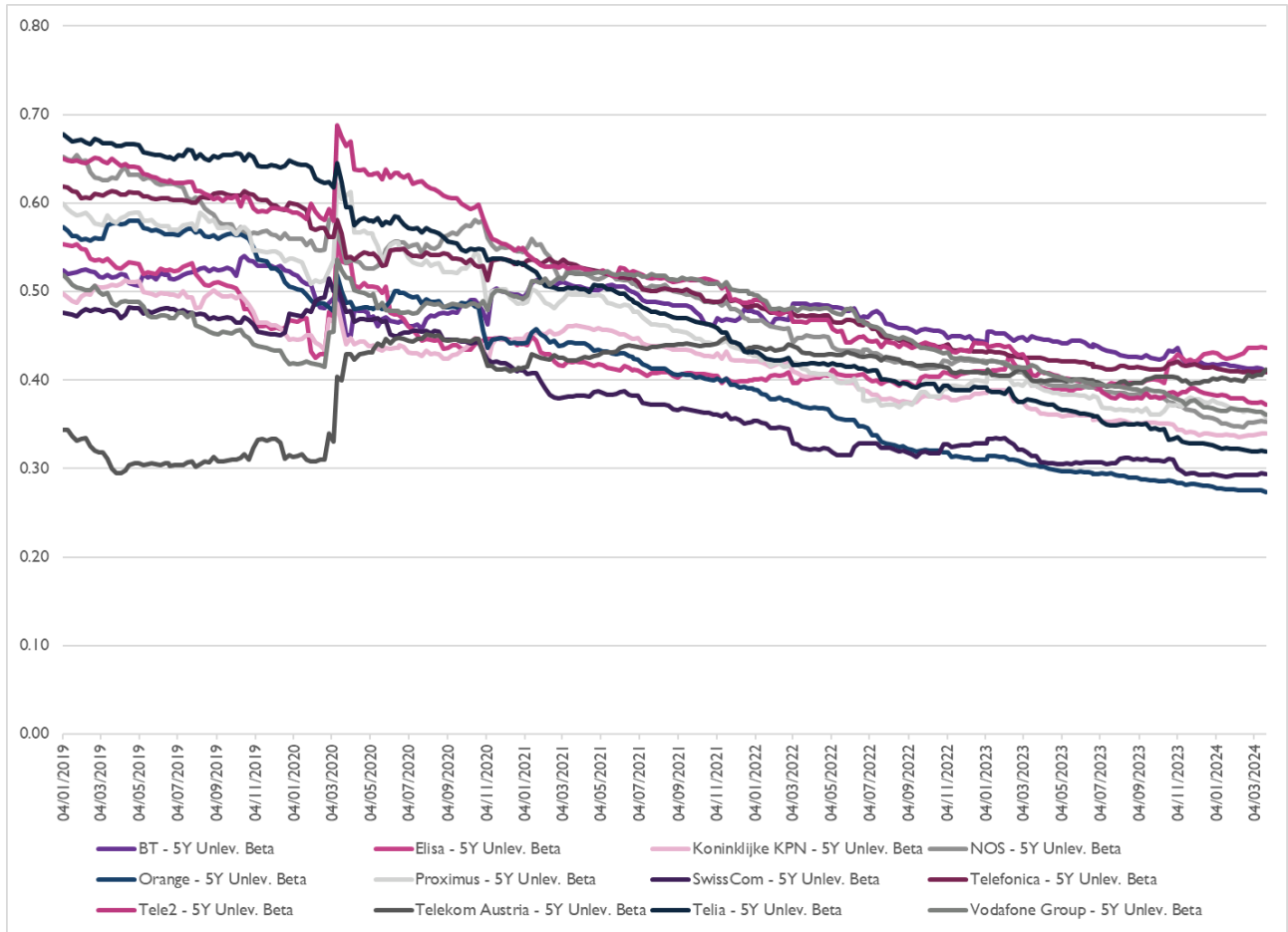
<sup>6</sup> Vodafone, SwissCom, and Orange have all recently been involved in mergers. However, our analysis suggests that the mergers in question have not materially affected betas and we therefore keep them within our comparator set.

<sup>7</sup> Fixed-line includes fixed line and broadband.

operators' betas where the weights are proportional to the share of revenues each company generates from mobile activities and from fixed line activities<sup>8</sup>.

The 5-years weekly beta estimates for all comparators, together with the mobile and fixed-line weighted averages are reported below. As we can see, since 2021 betas have decreased steadily.

**Figure 1.2: 5-years weekly unlevered beta for telecom comparators**



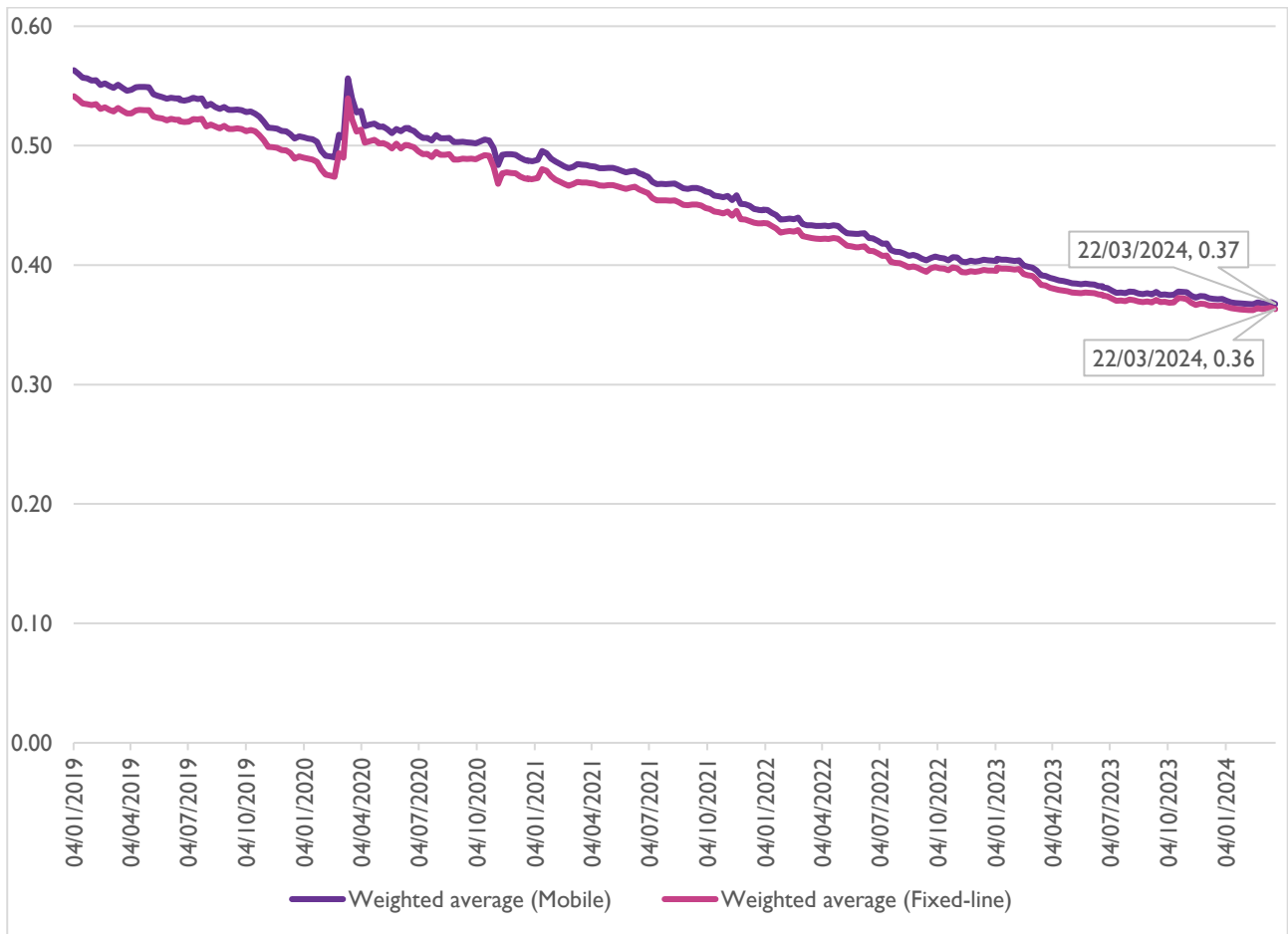
Source: Refinitiv Eikon and Europe Economics calculations.

We can see that, as one would have expected, 5 year betas have fallen materially since 2020. Telecoms firms tended to do quite well in a period where the economy as a whole did badly (Covid and its aftermath), thus reducing the statistical covariance of telecoms sector returns relative to returns in the market as a whole.

<sup>8</sup> Assume there two companies: Company A has a 50 per cent share of mobile in its total revenue and Company B has 25 per cent share of mobile in its total revenue. The weighted average would be  $(50/75) \times \text{Asset Beta A} + (25/75) \times \text{Asset Beta B}$



**Figure I.3: Weighted average 5-years weekly unlevered beta for mobile and fixed line**



Source: Refinitiv and Europe Economics calculations.

A summary of the range of beta evidence under the EC approach is reported in the table below.

**Table I.1: Summary of unlevered (asset) beta evidence under EC approach (spot values at 22- March-2024)**

Company	5-years weekly unlevered (asset) beta
BT	0.41
Elisa	0.44
KPN	0.34
NOS	0.35
Orange	0.27
Proximus	0.36
Swisscom	0.29
Telefonica	0.41
Tele2	0.37
Telekom Austria	0.41
Telia	0.32

Company	5-years weekly unlevered (asset) beta
Vodafone	0.36
<b>Simple average</b>	<b>0.36</b>
<b>Weighted average (mobile)</b>	<b>0.37</b>
<b>Weighted average (fixed line)</b>	<b>0.36</b>

Source: Refinitiv Eikon and Europe Economics calculations.

Based on the weighted average figures of the table above, the **asset beta for the mobile sector** is **0.37**, whilst the **asset beta for the fixed-line sector** is **0.36**. We note that these are reductions compared to values used in our 2023 Update Report.

Updated figures:

- Mobile: **0.37**
- Fixed line: **0.36**

## 1.5.2 Broadcasting sector

Figure from our 2023 report: **0.47**

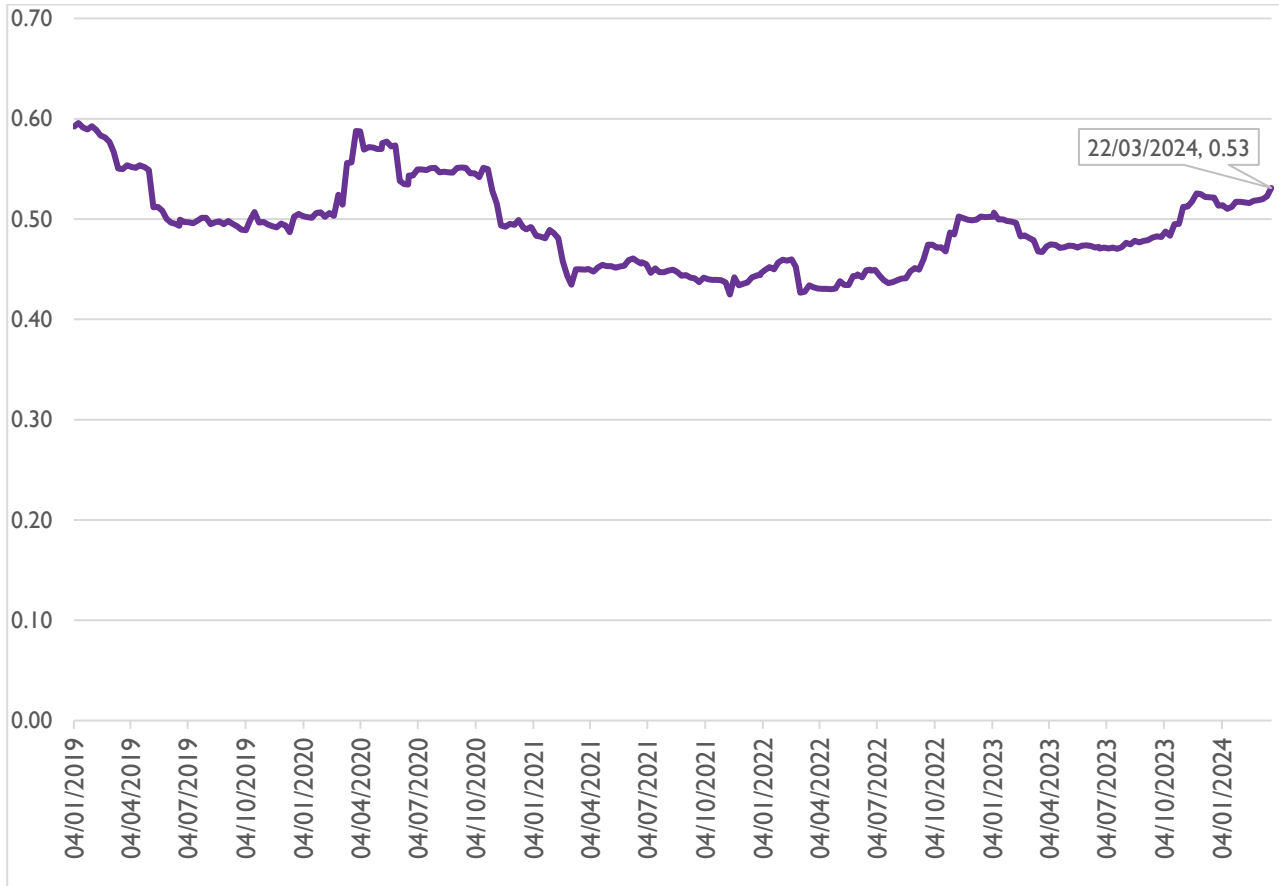
Consistent with the approach taken in our 2023 Update Report, we place most weight on Cellnex as it is the only European-based broadcasting operator.<sup>9</sup> Since our last update report, Cellnex has been upgraded to investment grade ("BBB-") by S&P, thereby meeting the inclusion criteria outlined by the European Commission.<sup>10</sup> Furthermore, Cellnex remains the most relevant comparator for which we have sufficient data to estimate beta. Therefore, we continue to rely only on Cellnex beta evidence and we report beta estimates based on 5-years weekly return data below.<sup>11</sup>

<sup>9</sup> Cellnex was involved in several mergers and acquisitions in 2021 and 2022, most notably merging with CK Hutchison in March 2022. This merger significantly increased their leverage. Prior to the merger (from January 2019 to March 2022), their average gearing was approximately 18 per cent. Post-merger, their average gearing has risen to around 45 percent. The unlevered beta of the company was 0.43 before the merger and has increased to 0.53 currently. Additionally, Cellnex recently agreed to sell its Ireland business to an American operator, pending regulatory approvals, which could potentially reduce their leverage.

<sup>10</sup> S&P Global Ratings "Cellnex Telecom Upgraded To 'BBB-' On Stronger Commitment To Deleveraging; Outlook Stable" [\[online\]](#)

<sup>11</sup> Ideally, as per the European Commission inclusion criteria, we would need to exclude Cellnex as a comparator due to its M&A activity. However, Cellnex remains the only significant listed company in the broadcasting sector in Europe. Furthermore, while Cellnex has been involved in M&A activity, its underlying business model has not changed; it is still predominantly in the towers and mast space. Thus, in the context of an annual update, we recommend continuing to rely only on Cellnex beta evidence. However, for the next full review, we recommend a re-evaluation of the use of Cellnex as a comparator for the broadcasting sector.

Figure I.4: 5-years weekly unlevered beta for Cellnex



Source: Refinitiv and Europe Economics calculations.

Based on the evidence provided above we conclude that the updated **asset beta for the broadcasting sector** is **0.53**. We note that this is an increase from the 2023 Update figure of 0.47.

Updated figure: **0.53**

## 1.6 Debt premium

### 1.6.1 Mobile and fixed-line sector

Figure from our 2023 Update Report: **80bps**

As set out at page 54 of our 2020 Report, our interpretation of the EC guidelines with regards to the estimation of the debt premium is to effectively construct a corporate bond (spread) index based on the average spread<sup>12</sup> across all bonds that, at any point in time, have a residual maturity of approximately 10 years. As we did in our 2023 Update Report, for the purpose of this update, we employ a simpler approach that does not require re-constructing a corporate bond index. Instead, we rely upon yield data provided by the following corporate bond indices:

- **Thomson Reuters Europe Non-financial 10-year index, BBB** — a euro-denominated corporate bond index composed of bonds issued by European non-financial firms rated between BBB- and BBB+. The index is constructed so as to have a notional maturity of 10 years.

<sup>12</sup> We recall that, following the EC guidelines, the spread is calculated with reference to a domestic bond yield with comparable maturity (i.e. 10-years).

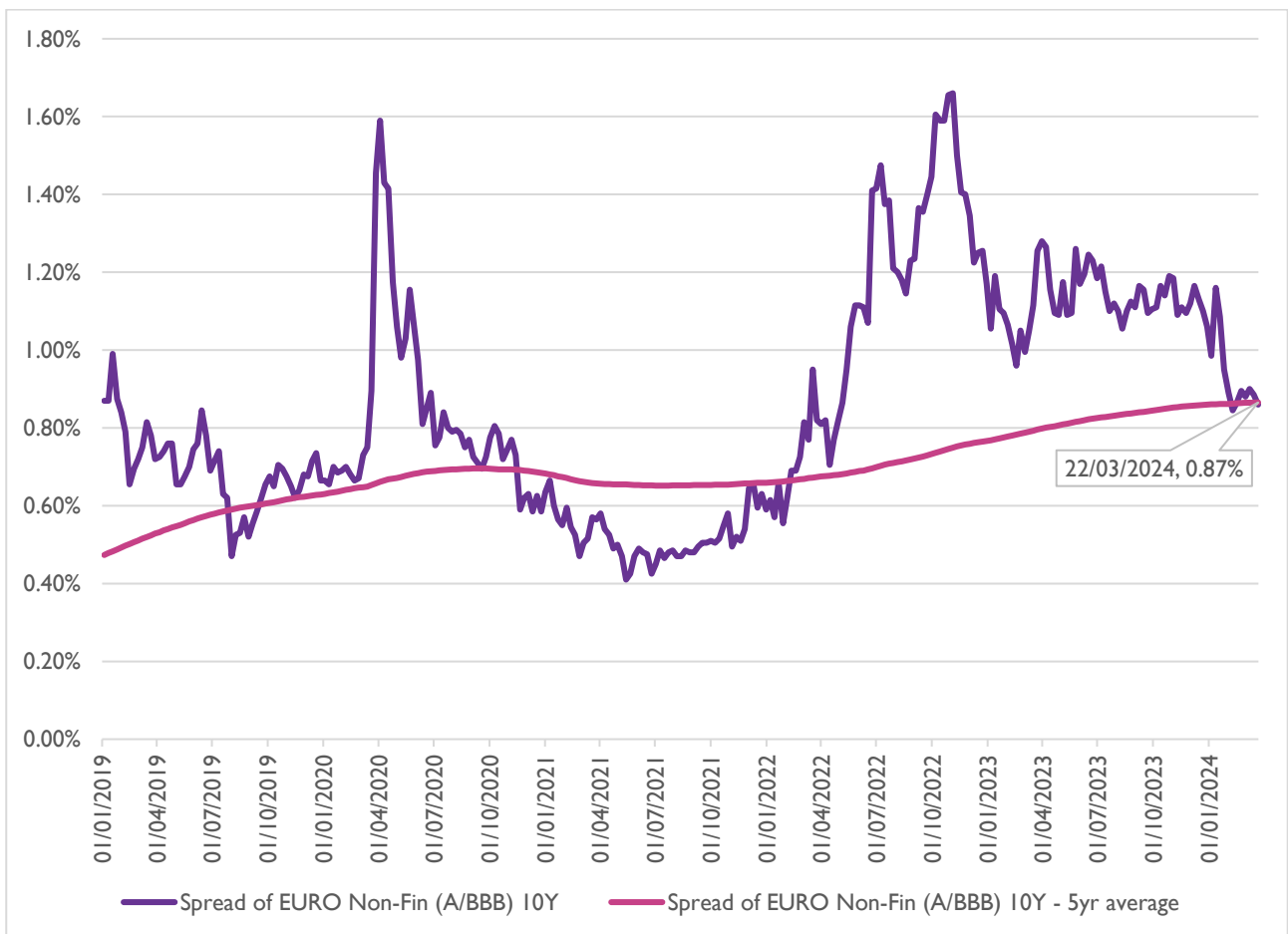
- **Thomson Reuters Europe Non-financial 10-year index, A** — a euro-denominated corporate bond index composed of bonds issued by European non-financial firms rated between A- and A+. The index is constructed so as to have a notional maturity of 10 years.

We estimate the debt premium based on these instruments as follows:

- First, since we regard a credit rating range between BBB and A as being representative of European telecom operators, we calculate the average (weekly) yield between the two indices (henceforth we denote the average between the two indices as “Thomson Reuters Europe Non-financial 10-year index, A-BBB”).
- Second, we calculate the spread between the yield of the A-BBB index and the yield of 10-year Irish government bonds.
- Third we calculate the average spread over a 5-year period.

The debt premium calculated in this manner is depicted below.

**Figure 1.5: Debt premium (%) based on Thomson Reuters Europe Non-financial 10-year index, (A-BBB)**



Source: Refinitiv and Europe Economics calculations.

As of 22 March 2024, the debt premium estimate based on Thomson Reuters indices is **87bps**, i.e., an increase of 7bps from the estimate of our 2023 Update Report.

Updated figure: **87bps**

### 1.6.2 Broadcasting sector

Figure from our 2023 report: **80bps**

As we did in our 2020 Report and our 2021, 2022 and 2023 Update Reports, we use here the same debt premium figure obtained for the mobile and fixed-line sector i.e., a **debt premium of 0.87 per cent**.

Updated figure: **87bps**

## 1.7 Summary of WACC parameters based on recent data

We provide below a comparison between the recent update WACC parameters' mid-point values and those obtained in our previous reports.

**Table 1.2: Comparison of WACC parameters mid-points**

WACC parameter	Sector	2020 Report (cut-off date Nov 2019)	2021 Update (cut-off date Feb 2021)	2022 Update (cut-off date May 2022)	2023 Update (cut-off date March 2023)	This Update (cut-off date March 2024)
<b>Inflation</b>	All	1.7%	1.7%	2.1%	2.1%	2.0%
<b>Nominal risk-free rate</b>	All	0.82%	0.52%	0.43%	0.71%	1.09%
<b>Real risk-free rate</b>	All	-0.86%	-1.16%	-1.63%	-1.36%	-0.89%
<b>Real TMR</b>	All	6.35%	6.50%	6.55%	6.30%	6.40%
<b>ERP</b>	All	7.21%	7.66%	8.18%	7.66%	7.29%
<b>Asset beta</b>	Mobile	0.50	0.50	0.44	0.39	0.37
	Fixed line	0.48	0.48	0.43	0.38	0.36
	Broadcasting	0.45	0.47	0.45	0.47	0.53
<b>Debt premium</b>	Mobile	0.62%	0.67%	0.70%	0.80%	0.87%
	Fixed line	0.62%	0.67%	0.70%	0.80%	0.87%
	Broadcasting	0.62%	0.67%	0.70%	0.80%	0.87%

## 1.8 Cost of equity update

As set out in Section 6.1 of the 2020 Report, the methodology for updating for the cost of equity requires determining first a cost of equity range based on an ERP range that reflects the DMS TMR estimates for Europe and for Ireland, and to then take the following percentiles of the range:

- **Mobile:** 80th percentile of the range.
- **Fixed line:** 64th percentile of the range.
- **Broadcasting:** 138th percentile of the range (i.e. above the top end by 38 per cent of the range).

Given the risk-free rate value set out in **Error! Reference source not found.**, the ERP range set out in Section 1.4, the beta estimates set out in Section 1.5, and the gearing values used in in the 2020 report, the cost of equity ranges and point estimate updates are as follows:

**Table 1.3: Cost of equity update**

	Nominal risk-free rate	ERP range	Asset beta	Gearing	Nominal cost of equity range (post-tax)	Percentile	Nominal cost of equity update (post-tax)
<b>Mobile</b>	1.09%	6.89%-7.69%	0.37	40%	5.31%-5.80%	80th	<b>5.70%</b>
<b>Fixed line</b>	1.09%	6.89%-7.69%	0.36	40%	5.26%-5.75%	64 <sup>th</sup>	<b>5.57%</b>
<b>Broadcasting</b>	1.09%	6.89%-7.69%	0.53	25%	5.97%-6.54%	138th	<b>6.75%</b>

## 1.9 Cost of debt update

The methodology for updating for the cost of debt described in Section 6.1 of the 2020 report requires applying an “Irish fixed-line” premium of 116bps to the cost of debt figure obtained under the EC methodology. Since the nominal risk-free rate and the debt premium under the EC methodology are respectively 1.09 per cent and 0.87 per cent, the cost of debt — before uplifting — is 1.96 per cent. Thus, after applying the 116bps uplift, the **nominal cost of debt** update figure is **3.12 per cent**. The nominal cost of debt recommended in the 2023 Update Report was 2.67 per cent.

## 1.10 Summary of WACC update

In the table below, we compare the overall WACC of the 2020 Report, the 2021 Update Report, the 2022 Update Report, and the 2023 Update Report, to the update values obtained by applying the updating methodology with data up to 22 March 2024.

**Table 1.4: WACC update (mobile)**

	2020 Report (cut-off date Nov 2019)	2021 update (cut-off date Feb 2021)	2022 update (cut-off date May 2022)	2023 update (cut-off date March 2023)	This update (cut-off date March 2024)
Nominal cost of equity (post-tax)	7.01%	7.10%	6.63%	5.85%	5.70%
Tax rate	12.50%	12.50%	12.50%	12.50%	12.50%
Nominal cost of equity (pre-tax)	8.02%	8.11%	7.58%	6.69%	6.52%
Notional gearing	40%	40%	40%	40%	40%
Nominal cost of debt	2.60%	2.35%	2.29%	2.67%	3.12%
<b>Nominal WACC (pre-tax)</b>	<b>5.85%</b>	<b>5.81%</b>	<b>5.46%</b>	<b>5.08%</b>	<b>5.16%</b>

**Table 1.5: WACC update (fixed-line)**

	<b>2020 Report (cut-off date Nov 2019)</b>	<b>2021 update (cut-off date Feb 2021)</b>	<b>2022 update (cut-off date May 2022)</b>	<b>2023 update (cut-off date March 2023)</b>	<b>This update (cut-off date March 2024)</b>
Nominal cost of equity (post-tax)	6.67%	6.74%	6.38%	5.63%	5.57%
Tax rate	12.50%	12.50%	12.50%	12.50%	12.50%
Nominal cost of equity (pre-tax)	7.62%	7.70%	7.29%	6.43%	6.37%
Notional gearing	40%	40%	40%	40%	40%
Nominal cost of debt	2.60%	2.35%	2.29%	2.67%	3.12%
<b>Nominal WACC (pre-tax)</b>	<b>5.61%</b>	<b>5.56%</b>	<b>5.29%</b>	<b>4.93%</b>	<b>5.07%</b>

**Table 1.6: WACC update (broadcasting)**

	<b>2020 Report (cut-off date Nov 2019)</b>	<b>2021 update (cut-off date Feb 2021)</b>	<b>2022 update (cut-off date May 2022)</b>	<b>2023 update (cut-off date March 2023)</b>	<b>This update (cut-off date March 2024)</b>
Nominal cost of equity (post-tax)	6.22%	5.76%	5.81%	5.95%	6.75%
Tax rate	12.50%	12.50%	12.50%	12.50%	12.50%
Nominal cost of equity (pre-tax)	7.11%	6.58%	6.64%	6.80%	7.72%
Notional gearing	25%	25%	25%	25%	25%
Nominal cost of debt	2.60%	2.35%	2.29%	2.67%	3.12%
<b>Nominal WACC (pre-tax)</b>	<b>5.98%</b>	<b>5.52%</b>	<b>5.55%</b>	<b>5.77%</b>	<b>6.57%</b>