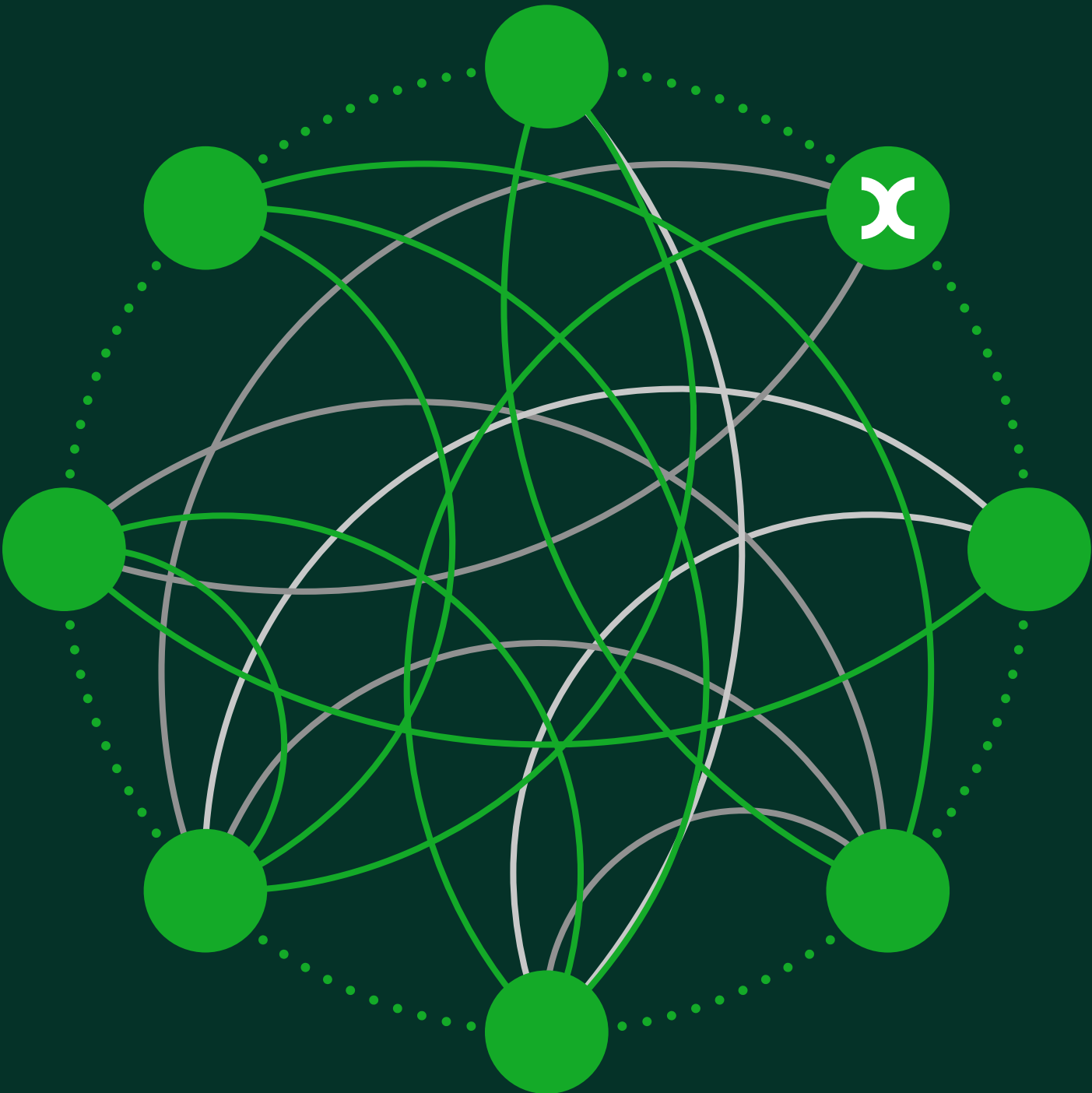


Estimating the appropriate allowance for new equity issuances for RIIO-3



Prepared for SSE

1 March 2024



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# Executive summary

SSE Networks has asked Oxera to undertake a study on the costs of issuing new equity in the context of seasoned equity offerings (SEOs).

In the RIIO-3 Sector Specific Methodology Consultation (SSMC), Ofgem outlines its intention to consider an appropriate allowance for the costs incurred on notional new equity issuance over the RIIO-3 period.<sup>1</sup> This follows the approach during RIIO-2 and RIIO-1, where Ofgem provided an allowance of 5%.<sup>2</sup>

There is a vast, and well-established, academic literature on the costs of raising new equity. According to this literature, the costs of raising equity can be divided into two broad groups, as follows.

- **Direct costs**—the underwriting spread charged by banks, legal advice, administrative costs, etc.
- **Indirect costs**—including the costs of under-pricing of the issue relative to the previous day's closing price, disclosure of proprietary information, and loss of control.

There is a general consensus in the academic literature that points to direct costs in the region of 5–12% of total new equity capital raised, which has been reflected in the economic advice provided to regulators in the past. More recent evidence in Oxera's 2020 comprehensive equity markets study for the European Commission is supportive of this range of direct costs.<sup>3</sup> Accordingly, the continuation of a 5% allowance for new equity issuance in RIIO-3 appears to be insufficient even to cover the average direct costs of issuing equity, without considering indirect costs.

In relation to indirect costs of raising new equity, a review of the academic literature shows a consistent finding that equity issuances such as SEOs lead to under-pricing, akin to 'money left on the table', whereby investors in new equity will demand a higher rate of return (i.e.

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<sup>1</sup> Ofgem (2023), 'RIIO-3 Sector Specific Methodology Consultation – Finance Annex', December.

<sup>2</sup> Ofgem (2021), 'RIIO-2 Final Determinations – Finance Annex (REVISED)', February, pp. 137–138; Ofgem (2021), ED1 PCFM for AIP November 2021, ED1 PCFM for AIP November 2021.xlsm (live.com) (last accessed 2 February 2024).

<sup>3</sup> Oxera (2020), 'Primary and secondary equity markets in the EU', November, Figure 4.5, <https://www.oxera.com/wp-content/uploads/2020/11/Oxera-study-Primary-and-Secondary-Markets-in-the-EU-Final-Report-EN-1.pdf> (last accessed 15 January 2024).

a discount to the market prevailing share price), in order to invest in an SEO.

Faced with this market reality, an insufficient allowance by the regulator for equity issuance costs (i.e. through providing only a partial allowance for direct and indirect cost of equity issuances) would impose a loss in value to the firm and, ultimately, its shareholders. The loss in value will increase in proportion to the amount of equity that is issued, thereby disincentivising raising equity to finance growth.

In this report, we focus on indirect costs of issuing equity in SEOs and corroborate the consensus in the literature that firms undertaking SEOs tend to sell new equity at a discount. We show that this also holds true for utilities issuing new equity. Specifically, we analyse the under-pricing of SEOs of listed UK utilities and firms listed in the FTSE 100 over the last 20 years. Our study consists of 219 SEOs from 80 firms across regulated utilities, utilities and FTSE 100 constituent firms. We estimate under-pricing as the relative discount of the SEO offer price to the closing stock price at one and also seven days, prior to and after the issuance, as well as to the closing price directly on the day of issuance.

Our main results are presented in the table below. Across all three samples, we observe consistent and robust under-pricing. While the general sample of SEOs by companies listed in the FTSE 100 exhibits an average under-pricing of 2.9%, in line with the academic literature, we find an average discount for utilities of 7.7% and a discount of 9.5% for regulated utilities.

Under-pricing in regulated utilities, utilities and FTSE 100 SEOs

Sample	Regulated utilities	Utilities	FTSE 100
Mean discount	9.46%	7.70%	2.85%
Median discount	5.08%	4.54%	2.65%

Note: Discounts have been calculated as outlined in section 3.1 relative to the previous day's closing price. Outliers have been removed as outlined in section 3.3.  
Source: Oxera analysis based on Bloomberg data.

Overall, our analysis and review of the literature suggests a **direct cost allowance** for new equity issuance of **at least 5%** plus an **additional indirect cost allowance** for new equity issuance under RIIO-3 in the range of **2.6% to 9.7%** (with a **mid-point of 5.1%**).

# 1 Introduction

There is a vast, and well-established, academic literature on the costs of raising equity. According to this literature, the costs of raising equity can be divided into two broad groups, as follows.

- **Direct costs**—the underwriting spread charged by banks, legal advice, administrative costs, etc.
- **Indirect costs**—under-pricing of the issue relative to the previous day's closing price, disclosure of proprietary information, loss of control, etc.

Direct costs of issuance are observable and have recently been quantified by Oxera in a study for the European Commission.<sup>4</sup> In contrast, indirect costs of issuance do not represent costs in terms of actual cash flows that can be measured. Instead, the cost to the issuing company comes in the form of an inability to raise the fair market value of equity, thereby causing a loss of value to the firm and, ultimately, its shareholders. This is illustrated in the example below.

## 1.1 The impact of under-pricing on current shareholders

To illustrate the impact of under-pricing we can assess the equity value of a listed company, i.e. its market capitalisation:

$$V_{Equity} = P * \#shares$$

The market capitalisation ( $V_{Equity}$ ) equals the current stock price ( $P$ ) times the number of outstanding shares ( $\#shares$ ).

If the company issues new shares, the market capitalisation directly after the SEO can be expressed as follows:

$$V_{Equity} = P_{cum} * \#old\ shares + P_{offer} * \#new\ shares$$

Where  $P_{cum}$  stands for the stock price before the SEO,  $\#old\ shares$  for the number of old, already outstanding shares,  $P_{offer}$  for the offer price of new shares, and  $\#new\ shares$  for the number of new shares issued in the SEO.

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<sup>4</sup> See section 2.1 for an overview of this research on direct costs and how it relates to the academic literature.

Following on from this, the share price directly after the SEO ( $P_{ex}$ ) will be:

$$P_{ex} = \frac{V_{Equity}}{\text{total number of shares}} = \frac{P_{cum} * \#old\ shares + P_{offer} * \#new\ shares}{\#old\ shares + \#new\ shares}$$

Hence, the share price will be negatively affected if new shares are not issued at the price before the SEO, causing a loss to current shareholders of the company. Berk and DeMarzo (2019) put this another way in the context of financing a new project via an SEO:<sup>5</sup>

[...] if the financing of the project involves an equity issue, and if management believes that the equity will sell at a price that is less than its true value, this mispricing is a cost of the project for the existing shareholders.

Following on, only if a firm is able to sell new shares at the stock price before the SEO will there be no gain nor loss to existing shareholders.<sup>6</sup>

Under-pricing is also observed for issues of new equity by utilities in the UK. There have been recent SEOs by Severn Trent, on 29 September 2023, and Pennon Group, on 10 January 2024. According to the official press releases and Oxera analysis, the Severn Trent SEO was subject to under-pricing of c. 5.1% relative to the previous day's closing price,<sup>7</sup> whereas the Pennon Group SEO showed a discount of c. 2.6%, implying an indirect cost was imposed by new investors.<sup>8</sup> More details on SEOs by regulated utilities and observed discounts are provided in Appendix A2.

## 1.2 Regulatory precedents

In the UK, Ofgem and Ofwat have recognised the direct costs associated with raising equity and set out specific allowances to account for it. In the past, the allowance was set at 5% of the equity raised, or of the notional equity raised—where the notional amount would be determined with reference to the notional gearing ratio. We note that in Ofgem's RIIO-3 Sector Specific Methodology Consultation, Ofgem has considered a (re)-assessment of the appropriate equity

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<sup>5</sup> Berk, J. and DeMarzo, P. (2019), *Corporate Finance*, Pearson Education Limited, p. 702.

<sup>6</sup> Berk, J. and DeMarzo, P. (2019), *Corporate Finance*, Pearson Education Limited, p. 543.

<sup>7</sup> SVT (2023), 'Results of the Equity Issue', 29 September, <https://www.londonstockexchange.com/news-article/SVT/results-of-the-equity-issue/16146965> (last accessed 2 February 2024).

<sup>8</sup> Pennon Group plc (2024), 'Results of Equity Capital Raise', 10 January, [https://otp.tools.investis.com/clients/uk/pennon\\_group\\_plc/rns/regulatory-story.aspx?cid=1167&newsid=1748033](https://otp.tools.investis.com/clients/uk/pennon_group_plc/rns/regulatory-story.aspx?cid=1167&newsid=1748033) (last accessed 16 January 2024).

issuance cost allowance but referenced its previous approach under RIIO-2 and RIIO-1.<sup>9</sup>

Ofgem's RIIO-1 decision appears to have been informed by two studies commissioned by the regulator: a Smithers & Co paper on the cost of capital published in 2006,<sup>10</sup> and a more recent CEPA paper on the cost of raising equity published in 2010.<sup>11</sup> Those papers pointed to a wide range of direct costs from 5% to 12%, and the CEPA paper concluded that a 5% allowance was still appropriate while waiting for more information from other studies on the topic. Ofgem's decision for RIIO-1 does not mention indirect costs of raising new equity.

Ofwat's PR24 final determination provides an allowance for new equity of 2%, for the purpose of equity injections due to regulatory capital value (RCV) growth. Table 1.1 summarises Ofgem and Ofwat allowances over the last ten years. This follows the PR14 and PR19 regulatory cycles, where the final determinations did not note any equity issuance allowance.

**Table 1.1** New equity allowances

Regulator	Price review	Allowance
Ofwat	PR09	5% of equity raised
Ofwat	PR14	-
Ofwat	PR19	-
Ofwat	PR24	2% of equity issued
Ofgem	RIIO-1	5% of notional equity raised
Ofgem	RIIO-GD2/T2	5% of notional equity raised
Ofgem	RIIO-ED2	5% of notional equity raised
Ofgem	RIIO-GD3/T3	TBD

Note: No information regarding cost allowances for equity injections could be identified from the final determinations and specific financial models of either PR14 or PR19.

Source: Ofwat (2014), 'Setting price controls for 2015-20 Final price control

<sup>9</sup> Ofgem (2023), 'RIIO-3 Sector Specific Methodology Consultation – Finance Annex', December, pp. 47–49.

<sup>10</sup> Smithers & Co (2006), 'Report on the Cost of Capital', 1 September, Section 9, [https://www.ofgem.gov.uk/sites/default/files/docs/2006/09/15576-smithers\\_co\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2006/09/15576-smithers_co_0.pdf) (last accessed 27 November 2023).

<sup>11</sup> CEPA (2010), 'Cost of raising equity', 22 July, [https://www.ofgem.gov.uk/sites/default/files/docs/2010/07/cost-of-raising-equity%2C-cepa-%282010%29\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2010/07/cost-of-raising-equity%2C-cepa-%282010%29_0.pdf)[https://www.ofgem.gov.uk/sites/default/files/docs/2010/07/cost-of-raising-equity%2C-cepa-%282010%29\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2010/07/cost-of-raising-equity%2C-cepa-%282010%29_0.pdf) (last accessed 27 November 2023).



Ofwat's decision in PR09 appears to have been based on a NERA cost of capital report commissioned by Water UK.<sup>12</sup> The NERA paper found that underwriting fees were at about 3–4% of the gross proceedings, and that other costs (such as legal and accounting charges) made up another 1–2%, which was estimated with reference to the input provided by water companies in the stakeholder consultations.<sup>13</sup>

Although there is limited clarity on how the regulators have estimated direct costs in the more recent regulatory periods, based on a collection of regulatory and advisory reports, we understand that regulatory decisions are largely attributed to the PR09 and RII0-1 precedents based on the above mentioned direct costs.<sup>14</sup> Hence, by inference, the PR24 2% allowance may only reflect a part of direct costs incurred (e.g. advisory fees) such that there is an insufficient allowance for the full direct costs previously estimated as part of PR09 and no allowance for indirect costs. Ofwat stated that the 2% allowance was consistent with the evidence from Severn Trent's 2017 share placing, which does not correspond to the prevailing academic literature or previous regulatory precedent on the expected costs incurred for such a transaction.<sup>15</sup>

Comparing the treatment of the two regulators, the Ofgem allowance appears to be set to recover some advisory and underwriting fees associated with equity transactions at the most. Ofgem has not directly quantified an allowance for indirect costs, despite some commentary on them for RII0-1 and RII0-2. In contrast, the Ofwat allowance appears to be set to recover a small subset of total direct costs (for instance only advisory fees).

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<sup>12</sup> Nera (2009), 'Cost of capital for PR09: A final report for Water UK', January, [https://www.nera.com/content/dam/nera/publications/archive1/PUB\\_Cost\\_of\\_Capital\\_PR09\\_Jan2009\\_update.pdf](https://www.nera.com/content/dam/nera/publications/archive1/PUB_Cost_of_Capital_PR09_Jan2009_update.pdf)[https://www.nera.com/content/dam/nera/publications/archive1/PUB\\_Cost\\_of\\_Capital\\_PR09\\_Jan2009\\_update.pdf](https://www.nera.com/content/dam/nera/publications/archive1/PUB_Cost_of_Capital_PR09_Jan2009_update.pdf) (last accessed 27 November 2023).

<sup>13</sup> Note that the findings of these consultations are not available to us.

<sup>14</sup> Smithers & Co (2006), 'Report on the Cost of Capital', 1 September, Section 9, [https://www.ofgem.gov.uk/sites/default/files/docs/2006/09/15576-smithers\\_co\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2006/09/15576-smithers_co_0.pdf) (last accessed 27 November 2023).

<sup>15</sup> Ofwat (2022), 'Creating tomorrow, together: Our final methodology for PR24— Appendix 10 Aligning risk and return', December, p. 48.

This note focuses on the **indirect costs** of equity financing—specifically under-pricing—and how those translate into a higher expected rate of return.

The remainder of this report is structured as follows:

- in section 2, we review the academic literature on the costs of raising new equity;
- in section 3, we outline our methodology;
- in section 4, we present our results and their implications;
- in section 5, we arrive at our conclusions.

## 2 Literature review

Costs of raising new equity can be split into direct costs and indirect costs, the latter being the focus of this report. In this section, we review the academic literature on each, starting with direct costs.

### 2.1 Direct costs

In a comprehensive public study for the European Commission on the functioning of primary and secondary equity markets in the EU-27 and the UK, Oxera found that direct costs of equity issuance typically amount to 8% of gross proceeds for IPOs, with underwriting fees accounting for c. 5%, consultancy/legal/advisory fees for c. 2%, communication fees for c. 1%, and prospectus and listing fees for less than 1%.<sup>16</sup>

However, these results also hold true for SEOs by publicly listed companies. For instance Brealey, Myers, Allen and Edmans (2022) found underwriting of fees between 3% and 6% for SEOs.<sup>17</sup> Assessing SEOs in the UK, Slovin, Sushka and Lai (2000) found an average of 6.1% for direct fees,<sup>18</sup> and Arnold (2005) pointed to an underwriting fee range of 5–12% depending on the size of the issue.<sup>19</sup> Most recently, Levis, Meoli and Migliorati (2014) showed average direct expenses of 7.11% for open SEO offers in the UK between 2007 and 2010.<sup>20</sup> They also found underwriter fees being higher for smaller issuances. However, Altinkılıç and Hansen (2000) pointed to a U-shaped relation of issue size and underwriting fees, where economies of scale turn into diseconomies of scale at some point with rising issue sizes.<sup>21</sup>

### 2.2 Indirect costs

While there is a vast, and well-established academic literature on the costs of raising equity, evidence on indirect costs of seasoned equity

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<sup>16</sup> Oxera (2020), 'Primary and secondary equity markets in the EU', November, Figure 4.5, <https://www.oxera.com/wp-content/uploads/2020/11/Oxera-study-Primary-and-Secondary-Markets-in-the-EU-Final-Report-EN-1.pdf> (last accessed 15 January 2024).

<sup>17</sup> Brealey, R., Myers, S., Allen, F. and Edmans, A. (2022), *Principles of Corporate Finance*, 14th edition, McGraw-Hill Education, pp. 409 and 418.

<sup>18</sup> Slovin, M., Sushka, M. and Lai, K. (2000), 'Alternative flotation methods, adverse selection, and ownership structure: evidence from seasoned equity issuance in the U.K', *Journal of Financial Economics*, August, **57**:2, pp. 157–190.

<sup>19</sup> Arnold, G. (2005), *Corporate Financial Management*, third edition, FT Prentice Hall, p. 461.

<sup>20</sup> Levis, M., Meoli, M. and Migliorati, K. (2014), 'The rise of UK Seasoned Equity Offerings (SEOs) fees during the financial crisis: The role of institutional shareholders and underwriters', *Journal of Banking & Finance*, November, **48**, pp. 13–28.

<sup>21</sup> Altinkılıç, O. and Hansen, R.S. (2003), 'Discounting and underpricing in seasoned equity offers', *Journal of Financial Economics*, August, **69**: 2, pp. 285–323.

offerings by utilities is limited. This research gap is highlighted when focusing on studies including equity offerings outside the USA or SEOs within the last two decades. Nevertheless, we summarise the academic discourse around under-pricing of SEOs.

Asquith and Mullins (1986) were among the first to assess under-pricing of SEOs. Their sample encompassed US SEOs between 1963 and 1981 with about half the sample SEOs conducted by utilities. While they found lower discounts for equity issuances by utilities compared to industrials, they still documented that under-pricing exists even for utility issuances.<sup>22</sup>

Following on from Asquith and Mullins (1986), Corwin (2003) assessed SEOs between 1980 and 1998, once again limited to the USA but excluding utility SEOs. He found an average under-pricing of 2.2% and noted that this discount increased over his sample period leading to an average under-pricing of 2.92% for US SEOs between 1990 and 1998 compared to only 1.15% in the 1980s.<sup>23,24</sup>

This trend of under-pricing increasing over time is underpinned by the research of Gao and Ritter (2010), who presented an average discount of 3.4% for fully marketed deals within their sample of US SEOs between 1996 and 2007.<sup>25</sup>

Bowen, Chen and Cheng (2008) also found an average under-pricing above 2% in their study of US SEOs between 1981 and 2000. As most studies exclude utilities, it is noteworthy that their finding of on average 2.38% was based on a sample consisting of about 8% utility SEOs.<sup>26</sup>

Further research on indirect costs of SEOs past 2007 is limited. This is especially the case when looking for recent estimates of under-pricing related to utility SEOs. One reason for this could be the presumption of utilities being subject to lower total issuance costs, as stated by Fu and

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<sup>22</sup> Asquith, P. and Mullins, D.W. (1986), 'Equity Issues and Offering Dilution', *Journal of Financial Economics*, **15**:1-2, pp. 61–89.

<sup>23</sup> All discounts presented in this sub-section are in reference to the previous day's closing price.

<sup>24</sup> Corwin, S. (2003), 'The Determinants of Underpricing for Seasoned Equity Offers', *The Journal of Finance*, **58**:5, September, pp. 2249–2279.

<sup>25</sup> Gao, X. and Ritter, J. (2014), 'The marketing of seasoned equity offerings', *Journal of Financial Economics*, July, **97**:1, pp. 33–52.

<sup>26</sup> Bowen, R. M., Chen, X., Cheng, Q. (2008), 'Analyst Coverage and the Cost of Raising Equity Capital: Evidence from Underpricing of Seasoned Equity Offerings', *Contemporary Accounting Research*, **25**:3, pp. 657–700.

Smith (2022).<sup>27</sup> However, this presumption is in need of support in the form of empirical evidence.

In conclusion, the current academic consensus is an under-pricing range of about 2–3%. However, this level is mostly based on evidence from before 2008 and non-UK data, therefore a more extended analysis in addition to the academic context is required.

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<sup>27</sup> Fu, F. and Smith, C. (2022), 'Strategic Financial Management Part II: Seasoned Equity Offerings, Corporate Payout Policy, and the Case of Regulated Utilities', *Journal of Applied Corporate Finance*, **34**:3, pp. 22–34.

## 3 Methodology

In this section, we outline our approach to analysing SEO under-pricing. First, we define how we have measured the discount. Second, we discuss the sample construction. Third, we detail the necessary steps for data cleaning.

### 3.1 Determination of under-pricing

Under-pricing in SEOs can be directly calculated relative to the stock price to which outstanding shares are traded on the secondary market. Following the academic literature (see, for example, Corwin (2003)<sup>28</sup>), we have focused on the closing price as a reference price. The discount is then given as:

$$\text{discount} = \frac{\text{closing price} - \text{offer price}}{\text{closing price}}$$

In contrast to initial public offerings (IPOs), SEOs offer the opportunity to use reference prices before the issuance of new equity. Therefore, it is common practice in empirical research to use the previous day's closing as the reference price to determine under-pricing in SEOs (see, for example, Corwin (2003),<sup>29</sup> Gao and Ritter (2010),<sup>30</sup> and Bowen, Chen and Cheng (2008)<sup>31</sup>). In line with the literature, our main measure of under-pricing is based on the previous day's closing price. In addition, we have calculated under-pricing relative to the closing price on the day of issuance, one day after the issuance and  $\pm 7$  days of the SEO.

Further, to support the robustness of our results, we have conducted the analyses presented in this report based on mid-prices with similar results.

### 3.2 Sample construction

As discussed in section 2.2, there is a lack of academic evidence for under-pricing in recent years, particularly in the UK. Thus, we have collected data on SEOs in the UK between 1 January 2004 and

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<sup>28</sup> Corwin, S. (2003), 'The Determinants of Underpricing for Seasoned Equity Offers', *The Journal of Finance*, **58**:5, September, pp. 2249-2279.

<sup>29</sup> Corwin, S. (2003), 'The Determinants of Underpricing for Seasoned Equity Offers', *The Journal of Finance*, **58**:5, September, pp. 2249-2279.

<sup>30</sup> Gao, X. and Ritter, J. (2014), 'The marketing of seasoned equity offerings', *Journal of Financial Economics*, July, **97**:1, pp. 33-52.

<sup>31</sup> Bowen, R. M., Chen, X., Cheng, Q. (2008), 'Analyst Coverage and the Cost of Raising Equity Capital: Evidence from Underpricing of Seasoned Equity Offerings', *Contemporary Accounting Research*, **25**:3.

31 January 2024 and composed three samples based on the type of issuer.<sup>32,33</sup>

- 1 SEOs by regulated utilities;
- 2 SEOs by utilities according to Bloomberg's company classification;
- 3 SEOs by companies listed in the FTSE 100.<sup>34</sup>

We observed eight SEOs by the regulated utilities Severn Trent, Scottish and Southern Energy, National Grid, United Utilities and Pennon Group. It is worth noting that this is a comprehensive sample of all SEOs by regulated utilities in the UK that are presently publicly listed, over the last two decades.

Extending this sample to all listed utilities in the UK according to Bloomberg's definition leads to 59 SEOs by 19 companies. While the academic literature often excludes utilities when assessing SEO underpricing as it is deemed substantially different from that in other sectors, we consider there to be merit in specifically building and analysing this comprehensive sector sample.

Lastly, the sample based on the FTSE 100 encompasses 246 SEOs by 77 listed companies. This sample can be primarily deemed as a cross check with academia as such general non-sector-specific samples are typically used in broad academic studies assessing SEO underpricing. Hence, finding underpricing in this sample in line with the current academic consensus of 2–3% (see section 2.2) would corroborate our approach.

### 3.3 Data cleaning

As the collected data covers a long time horizon and screening it reveals some apparent data errors, such as economically impossible discounts of less than -100%, we have applied some necessary data-cleaning steps.

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<sup>32</sup> We consider an issuance to be an SEO where Bloomberg describes the offer type as 'ADDL' and it can be described as either a 'Primary' or 'Secondary' offering.

<sup>33</sup> While we have excluded all issuances that are explicitly described as 'Rights Issues' by Bloomberg, we note that there are some SEOs described as 'ADDL' by Bloomberg which may be considered 'Rights Issues', such as the United Utilities issuance in 2005. See United Utilities (2024), 'Share price history', <https://www.unitedutilities.com/corporate/investors/shareholders/shareholder-information/share-price-history/#:~:text=The%20two%20stage%20rights%20issue,of%20280p%20per%20A%20share.> (last accessed 5 February 2024).

<sup>34</sup> We considered the constituents of the FTSE 100 index as of 2 February 2024.

It is outside the scope of this study to individually assess each outlier; hence, we have excluded them based on the following criteria.

- 1 SEOs with incomplete or apparent data errors.<sup>35</sup>
- 2 Issuances where the number of new shares issued is greater than 20% of the number of outstanding shares removed, in line with FRC guidance.<sup>36,37</sup>
- 3 Observations postulating a discount of  $\pm 50\%$ . While some of these outliers might not be due to erroneous data, extreme discounts beyond these limits are, arguably, the result of SEO-specific characteristics, such as material positive or negative information accompanying the event or stock splits.

The impact of these exclusion criteria on our three samples is illustrated in Table 3.1.

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<sup>35</sup> We consider an SEO to have incomplete data where there is no closing price or mid-price available for the date of issuance,  $\pm 1$  day and  $\pm 7$  days of the SEO. We consider apparent data errors to be where the offer price is £0, the number of outstanding shares is 0, or the number of shares issued is 0.

<sup>36</sup> The Pre-Emption Group (PEG) of the Financial Reporting Council (FRC) recommended that during the coronavirus period, 'investors, on a case-by case basis, consider on a temporary basis supporting issuances by companies of up to 20% of their issued capital'. While this period of additional flexibility came to an end on 30 November 2020, we have remained conservative and only excluded SEOs for which the size of issuance is  $>20\%$ . See FRC (2020), 'Pre-emption Group expectations for issuances in the current circumstances', 1 April, [Pre-Emption Group expectations for issuances in the current circumstances \(frc.org.uk\)](https://www.frc.org.uk/pre-emption-group-expectations-for-issuances-in-the-current-circumstances) (last accessed 2 February 2024). While we note that the 'Statement of Principles' published by the PEG are guidelines rather than regulations, we note that Hogan Lovells found that most FTSE 100 firms that published AGMs in 2023 followed PEG guidelines. See Hogan Lovells (2023), 'Pre-emption Group's revised statement of principles', 28 April, <https://www.engage.hoganlovells.com/knowledgeservices/news/pre-emption-groups-revised-statement-of-principles-emerging-trends-from-this-years-agms> (last accessed 5 February 2024). See also Appendix A1 for robustness checks, which show that increasing the relative size of the issuance has a minimal effect on the median discount rate.

<sup>37</sup> We have calculated the number of new shares issued as  $(\text{Offer Size (£m)} / \text{Offer Price})$ , and the number of outstanding shares has been taken from Bloomberg, 7 days after the date of issuance. The relative size of the issuance is calculated as  $(\text{number of shares issued} / \text{number of shares outstanding 7 days after issuance})$ .



**Table 3.1** Impact of outlier treatment on samples

	Regulated utilities	Utilities	FTSE 100
Initial data	8/5	59/19	246/77
Incomplete data	8/5	44/16	238/74
New shares ratio < 20%	8/5	31/15	210/72
Discount $\pm 50\%$	7/4	30/14	193/67

Note: The table shows the number of SEOs / issuers remaining in each sample after consecutively applying each filtering criterion.

Source: Oxera analysis based on Bloomberg data.

In the regulated utilities sample, only one observation was affected by the outlier treatment. The SEO in question, by United Utilities Group plc, exhibited a discount of 61.42% and was conducted as a two-stage rights issue, where the first stage took place before our sample period in September 2003 and only the second stage in July 2005 was included in our data. In addition, United's stocks were subject to a share conversion from A shares to ordinary shares.<sup>38</sup> Hence, we are confident that the United SEO should indeed be excluded from the sample.

While about half of the observations in the general utilities sample have been removed, this was mainly due to incomplete data and offer size restriction. Following these two steps, only one observation remains where we deem the calculated discount questionable, which is the United SEO discussed above.

Lastly, out of all outliers we excluded from the FTSE 100 sample on the basis of showcasing extreme outliers, only six had been conducted since January 2013 and all of them were discounts of smaller/greater than  $\pm 99\%$ . This is a clear indication that data quality has improved over time.

The applied criteria to exclude outliers are based on a thorough investigation of the underlying data and prevailing guidance regarding the offer size. Nevertheless, we critically assessed them as laid out in section A1.1.

<sup>38</sup> United Utilities (2024), 'Share price history', <https://www.unitedutilities.com/corporate/investors/shareholders/shareholder-information/share-price-history/#:~:text=The%20two%20stage%20rights%20issue,of%20280p%20per%20A%20share.> (last accessed 5 February 2024).

## 4 Results and implications

In this section, we present the results for each of our samples of SEOs by regulated utilities, utilities, and issuers listed in the FTSE 100. In subsection 4.4 we compare the findings within the different samples and highlight the implications. Our main analysis focuses on SEO discounts relative to the previous day's closing price. The robustness of the results with regard to data cleaning and SEO-specific parameters, such as issue size and type, is discussed in Appendix A1.

### 4.1 Regulated utilities

Our sample of SEOs by regulated utilities covers all issuances by current UK-listed regulated utilities covered in Bloomberg data between 1 January 2004 and 31 January 2024.<sup>39</sup> As shown in Table 4.1, we have found mean (median) under-pricing of 9.46% (5.08%). The interquartile range spans from 2.60% to 9.74%. The results strongly point to an under-pricing range for regulated utilities above the 2–3% consensus from the academic literature, based on broader samples. The deviation of the mean from the median and the high standard deviation is mainly driven by a single SEO by Pennon Group plc in 2015, which exhibits a discount of 34.21%. As discussed in section A1.1, relaxing the criteria for outlier treatment would lead to an increase in the observed discount.

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<sup>39</sup> As discussed in section 3.3, we have removed one outlier observation on the basis of a very large discount. An overview of the issuances included after data cleaning is presented in Appendix A2.

**Table 4.1 Under-pricing in regulated utility SEOs**

	<b>T-7</b>	<b>T-1</b>	<b>T</b>	<b>T+1</b>	<b>T+7</b>
Number of SEOs			7		
Number of companies			4		
Mean size (£m)			357.41		
Mean	8.97%	9.46%	9.04%	9.02%	8.70%
Standard dev.	11.48%	11.25%	11.36%	11.80%	12.82%
25th percentile	1.87%	2.60%	2.55%	2.08%	1.74%
Median	5.58%	5.08%	3.69%	5.06%	5.16%
75th percentile	11.34%	9.74%	9.60%	9.51%	10.13%

Note: Discounts have been calculated as outlined in section 3.1, with closing prices ranging from -7 to +7 days from the date of issuance. Outliers have been removed as outlined in section 3.3.

Source: Oxera analysis based on Bloomberg data.

## 4.2 Utilities

In a next step, we have analysed under-pricing in the broader sample of companies, defined as utilities by Bloomberg. After the removal of outliers, this comprehensive sample of SEOs by listed UK utilities consists of 30 SEOs by 14 issuers. Results are presented in Table 4.2 below. Here, we observe mean (median) under-pricing of 7.70% (4.54%). The interquartile range of 1.50–11.25% spans a wide range within the sample; however, we note that the spread is, once again, located largely above the range of 2–3% consensus from the academic literature (see section 2.2). As with the regulated utilities sample, both the mean-median-difference and the dispersion of the results are mainly due to two observations with high discounts, which are however still within outlier limits. Once again, robustness checks on the data cleaning reveal that relaxing the cut-offs for outliers increases the observed discounts (see section A1.1).

**Table 4.2 Under-pricing in utility SEOs**

	<b>T-7</b>	<b>T-1</b>	<b>T</b>	<b>T+1</b>	<b>T+7</b>
Number of SEOs			30		
Number of companies			14		
Mean size (£m)			156.39		
Mean	8.19%	7.70%	6.40%	6.39%	6.83%
Standard dev.	9.67%	10.75%	8.75%	9.32%	10.20%
25th percentile	1.25%	1.50%	1.51%	1.39%	1.09%
Median	5.74%	4.54%	3.88%	5.01%	6.06%
75th percentile	11.43%	11.25%	9.22%	8.59%	10.38%

Note: Discounts have been calculated as outlined in section 3.1, with closing prices ranging from -7 to +7 days from the date of issuance. Outliers have been removed as outlined in section 3.3.

Source: Oxera analysis based on Bloomberg data.

### 4.3 Listed companies

Finally, we have assessed under-pricing in SEOs by companies listed in the FTSE 100. This is the broadest sample in our study, with 193 issuances by 67 companies. Here, we found mean (median) under-pricing of 2.85% (2.65%) (see Table 4.3 below). As this is in line with the current academic view on SEO under-pricing (i.e. 2–3%, see section 2.2), our methodology in terms of the discount calculation and outlier treatment is corroborated. These results are robust to variations in the outlier treatment, which shift the median only marginally (see section A1.1).

**Table 4.3 Under-pricing in FTSE 100 SEOs**

	<b>T-7</b>	<b>T-1</b>	<b>T</b>	<b>T+1</b>	<b>T+7</b>
Number of SEOs			193		
Number of companies			67		
Mean size (£m)			539.72		
Mean	2.21%	2.85%	3.09%	2.90%	1.65%
Standard dev.	9.82%	9.38%	9.12%	9.31%	10.34%
25th percentile	-1.89%	-0.41%	0.25%	0.31%	-2.02%
Median	1.79%	2.65%	2.69%	2.54%	1.30%
75th percentile	6.02%	6.22%	6.18%	5.08%	5.14%

Note: Discounts have been calculated as outlined in section 3.1, with closing prices ranging from -7 to +7 day from the date of issuance. Outliers have been removed as outlined in section 3.3.

Source: Oxera analysis based on Bloomberg data.

#### **4.4 Sample comparison and implications**

An overview of the observed discounts relative to the previous day's closing price across all samples is given in Table 4.4. While the comprehensive samples of SEOs by regulated utilities and by all listed utilities in the UK exhibit very similar discounts, the discount in the broader sample of SEOs by all companies listed in the FTSE is materially lower. This evidence runs counter to the presumption that utilities will issue at smaller discounts than the average company.

The finding of material discounts is robust across all samples, i.e. new shares selling at a price that is less than the prevailing market level prior to the SEO announcement.<sup>40</sup> As outlined in section 1.1, this under-pricing represents a cost borne by existing shareholders.

<sup>40</sup> For a discussion of the conducted robustness tests, see Appendix A1.

**Table 4.4** Comparison of discounts in all samples

Sample	Regulated utilities	Utilities	FTSE 100
Number of SEOs	7	29	193
Number of issuers	4	14	68
Mean discount	9.46%	7.70%	2.85%
Median discount	5.08%	4.54%	2.65%

Note: Discounts have been calculated as outlined in section 3.1, relative to the previous day's closing price. Outliers have been removed as outlined in section 3.3.

Source: Oxera analysis based on Bloomberg data.

These recent findings suggest that a reassessment of the 5% allowance for new equity issuance granted under RIIO-2 is required for RIIO-3, as the previous level falls short of not only the direct costs of equity issuance but also the likely indirect costs of SEOs.

In fact, based on the high variance in the observed discounts, we derive the appropriate range for a specific indirect cost allowance to be 2.6–9.7% (with a mid-point of 5.1%). This range reflects the interquartile range (and median as the mid-point) of observed discounts relative to the previous day's closing price in the regulated utilities sample (see Table 4.1).

## 5 Conclusion

In this report, we have analysed the direct and indirect costs of issuing new equity in SEOs, with a focus on indirect costs, to inform an appropriate allowance for equity issuances under RIIO-3 and make a new contribution to broader economic research in this area. We have outlined the types of costs, the regulatory precedent, and conducted a thorough academic literature review.

We highlight that Ofgem previously granted an allowance of 5% in RIIO-2 and has encouraged the submission of evidence on its proposed methodology, including an appropriate equity issuance cost allowance, for RIIO-3.

We have presented evidence that direct costs alone account for at least 5% and potentially up to 12% of total equity raised. Moreover, our review of the academic literature has highlighted empirical research indicating a range of 2–3% for indirect costs, based primarily on non-utilities.

To expand on the literature and provide more relevant analysis for the UK regulated utility context, we have conducted primary analysis on SEO under-pricing.

Our analysis has considered available data from Bloomberg on SEOs by regulated utilities, utilities and FTSE 100 companies for the time period 1 January 2004 and 31 January 2024.<sup>41</sup> We have focused on three samples to measure under-pricing of SEOs: regulated utilities, utilities and FTSE 100 stocks. Our findings suggest mean (median) under-pricing of 9.48% (5.12%) for regulated utilities, 7.93% (5.08%) for utilities, and 2.85% (2.65%) for FTSE 100 constituents. These findings are corroborated by a series of robustness checks.

Overall, our analysis and review of the literature suggests a **direct cost allowance** for new equity issuance of **at least 5%** plus an **additional indirect cost allowance** for new equity issuance under RIIO-3 in the range of **2.6–9.7%** (with a **mid-point of 5.1%**).

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<sup>41</sup> All analyses are based on FTSE 100 constituents and companies identified as utilities and regulated utilities as of 2 February 2024.

# A1 Robustness checks

We have conducted a series of robustness checks to corroborate our results. These included testing the sensitivity of our results with regard to the data cleaning and with potentially confounding parameters of SEOs. The latter encompassed a comparison of primary and secondary offerings, and an assessment of the extent to which under-pricing is dependent on the issue size and credit rating of the issuer at the time of issuance. Results of these checks are presented in section 4.

## A1.1 Sensitivity to data cleaning

Our main results are based on samples, which were refined to remove outliers in two steps, as described in section 3.3:

- we excluded SEOs where the number of new shares issued is greater than 20% of the number of outstanding shares;
- we excluded SEOs with a discount of more/less than  $\pm 50\%$ .

As we acknowledge that the steps above reduced the number of observations in the underlying dataset, particularly in step 2, and require us to set specific cut-offs, we have conducted two sets of additional analyses that loosen the filtering criteria:

- relaxing the cut-off criterion on issue size to only exclude SEOs where the number of new shares issued is greater than 40% of the number of outstanding shares;
- relaxing the cut-off criterion for discounts to only exclude observations with discounts of more/less than  $\pm 100\%$ .

Results for each sample are presented in Table A1.1 to Table A1.3. The regulated utilities sample is minimally affected by the outlier treatment. If the discount criterion is relaxed, however, the median discount rises to 6.61% from 5.08%.

Similarly, widening the cut-off criteria in the utilities sample leads to an increase in the median discount from 4.54% to 5.21% depending on the criteria relaxed. Finally, the median discount varies by less than 5bps due to changes in the cut-off criteria. Therefore, the median as well as the quartiles of our results are only weakly affected by changes in the outlier treatment. In fact, the median rises with less strict removal of outliers.



Lastly, the median discount in the sample of FTSE 100 issuers is robust to variations in the outlier treatment and moves by less 5bps across our tests.

**Table A1.1 Discounts in regulated utilities SEOs with relaxed outlier treatment**

<b>Sample</b>	<b>&lt;20% size / ± 50% discount</b>	<b>&lt;40% size / ± 50% discount</b>	<b>&lt;20% size / ± 100% discount</b>
Number of SEOs	7	7	8
Number of issuers	4	4	5
25th percentile	2.60%	2.60%	2.95%
Median discount	5.08%	5.08%	6.61%
75th percentile	9.74%	9.74%	28.09%

Note: Discounts have been calculated as outlined in section 3.1 relative to the previous day's closing price. Outliers have been removed as outlined in the column headings. The sample used is SEOs by regulated utilities.

Source: Oxera analysis based on Bloomberg data.

**Table A1.2 Discounts in utilities SEOs with relaxed outlier treatment**

<b>Sample</b>	<b>&lt;20% size / ± 50% discount</b>	<b>&lt;40% size / ± 50% discount</b>	<b>&lt;20% size / ± 100% discount</b>
Number of SEOs	30	34	31
Number of issuers	14	14	15
25th percentile	1.50%	1.92%	1.54%
Median discount	4.54%	5.21%	5.08%
75th percentile	11.25%	12.01%	11.67%

Note: Discounts have been calculated as outlined in section 3.1 relative to the previous day's closing price. Outliers have been removed as outlined in the column headings. The sample used is SEOs by utilities.

Source: Oxera analysis based on Bloomberg data.

Table A1.3 Discounts in FTSE 100 SEOs with relaxed outlier treatment

Sample	<20% size / $\pm$ 50% discount	<40% size / $\pm$ 50% discount	<20% size / $\pm$ 100% discount
Number of SEOs	193	202	199
Number of issuers	67	67	70
25th percentile	-0.41%	-0.27%	-0.46%
Median discount	2.65%	2.69%	2.66%
75th percentile	6.22%	6.23%	6.52%

Note: Discounts have been calculated as outlined in section 3.1 relative to the previous day's closing price. Outliers have been removed as outlined in the column headings. The sample used is SEOs by companies listed in the FTSE 100.

Source: Oxera analysis based on Bloomberg data.

## A1.2 Impact of SEO parameters

In order to address concerns about whether specific aspects of SEOs are the true drivers of under-pricing, we detail the following.

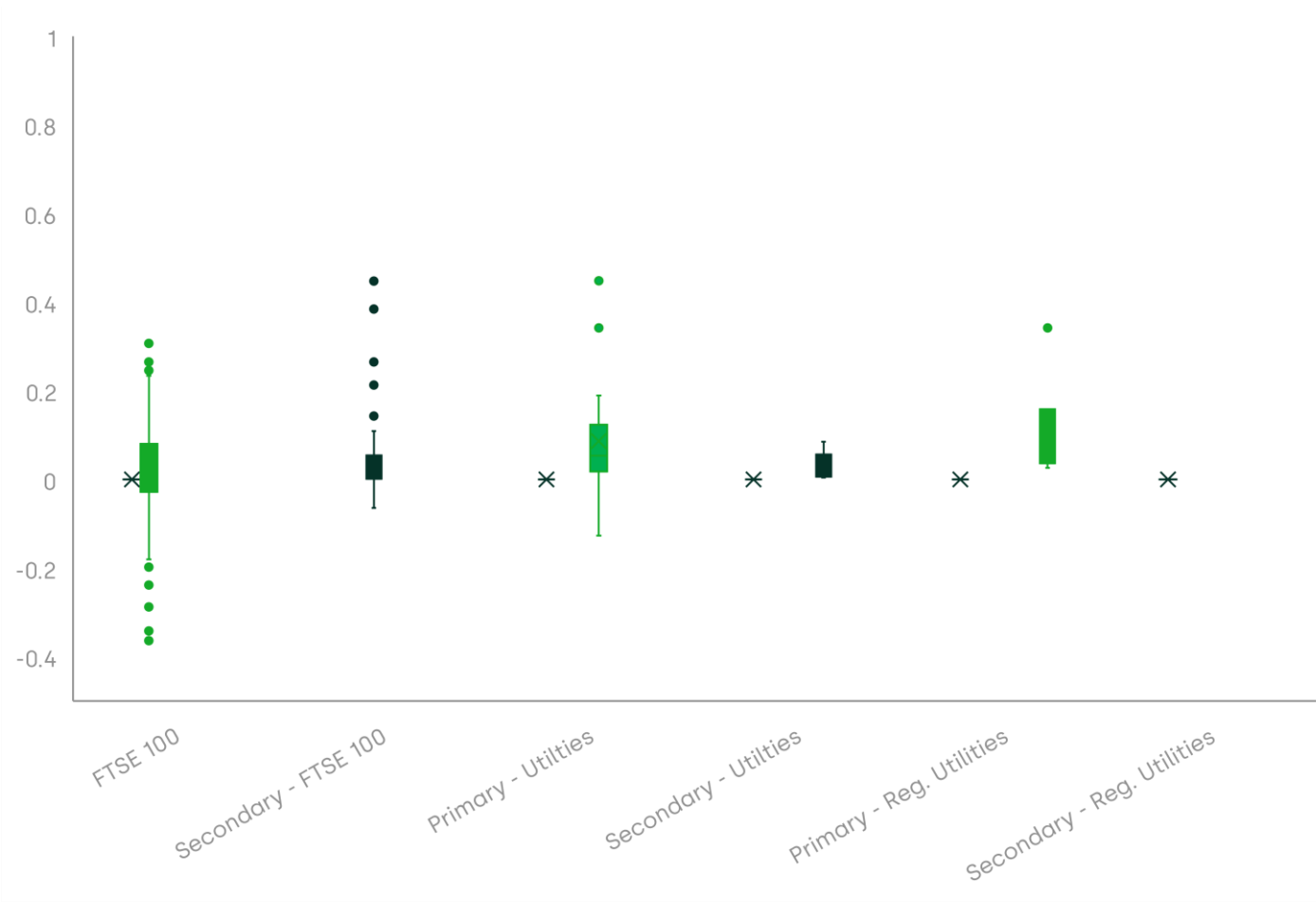
- Issue type—our base results are based on samples, which include primary and secondary SEOs. As only primary offerings involve the issuance of additional new shares by a listed company that cause dilution, we also show discounts by type of issuance in Figure A1.1.
- Size of issuance—according to the literature, the size of the discount may depend on issue size (akin to scale effects of issuances). Hence, we assess this relationship based on absolute and relative size of the issuance. The results of this analysis are shown in Figure A1.2 and Figure A1.3.
- Creditworthiness—it is reasonable to assess whether the level of the under-pricing may depend on the financial health of the issuer. This is because investors might require a higher required rate of return (through a higher discount) to invest in new shares of less creditworthy (or non-credit-rated companies) than companies that have a more stable outlook due to higher risk premia or concerns about asymmetric information. As a result, we show a comparison of discounts for investment-grade, non-investment-grade and non-credit-rated companies in sub-section A1.2.3.

### A1.2.1 Issue type

To assess the impact of issue type on under-pricing, we show the discounts in our samples by issue type, i.e. primary versus secondary SEOs, in . We have not found evidence that the inclusion of secondary

SEOs in our main results is distorting the findings. In fact, secondary SEOs tend to demonstrate lower discounts, and therefore their inclusion is directionally conservative on the results of our analysis.

Figure A1.1 Discounts by issue type

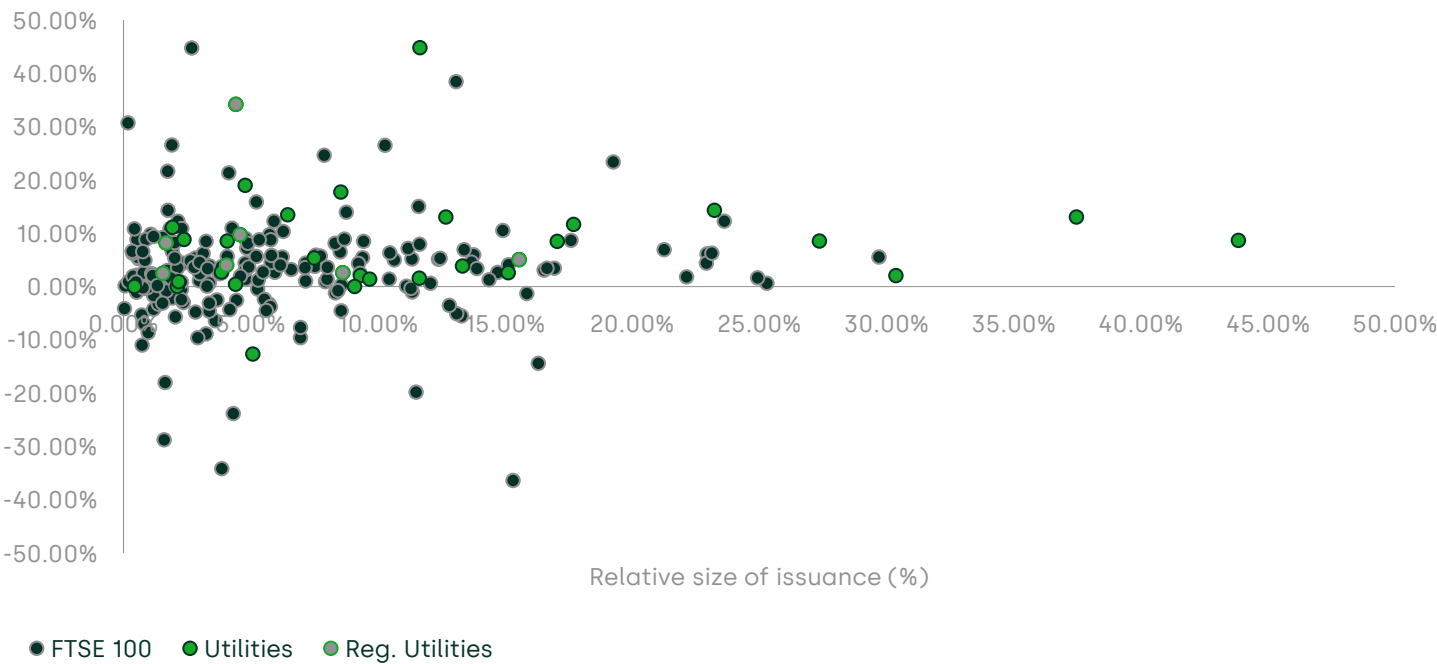


Note: The figure shows boxplots of the discount relative to the previous day's closing price by sample and issue type.  
Source: Oxera analysis based on Bloomberg data.

A1.2.2 Size of issuance

To assess the impact of the size of the SEO on under-pricing we show the discounts in our samples relative to both the relative and absolute size of the SEO (see Figure A1.2 and Figure A1.3, respectively). We have not found a meaningful impact of the size of the issuance on the under-pricing of the SEO with respect to both the absolute and the relative size of the issuance.

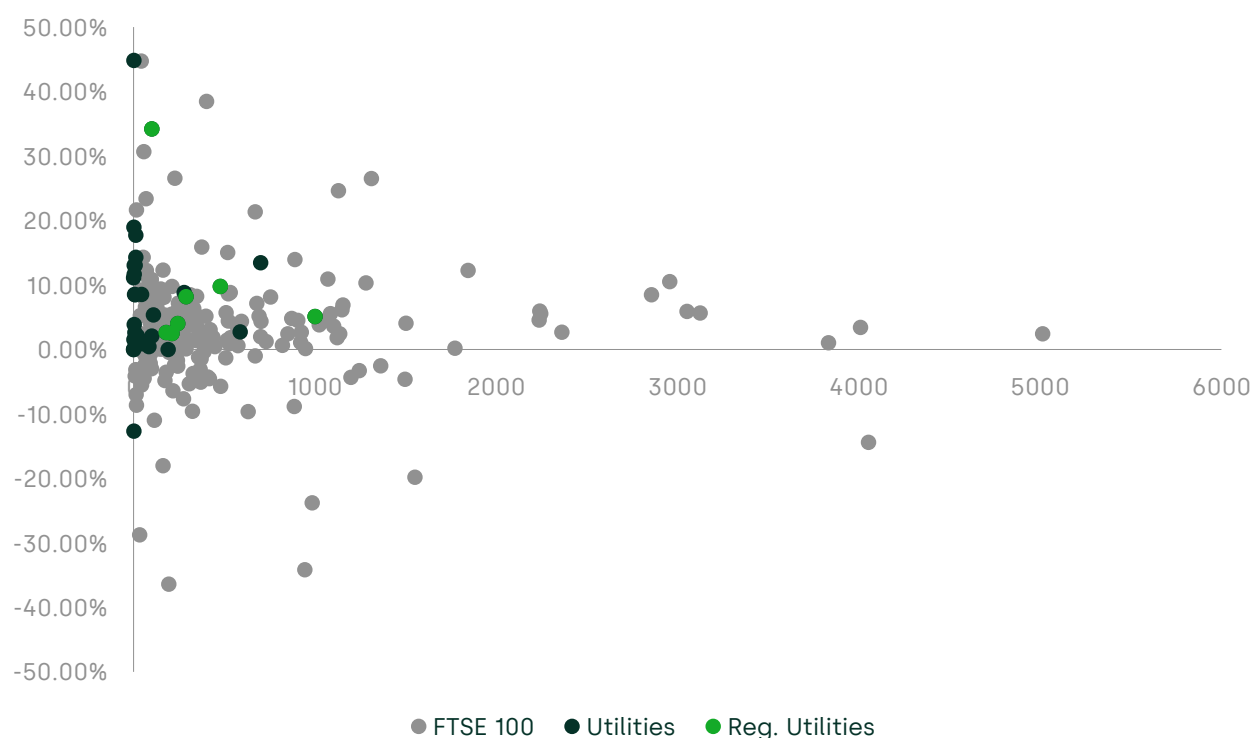
Figure A1.2 Under-pricing relative to the relative size of the issuance



Note: The figure shows discount on each SEO relative to the previous day's closing price (X axis) in relation to the relative issue size (Y axis). The relative size of the issuance is calculated as *(number of shares issued/number of shares outstanding 7 days after issuance)*. We only show SEOs for which the relative size < 50% and the absolute value of the discount < 50%.

Source: Oxera analysis based on Bloomberg data.

Figure A1.3 Under-pricing relative to the absolute size of the issuance



Note: The figure shows the discount on each SEO relative to the previous day's closing price (X axis) in relation to the absolute issue size (Y axis). The relative size of the issuance has been calculated as *(number of shares issued / number of shares outstanding 7 days after issuance)*. We only show SEOs for which the absolute value of the discount is < 50%.

Source: Oxera analysis based on Bloomberg data.

### A1.2.3 Creditworthiness/sensitivity

To assess the impact of the credit rating of the issuer at the time of issuance on under-pricing, we show the discounts in our samples relative to whether they have an investment-grade credit rating or no credit rating (see Figure A1.4 and Figure A1.5).<sup>42</sup> We are unable to compare against non-investment-grade-rated firms as we do not observe any SEOs from firms that have a non-investment-grade rating.

#### Regulated utilities

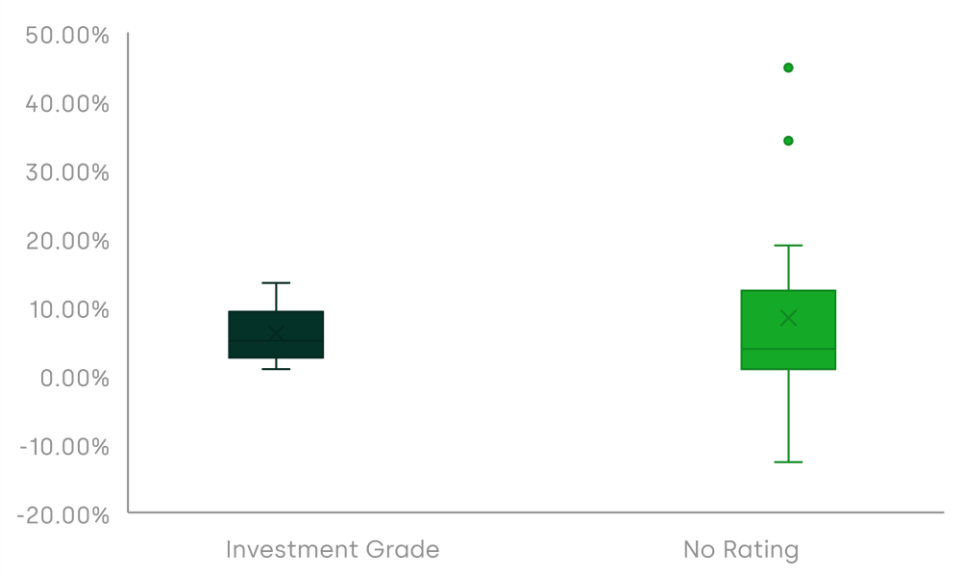
In our sample of seven SEOs, five SEOs are by issuers with investment-grade credit ratings and have a median discount of 5.08% (SSE plc (2009), National Grid plc (2010), SSE plc (2013), Severn Trent plc (2021) and Severn Trent plc (2023)). The remaining two SEOs are by issuers

<sup>42</sup> We have used Standard & Poor's' long-term issue credit ratings for this analysis, and define investment-grade ratings as AAA, AA, A and BBB.

with no credit rating and have a median discount of 18.40% (Pennon Group plc (2015), Pennon Group plc (2024)). The reason for this difference is the discount of 34.21% by Pennon Group, which does not have a credit rating, in 2015.

Utilities

Figure A1.4 Under-pricing in UK utility issuances relative to the issuer's credit rating

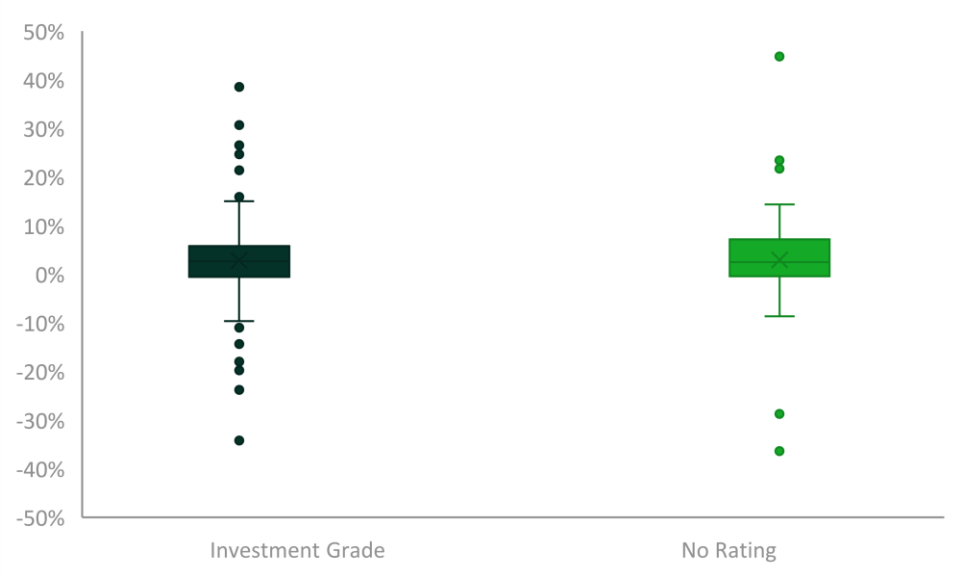


Note: The figure shows the discount on each SEO relative to the previous day's closing price (X axis) in relation to the absolute issue size (Y axis). The relative size of the issuance has been calculated as *(number of shares issued/ number of shares outstanding 7 days after issuance)*. We only show SEOs for which the absolute value of the discount is < 50%.  
Source: Oxera analysis based on Bloomberg data.

In our sample of UK utility issuances we have not found a meaningful impact of the availability of a credit rating on the under-pricing of an SEO. Our median for issuances by investment-grade companies is 5.08% relative to a median of 3.85% for issuances by companies with no credit rating. One possible explanation for this is that the pool of companies with no rating comprise companies with different levels of creditworthiness (i.e. companies are not obliged to obtain a credit rating) and therefore, we do not observe a meaningful difference in the under-pricing between the samples.

Listed companies

Figure A1.5 Under-pricing in FTSE 100 issuances relative to the issuer's credit rating



Note: The figure shows the discount on each SEO relative to the previous day's closing price (X axis) in relation to the absolute issue size (Y axis). The relative size of the issuance has been calculated as *(number of shares issued/ number of shares outstanding 7 days after issuance)*. We only show SEOs for which the absolute value of the discount is < 50%.  
Source: Oxera analysis based on Bloomberg data.

In our sample of FTSE 100 issuances, we have not found a meaningful impact of the availability of a credit rating on the under-pricing of an SEO. Our median for issuances by investment-grade companies is 2.66% relative to a median of 2.47% for issuances by companies with no credit rating.

## A2 Case studies of regulated utility SEOs

This appendix presents brief case studies of the seven SEOs by regulated utilities remaining in our sample after data cleaning (see section 3.3). In Table A2.1, we show the date of each issuance, the name of the issuer and the discount on the previous day's closing price.

Table A2.1 Overview of SEOs by regulated utilities

Announced date	Issuer name	Discount on closing price (T-1)
07/01/2009	SSE plc	9.74%
14/06/2010	National Grid plc	8.15%
21/10/2013	SSE plc	2.48%
16/04/2015	Pennon Group plc	34.21%
19/05/2021	Severn Trent plc	4.00%
29/09/2023	Severn Trent plc	5.08%
10/01/2024	Pennon Group plc	2.60%

Note: The discount on closing price has been calculated based on the closing price on the day before the SEO (T-1).

Source: Oxera analysis based on Bloomberg data.

### SSE plc—07/01/2009

On 7 January 2009, SSE plc, a UK-based energy supplier, issued approximately 40m shares. The funds raised were intended to cover a £6.7bn investment programme and acquisitions.<sup>43</sup> We have calculated a discount on the previous day's closing price of 9.74% based on data from Bloomberg.

<sup>43</sup> SSE (2009), 'REG-Scottish & Sthn.Engy Issue of Equity', 7 January, [https://otp.tools.investis.com/clients/uk/scottish\\_southern\\_energy3/rns/regulatory-story.aspx?cid=1&newsid=2797](https://otp.tools.investis.com/clients/uk/scottish_southern_energy3/rns/regulatory-story.aspx?cid=1&newsid=2797) (last accessed 12 February 2024).



### National Grid plc—14/06/2010

On 14 June 2010, National Grid plc, announced that it had received acceptance for an issue of 932,648,512 new shares. Per the board of the company, the proceeds from the issue would allow the group to fund a significant increase in UK capital investment, continued returns for shareholders and maintaining single A credit ratings for its UK operating companies in a more volatile economic environment.<sup>44</sup> We have calculated a discount on the previous day's closing price of 8.15% based on data from Bloomberg.

### SSE plc—21/10/2013

On 21 October 2013, SSE plc, a UK-based energy supplier, issued existing equity. We have been unable to source a press release on this issuance, but we have calculated a discount on the previous day's closing price of 2.48% based on data from Bloomberg.

### Pennon Group plc—16/04/15

On 16 April 2015, Pennon Group plc, an environmental and resource management group in the UK, acquired Bournemouth Water Limited. The cash consideration for said acquisition was replenished through an equity placing raising £100.3m. We have calculated a discount on the previous day's closing price of 34.21% based on data from Bloomberg.

### Severn Trent plc—19/05/2021

On 19 May 2021, Severn Trent plc, a UK-based utility company, issued 10,420,000 new ordinary shares to raise gross proceeds of approximately £250m to fund its green recovery project.<sup>45</sup> We have calculated a discount on the previous day's closing price of 4.00% based on data from Bloomberg, which is consistent with Severn Trent's press release. Severn Trent also quoted a discount relative to the mid-market price at the time, at which the company and bookrunners agreed the offer price to be 3.2%.<sup>46</sup>

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<sup>44</sup> National Grid (2010), 'Results of Rights Issue – Global Announcement', 14 June, [https://otp.tools.investis.com/clients/uk/national\\_grid2/rns/regulatory-story.aspx?cid=374&newsid=74621](https://otp.tools.investis.com/clients/uk/national_grid2/rns/regulatory-story.aspx?cid=374&newsid=74621) (last accessed 12 February 2024).

<sup>45</sup> Severn Trent (2021), 'Results of the Placing', 19 May, [https://otp.tools.investis.com/clients/uk/severn\\_trent\\_plc/rns/regulatory-story.aspx?cid=1487&newsid=1477387](https://otp.tools.investis.com/clients/uk/severn_trent_plc/rns/regulatory-story.aspx?cid=1487&newsid=1477387) (last accessed 12 February 2024).

<sup>46</sup> Ibid.

### Severn Trent plc—29/09/2023

On 29 September 2023, Severn Trent issued approximately 47,000,000 new ordinary shares to raise gross proceeds of approximately £1bn.<sup>47</sup> We have calculated a discount on the previous day's closing price of 5.10% based on data from Bloomberg, which is consistent with Severn Trent's press release. Severn Trent also quoted a discount relative to the mid-market price at the time, at which the company and bookrunners agreed the offer price to be 7.1%.<sup>48</sup>

### Pennon Group plc—10/01/2024

On 10 January 2024, Pennon Group plc issued approximately 25,000,000 new ordinary shares, raising gross proceeds of approximately £180m. We have calculated a discount on the previous day's closing price of 2.60% based on data from Bloomberg, which is consistent with the official press release.<sup>49</sup> Pennon also quoted the discount relative to the mid-market price at the time at which the company and the bookrunners agreed the offer price to be 4.9%.<sup>50</sup>

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<sup>47</sup> Severn Trent (2023), 'Results of the Equity Issue', 29 September, [https://otp.tools.investis.com/clients/uk/severn\\_trent\\_plc/rns/regulatory-story.aspx?cid=1487&newsid=1718638](https://otp.tools.investis.com/clients/uk/severn_trent_plc/rns/regulatory-story.aspx?cid=1487&newsid=1718638) (last accessed 12 February 2024).

<sup>48</sup> Ibid.

<sup>49</sup> Pennon Group plc (2024), 'RESULTS OF EQUITY CAPITAL RAISE', 10 January, [https://otp.tools.investis.com/clients/uk/pennon\\_group\\_plc/rns/regulatory-story.aspx?cid=1167&newsid=1748033](https://otp.tools.investis.com/clients/uk/pennon_group_plc/rns/regulatory-story.aspx?cid=1167&newsid=1748033) (last accessed 16 January 2024).

<sup>50</sup> Ibid.



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A large, three-dimensional "oxera" logo is mounted on a glass wall. The letters are white with a glowing green outline. The background shows a modern office interior with white pendant lights and a wooden desk.