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Guidance Note: Valuation of Share-Based Payment Instruments

Institute of Actuaries of India

Presenters:
Khushwant Pahwa, FIAI, FIA
Vichitra Malhotra, FIAI, FIA

Agenda

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- **Introduction to Share Based Payment Plans**
- Scope and Coverage
- Structure of Guidance Note
- Valuation Principles
- Data requirements
- Valuation Methodologies
- Assumptions
- Reporting
- Conclusion
- Q&A

Introduction to the Guidance Note

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Institute of Actuaries of India is in the process of introducing a comprehensive **Guidance Note on Share-based payment schemes**, ensuring alignment with the applicable accounting standards, particularly IND AS 102.

Purpose	Alignment	Key Benefits
Standardize valuation practices for share-based payments. Ensure minimum quality standards and provide guidance for complex scenarios	Encourages compliance with IND AS 102 and other regulations such as SEBI regulations, etc. Does not impose new requirements. Imposes quality standards.	Enhances comparability, credibility, and professional standards Will help establish Actuaries as primary providers of ESOP valuation services

At this stage, the **Exposure Draft is open for discussion** within the actuarial community, inviting members to contribute their insights and suggestions.

Coverage and Boundaries of GN

Guidance Note covers some specific types of share-based payment plans, as mentioned below:

1. Employee Stock Option Plans (ESOPs)
2. Share Appreciation Rights (SAR) Plans (both cash-settled and equity-settled)
3. Restricted Stock Units (RSUs)

The principles in this Guidance Note also apply to other forms of share-based payment plans.

Areas covered

1. **Calculation of the fair value**

2. **Calculating the charge / provision** for accounting these plans in a Company's financial records.

3. **Option Pricing approaches –** GN does not restrict the use of any models. Member should apply his / her professional judgement in selecting the most suitable model.

4. **Setting or recommending assumptions** for the calculation of fair value of options.

5. **Any other valuation work related to share-based payment plans** that impacts reported financials.

Coverage and Boundaries of GN

Guidance Note does not provide guidance on:

1. **Estimation of the fair value of underlying shares** or the overall company valuation.

2. **Design and implementation** of ESOP or other such plans.

3. **Exhaustive guidance on all scenarios**. It is principles based and Actuaries should exercise professional judgment and seek further guidance as needed.

4. If the assumptions are provided by the Company (e.g., under the Black-Scholes model) and the Member has relied on them without validating their appropriateness or adequacy, this reliance **SHOULD** be clearly stated in the report.

Structure of the Guidance Note

Valuations of Share-based Payment Plans

- Key Principles → Member’s Judgement and Key responsibilities
- Data requirements → Assessing the type of Scheme, Option Pricing and Financial impact assessment, Assumption Setting
- Valuation Methodology → Black Scholes Option Pricing Model, Binomial Lattice Model, Monte Carlo Simulation Model or other (as appropriate)
- Assumptions → Assumptions used for the above option pricing methodologies and their appropriateness
- General Considerations → Derivation of assumptions, adjustments to the calculations based on corporate transactions or other terms and conditions of scheme
- Reporting → Essential requirements in the report (adherence to the accounting standards) and others

Key Principles

The below are various principles that the Members should adhere to, in carrying out valuation of share-based payment plans, covering separately both responsibility of Member, role of judgement as well as technical considerations relating to data used, assumptions, reporting etc.

1. **Reasonable Application:** Apply professional judgement reasonably in assessing valuation impact and compliance with standards
2. **Financial Impact:** Evaluate how the valuation affects current and future financial statements.
3. **Compliance Assessment:** Determine relevance to financial reporting standards and regulations.
4. The Member should ensure that his / her **role in a particular assignment is clear and understood by the user**.
5. The Member should state the capacity in which he / she is providing actuarial advice, the scope, its purpose, and for whom the actuarial work has been performed.
6. **Third-Party Reliance:** Specify limitations on third-party use of actuarial work and data reliance

Data Requirements

Requisite information required for carrying out the valuation and measurement of share-based payment schemes.

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Assess type of scheme	Employee level data	Financial impact assessment	Assumption Setting	Additional information
Equity/Cash settled	Unique grant dates	No. of options lapsed/date of lapsation	Share price on date of grant or valuation date	Past share-based payment valuation report
Scheme Documentation	Number of grants	Cause of employee exit (death, retirement or resignation)	Data / management view relating to achievement of non-market performance targets	Under US GAAP, Member may be required to factor probability of happening of events leading to exercise, where the exercise is event based;
Benefit Structure	Exercise price or strike price,	No. of options exercised/date of exercise	Forfeiture / attrition rate assumption	
Exercise rules, settlement conditions	Overall exercise period and expiry period	Cancellation, surrender or modification of scheme including any bonus or split undertaken	Additional information for market linked vesting	Information required for disclosures based on the applicable reporting standards
Expectation and past practice of settlement	Vesting Schedule (time or performance linked)	Dividend units in case of Restricted Stock Units (RSUs)	Expected term of options/expected dividend payable	

Valuation Methodologies

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Option pricing models broadly categorized as **Black Scholes** Option Pricing Model, Binomial Trees / **Binomial Model** and Monte Carlo **Simulation Approach**

Other option pricing models could also be appropriate depending on the specific circumstances.

GN **does not restrict** the use of any model. Member should apply his / her professional judgement in selecting the most suitable model. In assessing the appropriate model, the Member should consider the following:

1. Purpose of valuation
2. Past valuation methodology adopted by the Company
3. **Nature of the scheme** (market or non-market based vesting schemes)
4. **Tranche-based Option Pricing vs. single option price**
5. **Using risk neutral scenarios or real-world scenarios for simulation model**
6. **Reporting option prices for each grant date**. For multiple grant dates in a short period, Member should assess the impact of option pricing variables on each date and evaluate the best approach.

Any estimation method used should be **clearly disclosed** in the valuation report, taking into account the materiality of the impact.

Accounting for share-based payment schemes

Accounting for share-based payment schemes, whether on fair value basis or on intrinsic value basis, should factor:

1. Cost Recognition: Recognize cost during the vesting period based on applicable standards (e.g., IFRS 2, IND AS 102). For graded vesting, treat each tranche as a separate group and recognize proportionate cost.

2. Vesting Conditions: Factor in non-market conditions (e.g., Company performance targets) and assumed forfeiture rates in cost estimates. Market conditions need to be allowed for in determination of fair value of options.

3. Re-measure cost at each valuation date for cash-settled schemes post-vesting.

4. Assess cancellation Impact on income statement and balance sheet on account of cancellation of options due to non-achievement of vesting conditions or expiry of exercise period.

5. Treatment of **exercise or settlement of units** in both income statement and balance sheet.

6. **Treated of modifications, surrender / cancellations including** any cash compensation paid in lieu of such events.

Option Pricing Assumptions

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<table>
<tr><th>Particulars</th><th>Listed Companies</th><th>Newly Listed Companies</th><th>Unlisted Companies</th></tr>
<tr><td>Share Price</td><td colspan="2">Readily available on public domain</td><td>As per the share price certificate provided by the Management</td></tr>
<tr><td>Exercise Price</td><td colspan="2">Based on Management inputs</td><td>Based on Management inputs</td></tr>
<tr><td>Expected term to exercise</td><td colspan="2">Defined separately at each vesting tranche or an overall weighted average of tranche wise assumption is taken</td><td>An overall weighted average assumption is taken for all vesting tranches factoring management input on when the options are expected to be exercised, especially where exercise is linked to happening of corporate transactions for the Company</td></tr>
<tr><td>Risk-free rate</td><td colspan="3">Based on yield available on zero-coupon government bonds/government bonds of the country in whose currency the exercise price is expressed, with a term equal to the remaining expected term of the option being valued.</td></tr>
<tr><td>Volatality</td><td>Based on Company's historical share price</td><td>Based on historical / implied volatility of similar entities over the applicable period of time.
OR
Based on Company's historical share prices (subject to the expected term of the option)</td><td>Based on historical / implied volatility of similar entities/similar sector over the applicable period of time</td></tr>
<tr><td>Dividend</td><td colspan="2">Publicly available information / Company's business plan or management input (to incorporate future expected dividends)</td><td>Based on Management inputs</td></tr>
</table>

Assumptions - Additional Considerations

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- Volatility typically used is the **annualized standard deviation** of the continuously compounded rates of return on the share over the specified period of time. There are **three commonly used approaches** for estimating expected volatility:

  Historical Volatility, Implied volatility and Volatility forecasting models (ARCH and GARCH)

- The consideration of the expected dividends while assessing the fair value of options is dependent on **whether the counterparty** (such as the employee) is **entitled to dividends** or dividend equivalents **before** the options are **exercised**.

- Assessment by the Member on expected Probability of achieving the Performance criteria for any Performance-Based Vesting Schedule, whether linked to individual or Company performance.

- Analyses of past exercise patterns to estimate timing of option exercises.

- Assisting the Company in calculation of the forfeiture / lapse rate on account of attrition or otherwise, wherever applicable.

- Where the assumptions are not being determined by the Member but have been received as an input from the Company and the Member has relied on the same / has not validated the appropriateness or adequacy of the assumptions, **the same should be clearly spelt out in his / her report**.

Reporting Requirements

The items in the following list are normally to be regarded as essential components of any report:

- **Purpose** of the report
- **Overview of data** used
- **Description** of share-based payment **schemes**
- **Benefit Structure** (including vesting schedules and exercise conditions)
- Disclosure of modifications to the scheme
- Key variables and **assumptions**
- Valuation **methodology**
- Disclosure on <u>**appropriateness of assumptions**</u>
- **Sensitivity of assumptions** (Direction)
- Methodology for measurement of financial impact (cancellations, surrender, modification)
- **Profit / Loss** and **Financial Position** Impact
- Movement of number of options from opening to closing (including weighted average exercise prices)
- Results of Fair value of options, and income statement impacts
- Reliance on third-party data and limitations of the report & Compliance with actuarial guidance
- Certification should clearly specify the value being certified and the date to which it relates.

The Member should apply his / her judgement in assessing the need for additional information / disclosure.

Conclusion

- Guidance Note provides principles based guidance whilst outlining essential disclosures. The approach to drafting GN is not different from APS 27, under which we are providing valuation reports for gratuity, leave, pensions, etc.

- Guidance note should help in ensuing better quality of reporting by Actuaries.

- Guidance Note also help in ensuring actuaries are seen as preferred service providers of valuations of Share Based Payment schemes.

- Guidance Note is going through the approval process and currently open to comments from the members of the profession.

- Members requested to share their comments latest by 9th September 2024.

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Applicable Standards and Legislation

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- **Indian Accounting Standard (IND AS) 102 or Guidance Note on Share Based Payments:** Governs the recognition, measurement, and disclosure of share-based payments in India. Requires fair value measurement at the grant date and expense recognition over the vesting period.

- **SEBI Guidelines:** Regulates ESOPs and other share-based schemes in listed companies. Ensures compliance with corporate governance and disclosure norms.

- **Companies Act 2013:** Sets legal requirements for share issuance and corporate governance. Involves shareholder approvals and board resolutions affecting share-based payments.

- **Income Tax Act 1961:** Dictates tax treatment for employees and employers regarding share-based payments. Involves considerations of perquisite taxation and TDS compliance.

- **International Standards (IFRS 2):** Applicable for cross-border transactions and multinational companies. Aligns with IND AS 102 on fair value measurement and expense recognition.

- **Professional Standards:** Guided by the Institute of Actuaries of India (IAI) and global standards. Ensures adherence to ethical and professional practices in valuations.

Data requirements

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Assessing the type of Scheme	Option pricing + impact assessment	Assumption Setting
1. Scheme Documentation: Obtain approved scheme documents or other documentation explaining the benefit structure and sample grant letters for different employee categories. **2. Scheme Structure:** Understand the exercise rules, settlement conditions, and management’s expectations and past practices regarding the settlement of schemes. **3. Additional Information:** Gather any other necessary information as deemed by the Member.	**1. Grant Information:** Dates, units granted, exercise prices, exercise periods. **2. Vesting Schedule:** Tranches, rounding rules, performance metrics (market linkages or other) **3. Employee-Level Data:** No. of units lapsed (vested/un vested) due to resignation, date of lapsation, number of units exercised. **4. Special Cases**: Vesting on Death, disability, post-retirement vesting, etc. **5. Scheme Modifications:** Cancellations, surrenders, cash compensations. **6. Additional Info:** Specific to scheme nature, e.g., no. of dividend units in RSUs.	**1. Share Price:** On grant or valuation date depending on the type of scheme. **2. Volatility Assessment:** Peer company data in same or similar sector **3. Management Input:** Achievement of Non-market performance targets, forfeiture/attrition rates, or other information (for market-linked vesting) **4. Dividend Information:** Past dividends, future estimates. **5. Expected Term:** Based on scheme type and management input.

Valuation Methodologies

Option pricing models used Plans can be broadly categorized into groups:

Black Scholes Option Pricing Model

- **Simple formula application** which is easy to use, understand and can incorporate all features of a plain vanilla ESOP / SAR scheme.
- Factors such as early exercise can be incorporated via assumptions.
- **Does not work** for ESOPs / SARs wherein **vesting or exercise** is **linked to future share price** or market capitalization targets.

Binomial Lattice Model

- Requires **step wise projection** of share price / option pay off from grant date to exercise date, with each step moving both up and down by a specific factor.
- If time period is long, multiple paths may be needed leading to **computational delays and difficulty**.
- **More flexible than Black Scholes** in handling complex ESOPs / SARs with share price linkages.

Monte Carlo Simulation Model

- Requires fitting **probability distribution** to share price and projecting the same, along with option pay off, under **large number of simulations** (such as 5,000 or 10,000).
- **Requires statistical knowledge** to build such a model.
- **Highly flexible** to handle all type of ESOPs / SARs and widely accepted as a **more sophisticated method of option pricing**.