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Valuing Employee Options

If an employer has issued stock options to you or your client, you may need to know what those options are worth. In typical stock option plans, the employee is granted the right to purchase a fixed number of shares at a stated price on or before a specified date. Whether for financial reporting, estate planning, transaction advisory, or marital dissolution purposes, you may need an independent valuation of the options.

Option Basics. An option is a derivative security; that is, its value is determined from the value of some underlying asset. A call option gives the holder the right (but not the obligation) to purchase an asset for a specific price, called an exercise or strike price, on or before some specified date (expiration or maturity date). For example, a February call option on Dell Computer with a \$20 exercise price entitles the call owner to purchase Dell stock for \$20 at any time on or before the expiration date in February. The option premium is the price paid for (and value of) the option.

Suppose it is January, Dell Computer is currently trading at \$21.50 and you hold a February call with an exercise price of \$20.00. This option is "in the money" because if you were to exercise your call and immediately sell the stock you would benefit by \$1.50 (the difference in the \$20.00 you paid for the stock and the \$21.50 received for it). This \$1.50 is called the intrinsic value of the option (for call options the intrinsic value = stock price minus exercise price, but is never less than zero).

However, if the option premium (market value) for the February call is \$3.00, you would profit more if you sold your option rather than exercised it. This difference between the option premium and the intrinsic value is called the speculative premium, or time value, of the option. It is that part of an option's value that is attributed to the fact that the stock price (and intrinsic value of the option) can still increase further before expiration. As long as the holder of the option does not exercise, the payoff cannot be worse than zero. This premium to the intrinsic value of the option lies in the value of

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If an employer has issued stock options to you or your client . . . whether for financial reporting, estate planning, transaction advisory, or marital dissolution purposes, you may need an independent valuation of the options

Case Law Update

Shepherd v. Commissioner
115 T.C. No. 30 (October 26, 2000)

Issues in this Case

- *Indirect or Direct Gifts.* The Service contended that J.C. Shepherd's ("the Taypayer") gifts to a family limited partnership ("FLP") were either (1) indirect gifts or (2) direct and made before the formation of the partnership.
- *Discount for the Undivided Interest in Real Estate.*
- *The judicial involvement.* Eleven judges signed the majority opinion. In addition, five judges signed a concurring opinion, and eight judges signed a second concurring opinion. Three judges

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Table 1

Intrinsic Value of Call = $\max [0, S_0 - X]$

Intrinsic Value of Put = $\max [0, X - S_0]$

S_0 = Current Stock Price

X = Exercise Price

the right to delay exercise in the hope of achieving even greater intrinsic value prior expiration.

A put option gives the holder the right to sell an asset for a specific price on or before some specified date. A February put option on Dell Computer with a \$20.00 exercise price entitles the put owner to sell Dell stock for \$20.00 at any time on or before the expiration date in February.

In this case, if it was January and you held the \$20.00 February put on Dell Computer when the stock was trading at \$21.50, the put would be "out of the money." It would not be profitable to buy the stock at \$21.50, then exercise the put and receive only \$20.00. For this example, the intrinsic value of the put would be zero (for put options the intrinsic value = exercise price minus stock price). However, the put still has a month until expiration so there is a speculative value associated with it. The formal mathematical expressions for the intrinsic values of put and call options are shown in Table 1.

Most publicly traded options are simply contracts between two independent parties and do not involve the company whose stock is the underlying asset. The special case in which call options are issued directly by the company whose stock is the underlying asset (such as employee options) are called warrants. The primary difference between warrants and options is that when warrants are exercised, the firm receives

the exercise price and must issue new stock (increasing the number of shares outstanding). The exercise of publicly traded options involves only an exchange of cash and assets between two investors.

Table 2 shows option premiums, intrinsic values and speculative values for actual options trading January 16, 2001 on Dell Computer, when Dell's common stock was trading for \$21.50. The expiration date for these options was February 16, 2001.

Determining the speculative value of an option is considerably more difficult than determining the intrinsic value. The major factors contributing to the speculative value of an option premium are (1) the return volatility of the underlying asset, and (2) the time to expiration. The holder of a call option benefits from the return volatility of the underlying stock as he or she has the right to capture any increases in the price of the underlying asset over the term of the option without bearing the risk of loss from any stock price decreases. The maximum amount the owner of a call option can lose is the option premium, while the owner of the underlying asset can lose the full value of the underlying asset. In this way, call options are said to limit the holder's downside exposure while providing unlimited upside potential.

Guidelines for Valuing Employee Options. IRS Revenue Procedure 98-34 provides safe harbor valuation guidelines for nonpublicly traded compensatory stock options on stock that, at

the valuation date, is publicly traded on an established securities market. The procedure takes into account specific factors similar to those established by the Financial Accounting Standards Board in Accounting for Stock-Based Compensation, FAS 123.

FAS 123 suggests using an option pricing model, such as the Black-Scholes Model, which takes into account (1) the option's exercise price, (2) the expected life of the option, (3) the current price of the underlying stock, (4) the expected volatility of the underlying stock returns, (5) the expected dividends on the underlying stock; and, (6) the risk free rate over the life of the option. However, following these guidelines blindly might tend to overstate the value of a compensatory option as it does not consider (1) vesting or restrictions on transfer of the option, (2) lack of an active market for compensatory options, or (3) other restrictive conditions. According to FAS No 123, nonpublic entities are permitted to exclude the volatility factor in estimating the value of their stock options, which results in measurement at minimum value.

There are frequently terms, restrictions and conditions attached to employee stock options that will affect their value relative to publicly traded options. To capture the effects of these factors on the value of the option, adjustments to the standard option pricing models must be made.

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Table 2

	Option Premium	S_0	X	Intrinsic Value	Speculative Value
Dell Call - in the money	\$3.00	\$21.50	\$20.00	\$1.50	\$1.50
Dell Call - out of the money	\$3.00	\$21.50	\$22.50	\$0.00	\$3.00
Dell Put - out of the money	\$1.25	\$21.50	\$20.00	\$0.00	\$1.25
Dell Put - in the money	\$3.88	\$21.50	\$22.50	\$1.00	\$2.88

Case Law Update

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signed an opinion concurring in part and dissenting in part and one judge signed an additional opinion concurring in part and dissenting in part.

Summary Facts of the Case: The Taypayer owned approximately 9,000 acres of land in Fayette County, Alabama and more than 50 percent of the stock in three rural Alabama banks.

On August 1, 1991, the Taypayer executed the Shepherd FLP agreement, an Alabama general partnership. On August 2, 1991, the Taypayer's sons, John and William, executed it. The Taypayer was the managing partner with a 50% interest. John and William each had 25% interests.

On August 1, 1991, the Taypayer and his wife executed two deeds purporting to transfer a 50% interest in the leased land for an aggregate transfer of the entire interest in the land. On September 9, 1991 the Taypayer transferred some of his bank stock to the partnership to which the parties stipulated to the fair market value of \$932,219.

The Taypayer filed a gift tax return indicating gifts of interest in the leased land and bank stock to each of his sons as found in Table 1.

The Taypayer paid no gift tax on these transfers, claiming they were offset by his maximum unified credit of \$192,800.

The Service's notice of deficiency concluded a gift tax deficiency of \$168,577.

Indirect or Direct Gifts.

As noted above, the Service contended that the Taypayer's gifts to a family limited partnership were either (1) indirect gifts or (2) direct and made before the formation of the partnership.

The Taypayer argued that interests in land were transferred as gifts of partnership interests while the bank stock was an indirect gift bestowed through enhancements of the previously gifted partnership interests.

The Court rejected the Service's argument that the Taypayer made direct gifts to his sons because the Taypayer deeded the land and bank stock to the partnership. The Court did accept the Service's assertion that the Taypayer made indirect gifts to his sons. An indirect gift is defined as "a transfer of property to a corporation that represents gifts by donor to the other individual shareholders of the corporation to the extent of their proportionate interests in the corporation." Similarly, a transfer to a partnership for less than full and adequate consider-

Table 2

Lipscomb	
Comparable Sales	<u>\$958,473</u>
Income Capitalization	<u>\$795,364</u>
100% Interest in Leased Land	<u>\$850,000</u>
Value of 50% Undivided Interest	\$425,000
LESS: 27% Fractional Interest Discount	<u>(\$114,750)</u>
Value of 50% Undivided Interest	<u>\$310,250</u>
Dilmore (Undivided 50% Fee Interest)	
Income Capitalization	\$247,059
LESS: 15% Fractional Interest Discount	<u>(\$37,059)</u>
Value of 50% Undivided Interest	<u>\$210,000</u>
Maloy	
Income Capitalization (100% Interest)	<u>\$1,547,000</u>

ation may represent an indirect gift to the other partners.

Discount for the Undivided Interest in Real Estate. The Court held that the Taypayer made separate gifts to each of his sons of 25% undivided interests in the leased land and the bank stock.

After characterizing the transfer as an indirect gift, the Court was left to value that gift. The parties stipulated as to the value of the bank stock but the value of the interest in the leased land remained at issue.

The Taypayer presented testimony of three real estate appraisers: Norman Lipscomb ("Lipscomb"); Gene Dilmore ("Dilmore"); and Harry Haney, whose report the Court did not discuss. The Service presented the testimony of Richard Maloy ("Maloy"). Table 2 delineates each expert's opinion.

The Court discussed several valuation issues related to the income capitalization method used by several experts. The Court found Lipscomb's estimated growth rate most reasonable and his discount rate appropriate but not his

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Table 1
Reported on Gift Tax Return

Fair Market Value of Bank Stock	\$932,219
LESS: 15% Minority Interest Discount	<u>(\$139,833)</u>
Value of Bank Stock	\$792,386
Fair Market Value of Leased Land	\$400,000
<u>Value to Each Son (25% Interest)</u>	
Fair Market Value of Bank Stock	\$198,097
Fair Market Value of Leased Land	<u>\$100,000</u>
Gift Value to Each Son	<u>\$298,097</u>

valuation methodology. The Court accepted Maloy's valuation methodology, but substituted Lipscomb's discount rate.

Finally, the Court determined the appropriate discounts for the separate, indirect gifts of leased land interests and bank stock. Gift tax is imposed on the value of what the donor transfers. Lipscomb opined that a 27% discount represented the reduction of marketability and control. Dilmore indicated the discount should be 15% which the Court accepted with little explanation regarding its choice. The Court's conclusion of value is found in Table 3.

Judicial Involvement. Possibly the most notable aspect of this opinion is not the valuation, but the struggle

among the judges regarding how to define the interests in land and bank stock transferred and the impact of the definition on the valuation. As mentioned above, eleven judges signed the majority opinion, five judges signed a concurring opinion, and eight

judges signed a second concurring opinion. In addition, three judges signed an opinion concurring in part and dissenting in part, and one judge signed an additional opinion concurring in part and dissenting in part.

Given the diversity of opinions among the

judges, this case does not represent strong precedent but it does offer the reader insight into the fact that the valuation of a property interest, including discounts allowed, reflects the definition of that transfer. ♦

Table 3
Court's Conclusion of Value

Leased Land	
1991 Present value of lease income	\$566,773
1991 Present value of 2023 reversion	<u>\$190,291</u>
Combined Present Value	\$757,064
Pro rata interest (25%)	\$189,266
LESS: 15% Discount	<u>(\$28,390)</u>
Value of Separate Indirect Gifts	<u>\$160,876</u>
Bank Stock	
Stipulated Value	<u>\$932,219</u>
Pro rata interest (25%)	\$233,055
LESS: 15% Discount	<u>(\$34,958)</u>
Value of Separate Indirect Gifts	<u>\$198,097</u>
Combined Value of Separate Gifts	<u>\$358,973</u>

Valuing Employee Options

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Generally accepted modifications of an option pricing model to adjust for such factors as the nontransferability of employee stock options are described in FAS 123. The standard option pricing models were designed to estimate the value of transferable stock options. Transferable stock options must be more valuable than nontransferable options because they can be sold, while nontransferable options may only be exercised. To adjust for the nontransferability of employee stock options it may be necessary to estimate the expected life of the option at a shorter length of time than its maximum term (expiration date) when developing inputs for an option pricing model. This adjustment would lower the value of the option, as the holder would have less time to benefit from favorable stock price movements. ♦

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