

User Guide for Capitalization Table Template

Description of Capitalization Table Template

Capitalization tables track investments, common and preferred shares, options, notes, preference rights through multiple rounds of financing of a company. The complexity of this application makes it an ideal application for ModelSheet. The Standard version does not contain all features listed below. See the comparison table on our website for more information.

Types of Securities

The model includes five types of securities.

- Convertible notes earn non-cash payments (termed dividends). See Technical Notes below for default conversion rules.
- Preferred shares earn a dividend and can convert to common stock.
- Common stock
- Warrants have an exercise price, a selling price, and exercise conditions. See Technical Notes below for default exercise rules.
- Options have an exercise price, a selling price, and exercise conditions.

ModelSheet can easily change the number of series for each type of security. (Such changes would present a major challenge if authoring were performed using conventional spreadsheets).

Major Computed Results

The model computes:

- the value and share units of each type of security owned before and after each transaction round.
- the number of share units of each type purchased at each transaction round.
- the number of fully diluted common share units before and after each conversion event.
- the valuation of each type of security before and after each transaction round, and the value of the enterprise before and after each transaction round.
- the payout at liquidation to each type of security, accounting for liquidation preferences of senior securities.

Investment Rounds

The model includes a number of investment rounds that you can set, including 'Exit'. You can specify the number of rounds in your customized template.

Phases within Each Investment Round

Each investment round has five phases that occur in this order, and include these transactions.

1. "Start Phase": Stock splits occur and dividends in kind are paid at the start of each investment round.

2. "New Sales Phase": Sell new securities (convertible notes, preferred stock, warrants, options, common stock)
3. "Post Sales Phase": Record investments and share units after sale of new securities.
4. "Conversion Phase": Stakeholders can convert notes and preferred shares and can exercise warrants and options to obtain common stock.
5. "End Phase": Record security holdings, prices and values at the end of the investment round.

All five phases are assumed to occur on the date of the investment round.

You can edit this phase structure of a round in customized templates. You can edit the phase structure using ModelSheet Authoring. This is a fairly complex process, but it is much easier to do with ModelSheet Authoring than with conventional spreadsheets.

Investment and Return on Investment

The model reports three measures of return on investment for each series of each type of security.

- Return multiples: the multiple of investment that is paid out
- Present value of the cash flow for each series of each type of security. The discount rates can differ across series and types of securities to reflect different risk profiles.
- Internal rate of return for the cash flow from each type of security

The key results are collected on worksheets 'Investment', 'Shares', 'Valuation', and 'Payout'.

Instructions for Using Capitalization Table Template

1 Let the template tell you how it works

The template has four main facilities to help you learn how it works.

- Throughout the template, section titles, variable names and Excel comments provide information about the template and the computations behind it. The Excel comment for each variable is repeated for each display instance of a variable.
- Worksheet 'Labels' contains a glossary of variables and dimensions in the template.
 - It lists all the variables in the model, accompanied on the right by the explanatory comment for each variable.
 - It lists all the dimensions and their dimension items, accompanied on the right by the explanatory comment for each dimension.
- The Excel workbook contains Excel collapsible groups that you can open to see detailed information or close to get an overview of the information on each worksheet.
- Worksheet 'Formulas' contains a list of the symbolic formulas that define values of variables in terms of numerical constants and other variables.

The template is derived from these symbolic formulas by ModelSheet. Although these formulas are not executable in Excel, they often provide the quickest route to understanding what the computations are doing, avoiding the need to decode dozens of Excel formulas written in terms of cell addresses.

Of course, you can read the Excel cell formulas.

2 Editing Data in the Excel Template

You can enter input data in shaded input cells (usually dark blue). Most of the input data is on worksheet 'Inputs'. You can edit display names of variables and dimension items on worksheet 'Labels' (and in some templates the input cell for Model Start Date is located at the top of worksheet 'Labels'). Putting most inputs in one or two places eliminates the need to search the workbook for input cells.

Capitalization tables are affected by decisions concerning conversion (of notes and common stock) and exercise (of warrants and options). This template makes initial guesses regarding conversions and exercises in each round, which you can overwrite.

Organization of Input data in the Standard Version

Sheet 'Inputs' contains most of the input data. Collapsible groups start out closed so you get an overview of the information on this sheet.

- Basic information
 - The name of the company
 - The date of each investment round. (Each investment round is assumed to occur on one day. The timing affects dividend payments and computation of returns on investment.)
 - Valuation of the company at the start of each investment round
- Inputs that describe Convertible Notes
 - New investment in each series of notes in each investment round
 - A discount percent on the price of common shares, if the notes are converted relatively early
 - Dividend rates (% on book value) on convertible notes, paid at the beginning of each investment round
 - Several factors that enter into assumptions about whether each series of convertible notes is converted to common shares in each investment round
 - A liquidation preference multiple as a percent of the value of each series of convertible notes
- Inputs that describe Preferred Stock: new investment in each series of preferred shares in each investment round
 - The price premium % of preferred shares over common shares, in each investment round.
 - New investment in preferred shares in each investment round
 - Dividend amounts per preferred share, paid at the beginning of each investment round
 - Several factors that enter into assumptions about whether each series of preferred shares is converted to common shares in each investment round
 - A liquidation preference multiple as a percent of the value of each series of preferred shares
- Inputs that describe Common Stock
 - Common share price at the beginning of the first round. Common stock price in later rounds is determined by the value of the company and the amounts of other securities outstanding.
 - New investment in common shares in each investment round
 - Stock split factors for common stock, applied at the beginning of each investment round
 - Dividend amounts per common share, paid at the beginning of each investment round
- Inputs that describe Warrants and Options
 - The prices of each series of warrants and options as a percentage of common share price
 - The exercise prices of each series of warrants and options

- The prices of each series of warrants and options (\$). These prices are computed, and you can overwrite them with your own input data.
- Number of shares of each series sold or granted in each investment round
- Several factors that enter into assumptions about whether each series of warrants and options is exercised.

Some input data for the percent of conversion and exercise of outstanding securities is located at the bottom of worksheet 'Conversion'. The model computes estimates for the decisions of investors, and you can override this information by entering your own data in the dark blue input cells.

Inputs for prices of convertible notes and preferred and common stock are at the top of worksheet 'Prices'.

Organization of Input data in the Advanced Version

The advanced version of the template has two types of built-in scenarios that you can fill with your own input data.

- Three scenarios for the value of the company at the start of each investment round. Valuations includes debt.
- Three scenarios for the level of investment in the company. Each scenario specifies amount of investment (or units for warrants and options) in each series of each type of security in each round.

Taking these two types of scenarios together, this makes nine scenarios.

Input variables that have different values in different scenarios are moved to a new worksheet 'Scenario Inputs'.

- Worksheet 'Scenario Inputs' contains input data that depend on the choice of scenario.
 - The choice of valuation scenario (1,2, or 3) and the choice of investment scenario (1,2, or 3)
 - The date of each investment round in each scenario
 - Valuation of the company at the start of each investment round in each scenario
 - New investment in each series of each type of security (or units for warrants and options), in each scenario
- Worksheet 'Inputs' is nearly the same as in the Standard version, except for input variables that migrate to worksheet 'Scenario Inputs'.
 - Worksheet 'Inputs' includes, at the bottom, parameters that describe the non-cash contributions of founders. This information is used to adjust the measured return on investment for founders.
- Worksheet 'Investments' contains input data for discount rates in computing NPV of cash flows to owners of each series of each type of security.

3 Customizing the Excel Template

You can customize the workbook further on the worksheet "Labels".

- Change the model start date (at the top of the worksheet).
- Change the display name of any variable, dimension or dimension item.
- Edit the comment associated with any variable or dimension. The new comments will not propagate through the workbook.

Technical Notes

Valuation and Security Prices

The following principles determine valuation and securities prices

1. The value of the firm at the start of each investment round is an exogenous input that reflects the expected future cash flows of the firm.

2. In any phase of an investment round, the sum of the values of all five types of securities equals the value of the firm. Similarly, the sum of the values of all series of a given type of security equals the value of that type of security.
3. All unconverted notes and preferred shares are valued at their liquidation preferences.
4. All unexercised warrants and options are valued at $\max(0, \text{common share price} - \text{exercise price})$. This valuation ignores impact on option price of stock volatility, riskless returns, and dividend rate.
5. The total value of all common shares equals the value of the firm less liquidation preferences of unconverted notes and preferred shares less valuation of unexercised warrants and options. The price of a common share equals the value of all common shares / number of common shares.

Conversion and Exercise Decisions

The model includes default decisions for conversion of notes and preferred shares and exercise of warrants and options. Five criteria must be satisfied in order for the default conversion and exercise decision to be positive.

1. The date of the current round \geq a specified trigger date
2. The sum of investments in common, preferred and notes $>$ a specified trigger investment threshold
3. For notes and preferred: investment in notes + preferred $<$ a stated fraction of firm value.
4. For notes and preferred: value of common shares obtained $>$ $(1 + \text{premium}) * \text{liquidation preference}$.
5. For warrants and options: common share price \geq exercise price."

You can set numerous parameters that influence these default conversion and exercise decisions. You can also override these default decision rules entirely by entering how much of each type of security is converted or exercised in each investment round.

Inputs to the Model

You can edit inputs in cells shaded darker blue on the worksheets 'Inputs' and 'Scenario Inputs.'

- The number of investment rounds and their names and dates.
- The valuation of the enterprise at the start of each investment round.
- The amount invested in new common shares, preferred shares, and convertible notes in each round.
- The number of new warrants and options purchased in each investment round.
 - The number of shares for convertible notes is not determined until conversion.

– Parameters that determine unit purchase prices, conversion timing, and conversion prices for preferred stock, warrants and options.

- The exercise price and purchase price of each type of option at each transaction event.

You can also override the model's assumption for conversion and exercise of securities by entering new conversion percentages in the dark blue cells in variable 'Converting %' on worksheet 'Conversion'.

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