Shares buyback

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The shares buyback enables to increase the weight of debt in the financing. It reduces the market cap but increases the share price when the operation is announced. The increase corresponds to the tax shield per share.

Then when the shares buyback is done (ie the cash is raised, the shares are repurchased and cancelled), the new share price is unchanged.

Here is the evidence:

Notations

C = share price before operation

N = initial number of shares

D = amount of shares buyback

τ = corporate tax rate

Initial situation

Initial market cap = NC

Initial debt = 0

Impact of the announcement of the operation

Tax shield = $D\tau$

Market cap after announcement = $NC + D\tau$

Share price after announcement = $\dfrac{NC + D\tau}{N} = C + \dfrac{D\tau}{N}$

Impact of the buyback itself

Number of shares to be repurchased = $\dfrac{D}{\frac{NC+D\tau}{N}} = \dfrac{ND}{NC+D\tau}$

Number of shares after buyback = $N - \dfrac{ND}{NC+D\tau} = N\left(1 - \dfrac{D}{NC+D\tau}\right)$

Market cap after buyback = $NC + D\tau - D = NC - D(1-\tau) = N\left[C - \dfrac{D}{N}(1-\tau)\right]$

Share price after buyback = $\dfrac{C - \frac{D}{N}(1-\tau)}{1 - \frac{D}{NC+D\tau}} = \dfrac{NC - D(1-\tau)}{NC+D\tau-D} \cdot \dfrac{NC+D\tau}{N} = \dfrac{NC-D(1-\tau)}{NC-D(1-\tau)} \cdot \left(C + \dfrac{D\tau}{N}\right) = C + \dfrac{D\tau}{N}$

Conclusion

Share price after announcement = $C + \dfrac{D\tau}{N}$ = Share price after buyback