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**“ASSESSING THE COST OF STOCK OPTIONS
TO SHAREHOLDERS -- A DIFFERENT VIEW”**

Stock options undeniably have a cost to shareholders, but what is the best way to assess this cost? In the letter below, we seek an answer to this question. Previously, we explored one way of looking at the cost by analyzing the dilutive effect of options on earnings per share.¹ As the investment community typically uses diluted EPS as the basis for company valuations (i.e., P/E multiple), the cost to shareholders can be measured by the decrease in EPS due to options. Here, we take a slightly different approach to measuring the shareholder cost. Our goal is to assign a dollar value to this cost by identifying what portion of a company's market capitalization is represented by employee stock options.

Overview

We begin with the market capitalization equation used by a majority of investment professionals today, which is current stock price multiplied by the number of diluted shares outstanding. Next, we calculate the company's market capitalization assuming no dilution from employee stock options (i.e., current stock price multiplied by common shares outstanding). The difference between the two market capitalization values represents the cost to shareholders from the issuance of such options. If the company and the employee have the same tax rate, the shareholder cost in forgone market cap exactly equals the employee's potential after-tax option gain. In simpler terms, the cost of options to shareholders equals the gain to employees.

This is implicit in the whole concept of stock options, namely that shareholders agree to give up a portion of the gain on their investment to the employees who help create that gain. Shareholders assume that by providing a sharing opportunity, the total gain will be larger than if there had been no sharing.

Analysis

The Financial Accounting Standards Board's method for determining the additional dilution from stock options for purposes of calculating earnings per share is the treasury stock method.² This method adds to common shares outstanding the number of shares (“share equivalents”) that would result if all *in-the-money* stock options were exercised and the exercise proceeds³ received

¹ Hidden “Time Bomb” of Underwater Options on Diluted EPS, July 6, 2001

² We focus solely on stock options when calculating diluted shares outstanding using the treasury stock method in this paper. A company may have other forms of dilution (e.g., convertible debentures, convertible preferred stock, etc.) which may cause diluted shares outstanding to be even greater.

³ Exercise proceeds include the option exercise price paid by the employee, plus the positive cash flow accruing to the company, if any, applicable to the tax deduction on the option profit received by the employee.

by the company were used to repurchase shares on the open market. Another way to look at it is that the additional share equivalents derived using this method are equal to the number of shares that can be purchased at current market with the after-tax gain on outstanding stock options. This calculation is performed every period that options are outstanding, whether or not vested. Given the equation for the treasury stock method above, we find that the portion of market capitalization represented by options is the additional share equivalents multiplied by the current stock price (or the difference between market capitalization based on diluted shares and that with no option dilution). Mathematically, this is the same as the tax-effected spread on outstanding options if the company and employee have identical tax rates.

Illustration

A simple example is provided below using the following assumptions:

- 1,000 common shares outstanding
- 200 non-qualified stock options outstanding with an exercise price of \$10.00 per share
- \$15.00 per share current stock price
- 40% effective tax rate for both the company and the employee

<u>Outstanding Stock Options</u>		
Number of Options	200	Shares
Exercise Price per Share	\$10.00	
Option Gain at \$15 Current Price		
Pre-tax Gain	\$1,000	
After-tax Gain at 40%	\$600	
Shares Represented by After-Tax Gain	40	Shares
<u>Shares Outstanding</u>		
Common Shares Outstanding	1,000	Shares
Treasury Stock Method		
Gross Shares Issued	200	Shares
-- Exercise Proceeds	\$2,000	
-- Company Tax Benefit on Gain at 40%	\$400	
-- Total Proceeds	\$2,400	
-- Total Shares Repurchased at \$15 Current Price	(160)	Shares
Net Shares Issued (or Share Equivalents)	40	Shares
Diluted Shares Outstanding	1,040	Shares
<u>Market Capitalization at \$15 Current Stock Price</u>		
Based on Common Shares Outstanding (\$15 x 1,000 Shares)	\$15,000	
Based on Diluted Shares Outstanding (\$15 x 1,040 Shares)	\$15,600	
Difference	\$600	

In the example above, outstanding stock options result in an additional 40 shares deemed issued to employees, representing \$600 of the \$15,600 aggregate equity market capitalization. As

mentioned before, this is also the after-tax spread on the 200 options. Without options, the shareholders would own the full \$15,600 market value, assuming the motivation from options has no effect on stock price. However, now due to the additional dilution from employee stock options, they own in \$15,000, and have a “cost” of \$600. In other words, the options reduce the market capitalization held by shareholders from \$15,600 to \$15,000, or by 3.85%. This 3.85% is the amount of shareholder value being transferred from the investors to the employees as a result of such options.

Actual Examples

The “cost” of stock options is shown below at five major corporations. Each valuation is based on diluted shares outstanding data used to compute earnings per share for the third quarter of 2001, and the closing stock price on September 28, 2001 (i.e., the last trading day of the quarter).

	<u>Citigroup</u>	<u>Coca-Cola</u>	<u>Exxon Mobil</u>	<u>Intel</u>	<u>Microsoft</u>
Market Capitalization ⁽¹⁾ (\$ Billions)	\$209.3	\$116.6	\$272.8	\$140.5	\$284.9
"Cost" of Stock Options (\$ Billions)	\$3.0	\$0.0	\$2.8	\$3.2	\$8.6
% of Market Capitalization	1.4%	0.0%	1.0%	2.3%	3.0%

⁽¹⁾ Based on weighted average diluted shares outstanding for the third quarter of 2001, and closing stock price on 9/28/01.

The recent decline in the stock market has left many outstanding stock options at these and other companies underwater, and as a result, their effect is not included in the values above (e.g., Coca-Cola). We expect that as stock prices begin to recover and previously underwater options become valuable, the “costs” shown above will be significantly greater.

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