Share Dilution Problem Set[1]
RCore Tech
In-Class Problem[2]

Current Condition and Round One (New Equity Investor)

RCore Tech is an early stage provider of fin tech solutions for the health care industry based on a distributed network platform founded in 2012. In early-2015 the firm estimated current-year total sales of $6,500,000, EBITDA of $1,000,000 and cash flow of $750,000. The firm's executive team projected year-over-year revenue growth of 16% for the next 4 years given then-current product development, market demands, and human capital resources. At this time the firm's founder owned 100% of the firm's outstanding equity shares, one million shares, and had kept long-term debt to $2,000,000, but saw the need to raise capital to take advantage of the growth opportunity materializing before your firm.

Signature Capital, a regional Venture Capital firm, made the firm an offer of an $1,000,000 equity investment based on a predetermined pre-money value estimate: the average of 1) 0.9x Sales multiple on projected 2019 total sales, 2) 5.75x 2019 projected EBITDA and 3) a discounted cash flow based on a 14% discount rate and long-run growth expectations of 3%.

Round Two (New Equity & Debt Investors and Exercised Options)

At the end of 2016, the firm recognized the need to raise $2,000,000 of additional capital to meet greater-than-expected product demand coupled with increased development and human capital costs. 2016 sales growth resulted in total revenues of $15,000,000, EBITDA of $3,450,000, and cash flow of $2,400,000, well ahead of earlier estimates. Market activity suggested revenue growth prospects of 20% for the next four years if the firm could secure sufficient investment capital.

With the cost of corporate borrowing at near-term lows and a booming equity market, the firm sought $1,000,000 of new equity and $1,000,000 of 15-year debt. Signature Capital, already an equity stake holder, offered debt capital at 8% and Mill Creek Holdings, another area Venture Capital firm, presented a $1,000,000 new-equity offer based on a pre-money value estimate equaling the average of 1) 1.5x Sales multiple on 2020 total sales, 2) 6.5x EBITDA multiple and 3) a discounted cash flow based on a 12% discount rate and long-run growth expectations of 3%.

In addition, as part of their offer Mill Creek Holdings required the firm settle all outstanding equity claims during this round and any proceeds to the firm from stakeholder exercising to be treated as new paid-in capital to the firm. The firm's management were in possession of options for 15,000 shares of common with a strike price of $15 per share that were exercised as part of this round.

Round Three (Executive Stock Bonus)

When the founder recruited the executive team prior to receiving the first round of funding from Signature Capital an executive stock bonus plan was presented giving the team a total of 25,000

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[1] This problem and solution set is intended to present an abbreviated discussion of the included finance concepts and is not intended to be a full or complete representation of them or the underlying foundations from which they are built.

[2] This problem set was developed by Richard Haskell, PhD (rhaskell@westminstercollege.edu), Gore School of Business, Westminster College, Salt Lake City, Utah (2020).

common shares in the event the founder's original 1,000,000 equity shares exceeded $50,000,000 in value. The plan provided the executive team with 100% immediate vesting of all shares as a reward for their accomplishments and was fully disclosed to each successive equity and debt investor securing a stake in the firm.

At the end of 2019 the firm's annual sales reached $27,000,000 with EBITDA and cash flow of $6,400,000 and $3,500,000 respectively. The current equity stakeholders agreed to a valuation based on most of the same metrics used in the last round of capital financing, but reflective of an 18% growth rate and capital costs of 10% (the firm's cost of capital steadily decline over the years given its improving credit quality and consistent sales growth). These resulted in the founder's common share value of almost $65,000,000 – an impressive return on an initial investment of $1,000,000 and a decade of hard work.

Construct a share dilution model in which you estimate the effects of the financing rounds, including the "current condition" associated with Round One, and answer the following questions:

a) Based on the 2019 valuation what is the value of Signature Capital's original investment and what is the annualized rate of return on that investment?
b) What is the value of executive stock bonus provided at the end of 2019?
c) Who paid for the executive stock bonus plan executed at the end of 2019?
d) If you were a partner/investor at Mill Creek Capital, how would you react to the executive stock bonus plan execution?
e) What is the founder's percentage ownership of the firm after three rounds of financing?

The model should include pre-money value estimations for each year indicated, a schedule of % ownership for each equity investor following each successive financing round, and values for each round as follows:

Current Condition	**Rounds One - Three**
Pre-Money Estimated Value Debt Excess Cash Common Shares Outstanding - Founder Preferred Shares Outstanding Conversion (Pref to Common) Converted Preferred In the money Options - common Total Common Outstanding Equity Value Price per share - Common Price per share - Preferred Founder Equity % Ownership	Pre-Money Estimated Value Pre-Money Equity Value Pre-Money Debt Pre-Money Excess Cash Pre-Money Equity Shares - Common Pre-Money Price Per Share In-the-Money Options Exercised Option Strike Price New Debt Investment New Equity Investment New Equity Shares Total Common Shares Outstanding Post-Money Value Post-Money Debt Post-Money Equity Value