

Performance Price Target Awards: Basic Principles

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The Nature of PPT Awards

In this era of increased regulatory oversight and shareholder activism, Boards and Compensation Committees must take care to align their incentive compensation policies with the interests of shareholders. In a previous White Paper¹ we examined the role of Relative Total Shareholder Return programs (TSRs) in achieving this alignment. The Relative TSR is structured to reward management behavior which results in outperformance of a company's peer group in total shareholder return over a defined performance period. The metric used in these programs is the magnitude of change in the share price, plus any dividend payouts, divided by the initial share price. This widely recognized and well-understood metric has been employed in an increasing number of equity-based incentive plans in both the USA and the UK over the past few years.

A **Performance Price Target Award (PPT)** is fundamentally different, in that vesting of the award is contingent solely on the behavior of the share price of the grantor company. PPTs, sometimes referred to as "Absolute TSRs," comprise an award of certain size and composition, vested to the recipient on a certain date, contingent upon a specific predefined behavior of the issuer's stock price over the predetermined performance period. To reiterate a fundamental point, the award conditions of a PPT do not depend upon the performance of any other shares or indices save the common shares of the awarding company.

This definition allows for broad latitude of interpretation. Each contract is unique, and may be tailored to the specific circumstances of the individual company and its current business conditions. Inherent in each contract is a form of optionality, which is dependent upon the terms of the specific contract. Examples of the market conditions which will trigger the vesting of a PPT award include, but are not limited to the following:

- Share price touches the target price during the performance period. (one-touch)
- Shares trade at or above a target price for a specific number of consecutive trading days. (consecutive touch)
- Moving average, over a specific number of consecutive trading days, of closing share price touches or exceeds a target price (average touch).
- There are additional possibilities which will not be discussed here.

Note that extreme care must be taken in specifying market-based performance conditions. The phrase "trade above the target price" may be interpreted as "touch," "close above," "open and close above," etc. Shares may trade on more than one exchange. There should be no ambiguity in the interpretation of market-based performance conditions when the PPT award is drafted.

The PPT award is contingent solely upon the behavior of the share price of the subject company.

Performance targets for PPT awards are related to market conditions and may take many forms.

Advantages and Disadvantages

Advantages of PPT plans include the following:

- The programs are easy for participants to understand.
- The programs are relatively easy to administer.
- Fair Value may be very low compared to the size of the potential payout.
- Extreme flexibility in plan design.

There are a number of disadvantages as well.

- There is no isolation from overall market direction. In a down market, participants may receive nothing even if they outperform their competitors in other companies.
- Some payout plans may involve assumptions which are somewhat arbitrary and therefore not representative of real participant behavior.
- PPT's may reward the pursuit of short-term goals to the detriment of longer-term objectives which position the company for continued growth and profitability.

Motivation for Use of a PPT

While Relative TSR programs directly align the participants' rewards with the relative performance of a company's shares as observed by investors, PPT programs reward management behavior which results in share price action which has been predefined in absolute terms. PPTs may be interpreted as requiring a higher standard of management performance than Relative TSR's, in that a given level of market-based performance is expected, irrespective of the prevailing market trend. There are circumstances in which a Board or compensation committee may consider the absolute performance of share price as a high-priority objective. One example would be a rapidly growing company in a highly competitive sector which requires constant innovation in order to maintain a market edge. The fiscal 2012 Annual Report of the Marvell Technology Group, Ltd.² (NASDAQ:MRVL) presents the rationale of the compensation committee in just such a case. Another example would be a long-established company which has sustained a recent period of shareholder criticism or adverse publicity surrounding management performance. The 2012 Proxy Statement of Hewlett-Packard Co.³ (NYSE:HPQ) presents significant changes to its executive compensation policies, along with a special compensation program for Ms. Margaret ("Meg") Whitman, the newly appointed CEO. These changes were enacted following a turbulent period in the company's history, characterized by allegations of misconduct and underperformance of certain executives. The Board sought to make a strong statement regarding its intent to solidly link pay to performance.⁴

PPTs must be designed and used with appropriate detailed planning. Since PPT programs may be designed to yield very large payouts in comparison to their fair value as of the grant date, favorable publicity may result for a company which obtains the services of a well-regarded executive under the provisions of such a program in lieu of a large salary. Conversely, PPT awards may focus management attention on the attainment of short-term goals directly linked to share price, to the detriment of longer-term objectives which would promote continued growth and profitability. Each case is different, and must be carefully considered on its own merits.

PPT awards impose a high standard of performance upon participants. Structuring the award and the performance conditions must be done with care to insure the proper incentives and avoid unintended consequences.

Types of PPT Awards

PPT award programs may be broadly characterized by the nature of the payout. Within each category, a broad range of performance targets may be specified. The nature of the valuation process is fundamentally dependent upon the payout category. For the purposes of this article, we focus on three different award types:

1. Fixed payout at a fixed time. The simplest example would be an award which settles in cash upon the achievement of a market condition or which yields nothing if the market condition is not met during the performance period.
2. Variable payout at a fixed time. Programs which settle in shares of stock upon the achievement of the market condition belong in this category. Note that vesting may occur at any time during the performance period, and is dependent only upon the satisfaction of a market condition. Awards which depend upon both market and service conditions will be treated later in this White Paper.
3. Variable payout at a variable time. These awards settle in American-style options on the company's shares upon the achievement of the market condition. The strike price of the options and the expiration date of the options are specified at the grant date. The expected term of the option following the vest date may be estimated by consideration of post-vest exercise behavior. Such awards, also known as Performance Stock Options (PSOs) require a valuation procedure which is significantly more complex than the valuation procedure for fixed time payout awards. Thus, we will treat PSOs in detail in a subsequent White Paper.

PPT awards which are settled in options are known as Performance Stock Options and will be treated in a subsequent White Paper.

Estimation of Fair Value

The FASB Accounting Standards Codification™ Topic 718⁵ (formerly FASB Statement 123R⁶) calls for the recording of equity-based compensation as an expense at the time the award is made at a fair value determined according to guidelines which vary from highly specific to general in nature. The valuation of a PPT award revolves around the same principles as the valuation of a stock option, due to the embedded optionality introduced by the necessity of meeting the applicable market conditions.

Although the applicable regulations give little specific guidance as to the method to be used to perform the *a priori* valuation of an award, it is clearly stated that the valuation must be founded on data and techniques which are *reasonable, supportable, and consistent*. In any case, the valuation of a fixed time payout PPT award under the standards requires the following information:

1. *The estimated volatility of the grantor company's shares throughout the performance period.*
2. *The estimated term structure of risk-free interest rates for the time period beginning at the grant date and ending at the performance end date.*
3. *The estimated dividend payments made during the performance period.*
4. *The spread between the share price at the grant date and the target share price.*
5. *The nature of the market condition as to behavior of the share price.*
6. *The duration of the performance period.*

The methods used to estimate the Fair Value of a Relative TSR plan must be reasonable, supportable, and consistent.

While the last three parameters are specified in the award program, the first three parameters may be estimated using a number of assumptions. Great care must be exercised to assure that these estimates and the resulting estimate of the fair value of a PPT award will withstand the scrutiny of independent auditors and will be considered *reasonable, supportable, and consistent*.

Interest Rate

For U.S. companies, it is appropriate to use the U.S. Treasury zero-coupon issues to arrive at a term structure of interest rates which spans the performance period or contractual term. For any particular span of time, the appropriate discount rate would be the implied yield over the given period as derived from the term structure. As before, adequate support must be provided for the choice of any specific benchmark interest rate, either constant or variable with time. Further information on this topic may be found in our **Best Practice Paper** on Implied Forward Rates in Share-Based Payment.⁷

Volatility

The share price volatility may be either historical or implied. Estimates of volatility using historical data are definitive, but are not forward looking. Also, the historical data may contain outliers caused by unforeseen events which affect either equity markets in the aggregate or the perception of a specific company as reflected in its equity price.

For those companies with listed equity options, the implied volatility of the stock price may be calculated from actual option prices using a number of different models. In most cases, we find that the **Binomial**⁸ method is appropriate, because it allows the incorporation of discrete dividend payments made at various times during the option life, as well as a variable risk-free interest rate. The implied volatilities thus calculated are forward-looking in nature, as they represent an assessment of future conditions by market participants.

For a PPT award, a useful *a priori* estimate of the term structure of share price implied volatility may be constructed if there are options having expiration dates spanning the entire performance period. For performance periods of more than one year, **LEAPS**[®] may be used if they are traded for the company in question.

Monte Carlo Simulation

The typical performance-based market conditions of a PPT award introduce *path-dependent optionality* into the achievement of the target conditions. To determine success or failure, the path of the share price throughout the performance period must be simulated and the results examined for achievement of the performance target. This requires a Monte Carlo simulation, in which the performance period is divided into a number of discrete time intervals. For performance targets which specify a closing price for a number of consecutive trading days, one trading day is a convenient interval. Starting at the beginning of the performance period, when the share price is known, the path of the share price is simulated as a statistical process constrained by the estimated volatility, dividend payments, etc.

Monte Carlo simulation provides an estimate of the range of possible outcomes of a PPT program with an acceptable level of effort.

The derived service period, computed as a result of Monte Carlo simulation, is useful for cost attribution of a PPT award with no specified service condition.

This process is repeated thousands of times. Each resulting path may be characterized as “successful” (meeting the performance target) or “unsuccessful” (not meeting the performance target) by inspection. For an award settled in cash, the fair value is the expected net present value of the payout, discounted back to the grant date from the vesting date achieved on each individual path, using the estimated risk-free interest rate or term structure thereof. For “unsuccessful” paths, the payout is set to zero.

In the case of an award settled in stock, each path results in either a share price upon achievement of the performance target, or a share price at the end of the performance period over which the performance target is not achieved. For “successful” paths the simulated share price at vesting is discounted to the grant date using the risk-free interest rate for each individual path.

Associated with a performance price target award with which no service condition specified is a derived quantity known as the ***derived service period (DSP)***. This is the median elapsed time from the performance start date to the vest date over all “successful” simulation paths. The DSP can be used as the duration of the award program for cost attribution purposes

In all cases, the standard error of the fair value estimate should be calculated to serve as an indication of the statistical quality of the valuation. In the next White Paper of this series, we examine the intricacies of valuation of awards settled in options.

Service Conditions

Thus far, we have discussed awards which vest upon the achievement of a performance-based market condition, which is usually a specific condition on the price of the shares of the grantor company. The payout (in stock or cash) is considered to take place immediately upon vesting. Other awards may delay the payout until an additional ***service condition*** is met. In a common embodiment, the payout is delayed until the end of the performance period or some future date. Depending upon the structure of the award, considerable time may elapse from the vesting of the award until the actual payout. For an award which settles in stock, it is the share price on the date of the fulfillment of both the performance-based market condition and the service condition which matters in the Fair Value calculation, rather than the share price upon the achievement of the performance-based market condition (***performance target***).

Under these circumstances, the Monte Carlo simulation of the share price covers the time from the award date to the vesting date (i.e., the later of the service date and the last date on which the performance target can be satisfied), even though it is possible that the performance target may be met well before the end of the service period. In a manner similar to that explained above, the path of the share price is simulated thousands of times over the entire period from award date to vesting date. Those paths in which the performance target is achieved are labeled “successful,” while paths in which the performance target is not achieved are “unsuccessful.” For each “unsuccessful” path, the payoff is set to zero. The share price of all paths are then individually discounted back from the vesting date to the award date and averaged to calculate the Fair Value.

Design and Implementation of a Compensation Plan

The selection, design, and implementation of a successful equity compensation plan is a complex undertaking. The discussion of Performance Price Target plans presented here serves to illustrate some of the issues which will be encountered. You may choose to complete the entire process internally, outsource the task, or follow an intermediate path. No matter what course you choose, **Montgomery Investment Technology** can provide you with proven resources which will maximize your likelihood of success.

For those who choose to develop and implement their program internally, MITI offers a series of **Working Papers** which are located on our website. We also can provide training seminars tailored to your specific needs, with subject matter spanning ASC Topic 718 accounting requirements, alternative awards, the characteristics of options, futures and other derivative instruments, the nature of volatility, hedging the cost of your equity compensation plan, and many other areas.

We can also offer assistance in screening and selection of candidates for your peer group, preparation of modeling equations, preparation of justification for your underlying assumptions, and the valuation of exotic and complex instruments.

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¹ Introduction to TSRs – Montgomery Investment Technology, Inc. - www.fintools.com/resources

² <http://www.sec.gov/Archives/edgar/data/1058057/999999999712009936/9999999997-12-009936-index.htm>

³ <http://www.sec.gov/Archives/edgar/data/47217/000104746912000593/a2207020zdef14a.htm>

⁴ Associated Press Online – Technology News – February 3, 2012

⁵ Financial Accounting Standards Board, Topic 718, as updated January 2010, No. 2010-05

⁶ Financial Accounting Standards Board, Financial Accounting Series No. 263-C, December 2004

⁷ http://fintools.com/SBP/Dow/SBP_BestPracticeSeries_ImpliedForwardRates.pdf

⁸ Cox, J.C., Ross, S.A., and Rubinstein, M., *Journal of Financial Economics* 7 (1979) 229-263