Valuation of ESOPs

Setting Volatility Assumption

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Introduction

- Employee Stock Option Plans (ESOPs) are the most widely used form of Equity Compensation.

- Issuance of ESOPs needs to be accounted for under **IND AS 102: Share based Payments** or **Guidance Note on Share based Payments (2020).**

- IND AS 102 requires determining **fair value of ESOPs granted**, which in turn requires using **option pricing models** such as Black Scholes Option Pricing Model to determine this fair value.

- Whilst Guidance Note gives Companies option to choose between intrinsic value approach or fair value approach, **disclosures are still required on fair value basis**.

- **Expected volatility** of the stock is one of the **key assumptions** required to estimate the **fair value** of options. It is a measure of the **amount by which share price of Company is expected to fluctuate** during a given period.

- In this article, we will discuss:

  - Why volatility assumption is **important**?
  - **Requirements under IND AS 102** in setting volatility assumption for **listed and unlisted companies**
  - Volatility of **key indices vis-à-vis individual stocks** over different time periods
  - Key takeaways

- This article would be useful for **all finance professionals as well as auditors** dealing with ESOP accounting as part of their work.

Why Volatility assumption is important?

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- IND AS 102 requires Fair Value accounting for ESOPs granted by Company. Under this, Companies need to recognize **total charge** equivalent to **(Option Price at date of grant * Number of options granted) in Income statement** over vesting period.

- **Option price** determined using Black Scholes or other option pricing models is **materially sensitive to the volatility assumption**.

Higher Assumed Volatility → *Higher charge to P&L*

Lower Assumed Volatility → *Lower charge to P&L*

Scenario	Share Price (in INR)	Exercise Price (in INR)	Assumed Expected Volatility	Option Price per ESOP (Black Scholes)	Increase in cost compared to base scenario
Base	100	100	**20%**	39.4	
1	100	100	**25%**	42.6	**8%**
2	100	100	**30%**	46.0	**17%**
3	100	100	**35%**	49.4	**25%**
4	100	100	**40%**	52.9	**34%**
5	100	100	**50%**	59.6	**51%**

As the assumed expected volatility is increased in determining the option price, the ***fair value of ESOP and consequently the charge to income statement starts going up****!*

Note: Option price has been determined using Black Scholes Option Pricing model, assuming interest rate of 6%, expected term of 7 years and 0% dividend.

Setting Volatility assumption for Listed Companies: Requirements under IND AS 102

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IND AS 102 Requirements

IND AS 102 requires volatility assumption to be**:**

- **Consistent with market data available at date of grant** i.e. to reflect market conditions at date of grant using:
  - Implied volatility of Company's traded share options or other instruments such as Convertible debt; or
  - Historical volatility of Company's share price over expected option term or generally over the period the share has traded.
- **Consistent** with volatility seen over **expected term of option.**
- **Adjusted where future volatility is expected to differ from past** due to market or Company specific factors and suitable adjustments should be made for this.

Practical Considerations

In setting the volatility assumption, following practical aspects must be considered:

- **Expected Term of Option** should be determined after allowing for:
  - Expected exercise period post the vesting schedule. Thus, different **vesting tranches** may be valued at **different expected term** and have **different option price**.
  - Overall scheme rules such as **early exercise or exercise by terminating employee** need to be allowed for at an overall level.
- **Newly listed Companies** may not have sufficient data and analysis may need to factor data of similar (peer) companies in initial years of listing.
- **Data** may need to be adjusted to **remove high volatility of Covid years** if same is not expected to repeat in future.

Volatility assumption for Unlisted Companies

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IND AS 102 Requirements

IND AS 102 requires volatility assumption for unlisted companies to be set**:**

- **Considering historical / implied volatility of similar listed companies** over expected term of option or **considering volatility of Company's own share price in past** if same has been estimated internally.
- **Using consistent methodology** as used by Company in determining its own share price i.e.:
  - If share price has been estimated referring to share price of similar listed company, volatility should be set on same basis.
  - If Company's share price has been set using other approaches, volatility on same approach may be considered such as factor expected volatility of net assets or earnings

Practical Considerations

In setting the volatility assumption, following practical aspects must be considered:

- **Choosing comparable companies** requires considering various factors such as **Industry in which Company operates, market capitalization, business model** etc.

  Like for like comparable data set **may not be available** for many **new age companies**.

- **Resultant volatility to be adjusted** for:
  - **Illiquidity consideration** of private company versus listed companies;
  - **Business model** of company where like for like comparable data set is not available.
  - Allowing for **impact of Covid** where same is not expected to repeat in future.
- Practically **difficult to asses volatility of net assets and earnings** where Company has used this approach in setting its share price.

Volatility of Indices vs. individual stocks

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Table below shows the annualized volatility of key indices vis-à-vis individual stocks for different time periods:

Particulars / Volatility Period →	1-year volatility	3-year volatility	5-year volatility	7-year volatility	10-year volatility
Volatility of Key Indices					
Sensex	16.0%	22.9%	19.1%	18.0%	17.1%
NIFTY	15.9%	22.5%	18.8%	17.9%	17.1%
NIFTY Mid Cap (100)	20.4%	23.3%	20.7%	20.0%	19.1%
NIFTY Small Cap (100)	21.7%	24.2%	22.5%	22.4%	21.5%
Volatility of certain individual stocks					
Infosys	21.0%	31.1%	28.3%	27.4%	28.3%
Reliance	24.8%	34.6%	31.0%	29.5%	28.2%
Glenmark Pharma	34.4%	44.8%	39.3%	37.3%	35.4%
RBL Bank	50.4%	61.2%	50.4%	49.1%	NA
Blue Dart	32.1%	37.3%	32.8%	31.9%	32.1%
Just Dial	50.6%	57.9%	55.0%	54.5%	NA

Note: Volatility has been calculated using publicly available data as of 7th March 2022.

Key Points to Note

- **Individual stocks** tend to have much **higher volatility** compared to general market volatility indicated by the **indices**. Consequently, in setting volatility assumption for **unlisted companies** greater emphasis should be placed on assessing **volatility of individual stocks in similar sector** (and adjusting for Company specific considerations) than basing it purely on overall index volatility.

- Volatility **varies materially with the size of companies** with **smaller / mid-sized companies** experiencing volatility in range of **40% to 70%** compared to volatility of **larger / more stable organizations** being generally in **20% to 35% range**.

- Volatility is much **higher in the shorter term** and stabilizes when considering a longer time period.

Conclusion

- *ESOPs are a useful tool to incentivize employees and have been adopted at large by companies.*

- *As year end approaches and Companies assess the charge to Income statement on account of these ESOPs, it is important to consider various assumptions used in determining the fair value of ESOPs and the consequent charge to Income Statement.* ***Volatility is one of the key assumptions*** *impacting the outcomes.*

- *We have seen companies take arbitrary approaches to determining the assumption, often ignoring the requirements of the applicable accounting standard as well as observed market volatility of similar listed stocks. Due considerations of these factors can help the companies in assessing the correct charge to Income Statement for such instruments.*

- *Companies may also benefit from assessing the* ***likely Income statement charge for future grants*** *as part of their budgeting exercise to ensure they are well aware of the level of charge in future years.*

- *This can ensure that the Companies are not in for a surprise when producing accounting results for the grants made during the year.*

Assess charge to Income Statement of future grants at the time of grant itself. Form a view on volatility at the time of grant itself, as it can have a crucial bearing on the final outcomes.

Be prepared to avoid any surprises!

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Research driven

- KPAC is a research driven actuarial consulting firm **providing actuarial and consulting services** since 2013.
- Empowered by **creative thinking and research-oriented approach**, we offer solutions that go beyond 'just-compliance'.

Going Beyond Compliance

- KPAC delivers customised solutions with use of data analytics and continuous research, which helps clients in **optimum recognition of liability and better management of expenses**.
- KPAC also helps clients in reducing volatility of expenses through ALM, better planning and budgeting, etc.

Strong Clientele

- Driven by passion to exceed expectation every single time, KPAC is providing valuation and consulting services to **more than 500 clients** (including large corporate houses and MNCs)
- KPAC's **engagements spread across all parts of India** and in various other countries like USA, Australia, UK, Middle East, SAARC countries.

Strong Team

- KPAC has a **strong team of consultants** and domain experts, who focus on delivering excellence each time.
- Each consultant has experience of handling assignments of large corporate houses and complicated employee benefits.

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Your employees are worth more than a ‘cut-copy-paste’ scheme taken off the net. Invest in creating the right scheme which will truly align interests and motivate your employees.

Please hire experts who understand all that goes into creating a stock ownership plan and save yourself the hassle, time, and unwarranted risk of trying to figure this out yourself.

Reach out in case you require any further information:

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