



Equity Compensation Issue Alert

What Soon-To-Be Public and Newly Public Companies Should Know about the Valuation of Employee Stock Options

This Equity Compensation Issue Alert guides practitioners at soon-to-be and newly public companies through two major equity-compensation compliance challenges: 1) selecting an option-pricing model and 2) estimating key input assumptions, particularly expected term and expected volatility. Because soon-to-be and newly public companies often lack extensive option and stock price data, they are generally required to base valuation assumptions largely on peer-firm data, a requirement complicated by strict FASB criteria concerning the selection of peers. This Equity Compensation Issue Alert is relevant to private companies with material stock-based compensation grants, to newly public companies, and to those preparing to go public.

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EXECUTIVE SUMMARY

Of the numerous competing priorities soon-to-be and newly public companies face, equity compensation compliance ranks among the most challenging and risky. A sudden increase in stock liquidity and an aggressive commitment to talent retention and acquisition often lead to considerable growth in equity compensation expense, which in turn triggers external audit risks that do not exist for private companies without plans for going public. This Issue Alert covers what is ostensibly the most daunting equity compensation requirement facing soon-to-be and newly public companies—that of valuing employee stock-option grants. Although broadly applicable to all private companies, this content is tailored to those that have recently gone public, as well as to those that are actively analyzing their finance and accounting functions in anticipation of an initial public offering (IPO).

Accounting for equity compensation in both private and public companies is governed by Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 718, Stock Compensation (ASC 718, formerly known as FAS 123R). ASC 718 requires that companies account for share-based awards granted to employees at fair value, which, in the case of stock-option grants, requires an option-pricing technique such as the Black-Scholes-Merton formula. While the Black-Scholes-Merton formula is well known and easily applied, reliably estimating key input assumptions for use in the formula is not easily done in the case of soon-to-be or newly public companies.

The table on the next page captures the top 10 issues that inevitably arise in most external audit processes related to option valuation. In our experience, a thoughtful and supportable analysis of these 10 issues primes the external audit process for speed and success. The “secret sauce” companies use to resolve such issues and formulate reasonable and defensible policy positions centers on rigorous data analysis and peer firm analysis. This Equity Compensation Issue Alert focuses on how to best perform these analyses in practice.

Employee Stock Option Valuation in Soon-to-Be or Newly Public Companies Top 10 External Audit Issues	
1.	<p><u>Issue:</u> assess the usefulness of the company’s historical exercise data, to determine whether use of the SEC Staff Accounting Bulletin (SAB) 110's Simplified Method for estimating expected term is appropriate <u>Strategy:</u> analyze historical exercise/cancellation data from grants made as a private company; evaluate statistical biases associated with these data; present strategy for eventually transitioning away from SEC Simplified Method</p>
2.	<p><u>Issue:</u> prove that stock options contain only “plain vanilla” provisions, to permit use of SEC Simplified Method for estimating expected term <u>Strategy:</u> review terms and conditions of stock option agreements for any non-service-based provisions</p>
3.	<p><u>Issue:</u> validate usability of firm-specific implied volatility data for estimating volatility <u>Strategy:</u> determine existence of quoted call/put options on firm’s stock; if present, determine extent to which SAB 107 criteria are satisfied (maturity length, date synchronization, moneyness, trading volume)</p>
4.	<p><u>Issue:</u> create ASC 718-compliant peer list, which is rarely the same as existing peer lists, such as those used for business valuations and/or executive compensation benchmarking <u>Strategy:</u> systematic analysis of related firms along dimensions of market capitalization, industry, stage of life cycle, and financial leverage; consolidation down to list of four to seven firms</p>
5.	<p><u>Issue:</u> evaluate availability of compliant historical volatility data for each peer firm <u>Strategy:</u> validate that each peer firm has at least two years of trading history on its stock; for each peer, analyze whether disruptive events have occurred that preclude use of its historical volatility</p>
6.	<p><u>Issue:</u> evaluate availability of compliant implied volatility data for each peer firm <u>Strategy:</u> determine existence of quoted call/put options on each peer firm’s stock; determine extent to which SAB 107 criteria are satisfied (maturity length, date synchronization, moneyness, trading volume)</p>
7.	<p><u>Issue:</u> for each peer firm, determine whether peer implied volatility or peer historical volatility (or what blend of the two) provides the best estimate of expected volatility <u>Strategy:</u> study business cycle of each peer firm to determine extent to which historical volatility may be representative of future volatility expectations; evaluate predictive reliability of implied volatility</p>
8.	<p><u>Issue:</u> decide whether consistent use of implied/historical volatility across all peer firms will be used or whether different measures may be used for each of the different peer firms <u>Strategy:</u> subjective assessment of estimation precision/imprecision associated with applying same historical/implied volatility strategy to all peer firms given specific peer firm characteristics</p>
9.	<p><u>Issue:</u> assemble detailed external audit documentation <u>Strategy:</u> focus on documenting analysis/judgment applied and granular calculations</p>
10.	<p><u>Issue:</u> codify strategy for transitioning from peer-based volatility to firm-specific volatility <u>Strategy:</u> establish general time expectation (usually two to four years post-IPO) and annual period to revisit</p>

TOPIC BACKGROUND

The fair value of share-based compensation awards classified as equity on the balance sheet (usually awards settled in stock) is measured on the grant date. In contrast, awards classified as liabilities are settled in cash and marked-to-market on a fair-value basis until settlement, at which time fair value is solidified. This Equity Compensation Issue Alert focuses on the class of awards granted by most companies: equity-classified awards. However, the principles discussed here are generally applicable to the valuation guidelines governing liability awards, their mark-to-market provisions notwithstanding.

Stock-option valuation considerations for soon-to-be or newly public companies change over time. Initially, most compliance risk relates to the valuation process; however, as equity awards grow in volume and design complexity, downstream financial reporting becomes equally challenging. Downstream financial reporting issues relate to the calculation of compensation expense based on estimated and actual forfeitures, the dilutive impact of outstanding equity awards on earnings per share (formerly FAS 128, now ASC 260), and the deferred tax implications created by timing and valuation differences between IRC and U.S. GAAP (ASC 740). For access to Issue Alerts and White Papers on these topics, please contact Equity Methods.

Although most soon-to-be or newly public companies use the Black-Scholes-Merton formula to value employee stock-option grants, ASC 718 affords considerable flexibility in selecting a valuation technique. ASC 718 contemplates three such techniques: the Black-Scholes-Merton formula, an entire category of lattice models (including binomial and trinomial formulations), and Monte Carlo simulation. In many circumstances, lattice models, with their inherent flexibility, provide more robust fair-value estimates than the Black-Scholes-Merton formula. However, lattice models are also computationally complex and require a large amount of data, making them poor choices for soon-to-be or newly public companies that lack significant exercise and cancellation histories. It is also important to note that companies issuing awards with market conditions are precluded from using the Black-Scholes-Merton formula.¹ Based on the specific terms and conditions of the awards in question, such companies must use either a lattice model or Monte Carlo simulation.

While ASC 718 clearly indicates that the presence of observable market prices for employee stock options opens doors to a superior way of determining fair value, as a practical matter, market prices of employee stock options are not available.² As such, section 10-55-55-21 of ASC 718 requires that a firm estimate the fair value of its employee stock options using a valuation technique that includes, at a minimum, the following six input assumptions:

1. The strike price of the option.
2. The expected term of the option, taking into account both its contractual term and the effects of employees' expected exercise behavior and post-vesting employment status.
3. The current price of the underlying share.
4. The expected volatility of the price of the underlying share for the expected term of the option.
5. The expected dividend yield on the underlying share for the expected term of the option.
6. The risk-free interest rate(s) for the expected term of the option.

¹ See the SEC's Staff Accounting Bulletin No. 107, page 14.

² In 2007, one large financial institution sought to create a financial market for derivatives that would track the payoffs from a pool of employee stock options, thus creating a market price. Stymied by numerous challenges, this financial product was not widely adopted; to our knowledge, it is no longer in use.

Of the six inputs, expected term and expected volatility present the greatest challenges, as both require significant analysis to reliably develop and defend. The remaining four inputs are publicly observable, easily computed using public information, or available internally to the company. Lattice and Monte Carlo simulation models often contain additional inputs. However, most newly public or soon-to-be public companies either use or will use the Black-Scholes-Merton formula, primarily due to its ease of use and the fact that it fulfills the fair value measurement objective in ASC 718. Our discussion centers on the required inputs for that technique, specifically the expected term and volatility.

EXPECTED TERM ESTIMATION CONSIDERATIONS

Most practitioners consider expected term the most challenging input to estimate because it requires, essentially, forecasting when an employee will exercise or cancel (post-vesting)³ a stock option. These types of events are called “settlement” events, and they are typically analyzed in order to develop expected term estimates. Because the contractual term of an option usually extends beyond the vesting life of the option by several years, the task of leveraging historical data to reliably predict when an employee will either exercise their option or terminate their employment (and thus have their option cancelled if it is out of the money) presents a major challenge for most companies.⁴

For mature public companies, the standard and preferred technique for developing an expected term assumption is to utilize a predictive methodology that relies on analysis of relevant historical settlement data. For these companies, the first step of the expected term development process is the separation of representative settlement activity in the historical data from non-representative settlement activity. Once this process is complete, most mature public companies are left with several years of reliable, useful, and representative historical settlement data for further analysis. This analysis entails the comparison of different expected term estimation models and the selection of one for use in developing the final expected term value. For example, companies with decades of relevant, representative historical, equity award-settlement data can reliably predict how exercise and cancellation patterns tie to movements in the stock price, vesting instances, and the mere passage of time. In these cases, the historical data available are both a) relevant (as established by a rigorous analysis and filtering of the data) and b) of such a quantity that they are considered sufficient (as established by the time-span the data cover, and the quantity of records).

For soon-to-be and newly public companies, the challenge of developing a compliant expected term estimate is very different, and depending on the unique circumstances, is potentially more complicated. These companies often possess some historical stock option data, similar to their mature public counterparts, but the problem facing these companies is that it is not immediately clear whether the data they possess are useful or not. In other words, the *relevance* and *sufficiency* of the data must be determined. Companies in this type of situation sometimes incorrectly make use of SAB 110’s (Section D.2, question 6) simplified method (the “SEC Simplified Method”) to estimate the expected term of their plain vanilla stock options.⁵ Although this approach is simple and quick to implement, it is not compliant if other relevant

³ One of the more confusing topics in ASC 718 is the difference between a forfeiture and a post-vesting cancellation. A forfeiture is a cancellation that occurs before vesting; it is not included as an input in a valuation model, but it is an input in an expense-amortization model. In contrast, a post-vesting cancellation is included as an input in a valuation model. For example, post-vesting cancellations are used in the estimation of the expected term assumption which is inserted in the Black-Scholes-Merton formula.

⁴ From an option-pricing perspective, the higher the expected term, the higher the fair value of the option. This is because during a longer outstanding life, the value of the underlying stock (and hence the value of the option on the stock) has more time to appreciate, all else equal. The only exception to this rule involves a dividend-paying stock in which the optionee foregoes dividend payments on the underlying stock. In this case, it may be advantageous to exercise sooner to capture a dividend that would otherwise be inaccessible.

⁵ The SEC Simplified Method involves averaging the weighted-average vesting period with the contractual term of the option being valued: Expected Term = ((Weighted Average Vesting Term + Original Contractual Term)/2).

and sufficient data or information points are available for consideration. For clarity, SAB 110 presents the following situational examples for which the SEC staff might consider the Simplified Method appropriate:

Situations where SEC Simplified Method May be Appropriate (SAB 110, Page 5)
<ul style="list-style-type: none">• A company does not have sufficient historical exercise data to provide a reasonable basis upon which to estimate expected term due to the limited period of time its equity shares have been publicly traded.• A company significantly changes the terms of its share option grants or the types of employees that receive share option grants such that its historical exercise data may no longer provide a reasonable basis upon which to estimate expected term.• A company has or expects to have significant structural changes in its business such that its historical exercise data may no longer provide a reasonable basis upon which to estimate expected term.

Note that in each of the situations described above, either the requisite *relevance* or the *sufficiency* of the historical data (or other information) is lacking. Thus, it is clear that soon-to-be and newly public companies that have no historical data at all— either on grants made as a public company or as a private company – and no other relevant information available, typically can safely use the Simplified Method for purposes of developing an expected term.

The problem is that many soon-to-be and newly public companies do have at least *some* historical data available for consideration. Soon-to-be public companies, although not yet public, still may possess settlement data as a private company. To the extent that the characteristics of historical grants remain representative of the characteristics of current grants, the available data could be relevant and sufficient for use in forming a reliable expected term estimate. This is especially true for medium and large soon-to-be public companies.

Newly public companies face a similar situation, with the added complexity of how to blend settlement data from grants issued when the company was private with newer, limited settlement data on grants issued post-IPO. These companies must carefully weigh whether the settlement data on their post-IPO grants are sufficient on a standalone basis so as to disregard potentially more abundant (but potentially non-representative) settlement data on their pre-IPO grants.

Companies facing these types of questions should not blindly make use of the SEC Simplified Method, which is only meant to serve as a *safe harbor* for use by those companies that have no other information available to inform more refined expected term estimates.

In our experience, when *any* data are available for consideration, confronting the challenges described above involves the soon-to-be or newly public company proposing answers to inherently subjective questions. A principles-oriented accounting standard, such as ASC 718, will not define the limits or boundaries of data relevance and sufficiency. Reasonable parties could disagree, for example, on the answers asserted by the company's management to these questions. This is why, especially when data are available for consideration, we recommend an unbiased third party with expertise in the area be retained to perform a systematic evaluation of the relevance and sufficiency of the data and all

other available information for use in developing a refined expected term estimate. Sole-reliance on internal analyses may leave companies open not only to estimation risks, but external audit risks as well.

As stated before, in cases where *no* data or other relevant information exist, firms may consider using the SEC Simplified Method. In our experience, this is most often the best decision in these cases, although it should not be a foregone conclusion: even in these cases, external auditors expect newly public companies and their valuation consultants to carefully weigh the alternatives and test whether a more firm-specific estimation approach is available. Documentation of the reasoning behind use of the SEC Simplified Method should be formed, and the validity of the reasoning should be assessed on at least an annual basis.⁶

Companies that elect to use the SEC Simplified Method should establish an annual procedure to test whether and when to depart from using it. The SEC states in SAB 110 that, “the Staff does not expect that such a simplified method would be used for share option grants when more relevant detailed information becomes widely available.” (Page 5) In our experience, it is rare for public companies with more than four years of exercise and cancellation data to rely on the SEC Simplified Method in lieu of a more refined, data-driven approach.

EXPECTED VOLATILITY ESTIMATION CONSIDERATIONS

Although expected term is, indeed, a difficult input to estimate, most practitioners at soon-to-be or newly public company agree that developing an expected volatility can be more challenging. This section further explains the meaning and use of the volatility parameter, typical requirements for developing peer-firm volatility during the initial, post-IPO years, as well as how to choose between peer-based historical and implied volatilities.

Volatility Introduced

Volatility is formally defined in Appendix E of FAS 123R as “A measure of the amount by which a financial variable such as a share price has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period.” In simpler terms, volatility refers to the “bounciness” of the stock. Because an option can never be worth less than \$0, a higher volatility increases the option’s fair-value because it gives the option more and larger opportunities to be in the money. Said differently, the value of an option on a stock that barely fluctuates is low because the stock price is unlikely to appreciate significantly.

While estimating volatility for established public companies is not simple, it often involves less ambiguity than the same estimation for newly public companies, as volatility estimates for newly public companies capture, blend, and weigh the informational content of historical and implied volatility estimates. Two parameters are needed to calculate historical volatility: (1) a historical time-period over which to calculate and (2) price intervals by which to calculate. In mature public

⁶ In principle, expected-term and volatility assumptions should be firm-specific and forward-looking. The SEC Simplified Method is barely firm specific and certainly not forward-looking, as it does not consider variables clearly known to affect exercise behavior, such as expected volatility on the stock and the employee demographic base. For this reason, it is prudent for firms to carefully analyze existing historical exercise and cancellation data and develop a formal case for whether such data can reliably form the basis of an expected term estimate. Ultimately, the burden of proof is on the company issuing the stock option.

companies, historical volatility is typically at least a component of the final volatility estimate, as experience from the past is a reasonable starting point for developing expectations about the future.

Implied volatility is a forward-looking, market-based, volatility estimation technique that leverages *observable* pricing data on a company's quoted (exchange-traded) stock options. These quoted options trade on public exchanges, such as the Chicago Board Options Exchange (CBOE); their values are calculated using standard option-pricing techniques such as the Black-Scholes-Merton formula. Implied volatility is computed by inserting the observed, quoted option values into the Black-Scholes-Merton formula and then solving for the volatility variable. Implied volatility is, thus, a window into the volatility that professional option traders are "betting on" when buying and selling quoted options on a company's stock.

Peer-Based Volatility for Soon-To-Be and Newly Public Firms

Soon-to-be and newly public companies generally find it infeasible to calculate firm-specific historical and implied volatilities. With regard to historical volatility, newly public companies lack a sufficiently long trading period; that is, newly public companies have not had measurable stock-price data for very long, while, for both types of companies, pre-IPO business valuations that could potentially provide stock price estimates are typically separated by excessive intervals, rendering such valuations useless for volatility calculation purposes. In addition, the year immediately after a company goes public is usually filled with intense volatility, as year one is generally a highly evolutionary period relative to the steady state that follows. For this reason, it is often important to wait until a company's stock-price volatility stabilizes before using historical volatility for option-valuation purposes.

With regard to implied volatility, most newly public companies either lack quoted, traded options or have a limited trading volume. Large public companies are an exception, generally having reliable implied volatility data whether newly public or not. As such, these large firms—roughly benchmarked with a post-IPO market capitalization of at least \$2 billion—must formally validate that their own implied-volatility data are unavailable before excluding firm-specific volatility approaches. Large newly public companies may be able to leverage their own implied volatility and simply bypass the entire process of selecting peer firms on which to base volatility estimates.

Due to these obstacles, most firms are left having to use a peer-based expected volatility measure. Section 10-55-55-25 of ASC 718 discusses the rationale for leveraging peer data, noting that peer firms should be determined carefully:

Utilizing Peer Data in Forming Volatility Estimates ASC 718, Section 10-55-55-25
<p>In certain circumstances, historical information may not be available. For example, an entity whose common stock has only recently become publicly traded may have little, if any, historical information on the volatility of its own shares. That entity might base expectations about future volatility on the average volatilities of similar entities for an appropriate period following their going public. A nonpublic entity will need to exercise judgment in selecting a method to estimate expected volatility and might do so by basing its expected volatility on the average volatilities of otherwise similar public entities. For purposes of identifying otherwise similar entities, an entity would likely consider characteristics such as industry, stage of life cycle, size, and financial leverage. Because of the effects of diversification that are present in an industry sector index, the volatility of an index should not be substituted for the average of volatilities of otherwise similar entities in a fair value measurement.</p>

The final comments in the preceding paragraph are especially important. Although it may be tempting to calculate volatility on an index, the resulting volatility would insert a diversification effect across the components of the index that would be unavailable to the company. Instead, peer companies should be selected according to industry, stage of life cycle, market capitalization, and financial leverage. Volatility should be calculated individually on each firm, and those volatilities averaged into a single value. SAB No. 107 strongly reaffirms this distinction in method:

SAB 107, Page 29

The staff would not object to Company C looking to an industry sector index (e.g., NASDAQ Computer Index) that is representative of Company C's industry, and possibly its size, to identify one or more similar entities. Once Company C has identified similar entities, it would substitute a measure of the individual volatilities of the similar entities for the expected volatility of its share price as an assumption in its valuation model.⁶² Because of the effects of diversification that are present in an industry sector index, Company C should not substitute the volatility of an index for the expected volatility of its share price as an assumption in its valuation model.⁶³

[62] Statement 123R, paragraph A45

[63] Statement 123R, paragraph A22

While some companies operate in mature markets with clearly identifiable peers, many do not, particularly soon-to-be and newly public companies that are either operating a niche business, pursuing a differentiated strategy, or competing against conglomerates that could hardly be designated as "peers." In general, erring on the side of fewer, more similar peers is preferable to compiling a large list of marginally similar firms.

One important side note is that many companies make the mistake of assuming the peer firms they use for executive compensation benchmarking are automatically compliant for purposes of developing an ASC 718-compliant peer volatility assumption. Our experience suggests this is rarely the case.

The most important implication of ASC 718, Section 10-55-55-25, is that two firms in the same industry are not necessarily appropriate peers under ASC 718: such firms may have significantly different market capitalizations, be at different life-cycle stages, or have substantially different capital structures. As a result, their future volatilities could differ markedly, undermining the quality of the comparison. Ultimately, each factor is relevant to the core task of building a robust forward-looking estimate of volatility.

Needless to say, building such an estimate is easier said than done, and the process ultimately constitutes an imperfect science. In our experience, however, the process of selecting peer firms begins by analyzing all firms within the target company's industry and then comparing and contrasting the firms based on size, stage of life cycle, and leverage.

Comparing Historical Volatility to Implied Volatility (In General)

Once a firm establishes a reliable peer group from which to generate a volatility estimate, the question shifts to how, specifically, to leverage the peers to produce such an estimate. ASC 718 does not prescribe whether the historical volatilities, the implied volatilities, or blends of the two should be computed from the peer firms and used in estimating the target firm's volatility. SAB 107 emphasizes this flexibility: "Company C may base its estimate of expected volatility on the historical, expected or implied volatility of similar entities whose share or option prices are publicly available." (Page 28)

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A rapidly evolving technology firm lacking implied volatility data with peers that possess compliant implied volatility information may prefer a peer implied volatility approach to calculating historical volatilities on each peer. The peer historical volatilities would succumb to the same problem faced by the company: rapidly changing circumstances that make a long historical measure unrepresentative of expected future volatility. In this regard, historical volatility is often most appropriate when “mean reversion” is expected. Mean reversion simply refers to the tendency in larger, more mature companies to experience volatility cycles that ultimately converge to a long-term, steady-state average. Rapidly evolving and growing companies, naturally, have not yet settled on a long-term, steady state average volatility.

While many companies are tempted to rush and adopt an implied volatility-based measure due to concerns that historical volatility is excessively backward looking, implied volatility as a construct often suffers from its own problems. These problems prompted the SEC to prescribe in SAB 107 (Page 22) four specific criteria regarding the use of implied volatility:

- There is adequate trading volume on the quoted options being referenced
- The quoted option trading dates are synchronized with the employee stock-option grant date
- The exercise prices of the publicly traded and employee options are similar
- The terms of the quoted options are similar to the expected or contractual term of the employee option (as applicable)

For this reason, many companies consider the implied volatilities of the peer firms selected, but realize that they neither fully nor significantly can rely on related implied volatility calculations. Implied volatility sounds good in principle, but the rubber only meets the road after the four SAB 107 criteria are carefully analyzed for each peer firm. External auditors are wary about accepting an implied volatility that is weak in any one of the four criteria.

When using historical volatility, a few points must be considered. First, a decision needs to be made with regard to the price intervals – the frequency of stock prices used in computing the historical volatility. While a firm can use monthly, weekly, and daily stock price returns, the overarching best practice is to use daily returns. Additionally, the term over which historical volatility is computed must be established. Per ASC 718, this term should be generally commensurate with the expected term assumption being used in the valuation. For example, if the expected term is six years, then it is generally the case that a six-year historical volatility should be used.

Note how both of these decisions are generally applicable to both mature companies analyzing their own volatility choices and to soon-to-be or newly public companies trying to build a volatility estimate using the data of peer firms. One nuanced, but particularly important, decision is whether consistency is required in volatility estimation methodology across peer firms. This stems from the possibility that that one or more peer firms may not have a reliable historical and/or implied volatility. Implied volatility may be ruled out for one or more peer firms based on the four SAB 107 criteria, whereas historical volatility may be ruled out based on a peer firm having less than two years of historical pricing data.

For example, suppose four peer firms are selected, two with strong implied volatility data, two with strong historical volatility data. Is it appropriate to place a 100% reliance on implied volatility for the first two firms, a 100% reliance on historical volatility for the other two firms, and then average the results? Or, should a 50% historical volatility and 50% implied volatility weighting be applied to each firm so as to create consistency in method across firms? Unfortunately, there is no general rule or best practice, meaning that experience-based judgment and analysis is necessary.

Third and finally, once companies arrive at a policy concerning which peer firms to leverage in estimating volatility and the extent to which the estimate will consider the peer firms' implied and historical volatilities, firms must next decide when

they will transition away from using a peer-based volatility. Usually, companies with more than three years of their own stock price data depart from peer-based approaches, although sometimes this transition occurs as early as the two-year mark. It is also important to annually reassess the constituents of the peer list, as well as the relative weights in the blend between implied and historical volatility. Extensive volatility in the capital markets means that both peer firms and companies' reliance on historical and implied volatility should change over time.

CONCLUSION

Due to uncertainty surrounding the relevance and sufficiency of various types of historical data, the valuation challenges facing soon-to-be and newly public companies differ greatly from those facing established public companies. Whereas mature public companies generally have extensive option settlement data (although how best to use that data is another issue altogether), soon-to-be and newly public companies must focus on the minimal data available and the extent to which they can rely on it at all. From a valuation-model-selection perspective, soon-to-be and newly public companies benefit from the ability to quickly elect to use the Black-Scholes-Merton formula relative to more complicated models.⁷ However, these same companies must then concentrate their energies on the expected term and expected volatility assumptions, which, as described above, pose unique challenges.

Soon-to-be and newly public companies should estimate expected term by leveraging the SEC Simplified Method only in cases where no historical data and no other relevant information points exist. In such cases, external auditors expect companies to regularly analyze the ongoing appropriateness of the SEC Simplified Method. Once ample settlement data are available, it is generally expected that a transition to a more data-driven and firm-specific estimation method will occur. In cases where historical data are available for consideration, the company should perform and document a rigorous analysis of the relevance and sufficiency of the data for use in developing an expected term assumption. In our experience, a qualified third party expert can be particularly helpful by leveraging prior external audit experience.

With regard to estimating expected volatility, soon-to-be and newly public companies must thoroughly analyze potential peer firms based on market capitalization, industry, life cycle, and financial leverage. Note how simultaneous "fit" across all four criteria is naturally difficult and likely to change over time, making the peer-matching process a potential moving target that must be reassessed at least annually. Once appropriate peer firms have been selected, it is then necessary to determine whether to use the historical volatilities and/or implied volatilities of these firms. Often it is appropriate to blend historical volatilities with implied volatilities, but each situation should be analyzed separately.

As compared to their earlier years, soon-to-be and newly public firms often face a much higher audit standard because equity-compensation accounting becomes a more material and high-risk item than it was during the pre-IPO years. A rigorously developed and well-documented valuation methodology will significantly reduce external audit risk and stage soon-to-be and newly public companies for success as they invest in and grow equity compensation programs.

For information on the financial reporting challenges associated with equity compensation, or to ask questions about the content of this Issue Alert, please contact your Equity Methods relationship manager.

⁷ Recall that an award containing a market condition requires a lattice or Monte Carlo approach regardless of whether the granting entity is newly public.

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