

Business Valuation Overview

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- *Passion Works Here*



Palo Alto San Francisco San Jose St. Helena New York
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Business Valuation – Industry Primer

Credentials and Certifications

Organization	Certification	Prerequisites	Courses/Exam	Reports	Experience
AICPA	ABV	CPA License	One-day exam	None	Substantial involvement in at least 10 BV engagements
ASA	ASA	College Degree	4 3-day courses each with 1/2 day exam	2 Reports to Board of Examiners	5 years full time equivalent BV experience
ASA	AM	College Degree	4 3-day courses each with 1/2 day exam	2 Reports to Board of Examiners	2 years full time equivalent BV experience
NACVA	CVA	CPA License	5-day course; 1-day exam	Case study for exam	2 years full time equivalent BV experience
IBA	CBA	College Degree	3 1/2 hour exam	2 Reports showing professional competence	Completed 2 assignments
CFA Institute	CFA	College Degree or 4 years of qualified work experience	3 1-day annual exams	None	Three years of relevant investment experience

Types of Business Valuations

Fair Market Value

- Income Tax
- Gift and Estate Tax
- Other

Fair Value

Business combinations:

- Purchase consideration paid in client's stock, and/or
- Purchase price in excess of net tangible assets

Equity securities granted as a compensation instrument

Who Sets the Rules?

AICPA

2 Practice Aids

IRS

RR 59-60

The Courts

Big 4 CPA Firms

Accepted Allocation Methods

AICPA Guidelines

The selected allocation method must:

- a. Reflect the **going-concern status** of the enterprise.
- b. **Assign some value to common** shares unless the enterprise is being liquidated and no cash is being distributed to the common shareholders.
- c. Be **verifiable** through either **independent replication** or approximation by other valuation specialists using the same underlying data and assumptions.
- d. **Cost** less than expected **benefits**.

Current Value Method

1. **Determine enterprise value**
Market, income, or asset-based
2. **Allocate value** to stock based on liquidation preferences or conversion values, whichever is greater.

Pros

Simple and easy to understand & implement

Cons

Static analysis, not forward-looking

Almost never accepted in practice

Current Value - Example

Equity Value	\$7,500	
Series A	\$5,000	1x liq. pref, non-participating
Common Stock	\$2,500	
Common Shares	1,000	
Price/Share (CS)	\$2.50	

Probability Weighted Expected Return Method (PWERM)

PWERM estimates the value of common stock based upon an analysis of future values for enterprise owners assuming various future outcomes.

Pros

Conceptually simple, forward looking, clients get it

Cons

Many (sensitive) assumptions

Hard to audit

PWERM - Example

Scenario	Timing	Probability	Enterprise Value
IPO	12/31/2012	25%	\$500,000
Sale	12/31/2012	25%	\$600,000
Sideways	12/31/2013	0%	\$400,000
Dissolution	3/31/2013	50%	\$175,000

Stock values are derived for each scenario and then probability weighted.

Option Pricing Method (OPM)

Treats common and preferred stock as call options on the enterprise's value with exercise prices based on the rights and preferences of the stock (uses Black-Scholes).

Pros

Forward looking, captures wide range of possibilities

Considers rights & preferences of stockholders

Auditors like it

Cons

Can be very complex

Sensitive to unobservable assumptions

Model breaks down in certain situations

Clients don't "get it"

OPM - Example

Key Assumptions	Value	Unit or Liquidity	Value
MVC of Company	\$26,740,092	Annual Volatility	3.50%
MVC of Company	\$26,283,227	Annual Volatility	3.00%
Cost of Company	\$479,865	Risk Free Rate	1.00%

	No. of Shares	Exercise Price	Allocation Per Share	Total
Series A	3,000,000	\$1.00	\$3,000,000	
Series A1	2,333,334	\$1.50	\$3,500,001	
Series A2	743,666	\$2.50	\$1,859,165	
Series A3	743,666	\$5.00	\$3,718,330	
Series A4	1,487,332	\$5.00	\$7,436,660	
Series A5	2,974,664	\$10.00	\$29,746,640	
Series B	2,448,111	\$18.79	\$45,900,000	
Conversion Stock	3,079,918			
Preferred Warrants	787,854	\$6.98		
Total Stock Options @ \$0.1	89,000	\$0.10		
Total Stock Options @ \$0.2	870,960	\$0.20		
Total Stock Options @ \$0.3	601,412	\$0.30		
Total Stock Options @ \$0.5	478,000	\$0.50		
Total	18,651,887		\$66,908,348	

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10	Option 11	Option 12	Option 13	Option 14
Value Allocation														
Start of roll up	\$0	\$6,479,865	\$12,959,730	\$19,439,595	\$25,919,460	\$32,399,325	\$38,879,190	\$45,359,055	\$51,838,920	\$58,318,785	\$64,798,650	\$71,278,515	\$77,758,380	\$84,238,245
End of range (break point)	\$6,479,865	\$12,959,730	\$19,439,595	\$25,919,460	\$32,399,325	\$38,879,190	\$45,359,055	\$51,838,920	\$58,318,785	\$64,798,650	\$71,278,515	\$77,758,380	\$84,238,245	\$90,718,110
Debt														
Series A	\$0	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000
Series A1	\$0	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
Series A2	\$0	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165
Series A3	\$0	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330
Series A4	\$0	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660
Series A5	\$0	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640
Series B	\$0	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000
Preferred Warrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Stock Options	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Conversion Stock	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implied Value of Common - Start	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implied Value of Common - End	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10	Option 11	Option 12	Option 13	Option 14
Implied Value of Common - Start	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implied Value of Common - End	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Conversion Allocation														
Debt	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Series A	0.00%	3.24%	0.00%	0.00%	0.00%	0.00%	41.73%	50.87%	26.27%	22.88%	22.88%	10.83%	16.04%	16.04%
Series A1	0.00%	3.70%	0.00%	0.00%	0.00%	0.00%	0.00%	23.89%	21.96%	17.70%	17.70%	14.57%	12.44%	12.44%
Series A2	0.00%	2.16%	0.00%	0.00%	0.00%	0.00%	0.00%	7.07%	5.90%	5.90%	4.2%	3.90%	3.90%	3.90%
Series A3	0.00%	4.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.2%	3.90%	3.90%	3.90%
Series A4	0.00%	8.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8.4%	7.8%	7.8%	7.8%
Series A5	0.00%	29.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.11%	13.65%	13.65%	13.65%
Series B	0.00%	49.99%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	13.04%	13.04%	13.04%
Preferred Warrants	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Stock Options	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Conversion Stock	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10	Option 11	Option 12	Option 13	Option 14
Option Value	\$26,740,092	\$26,829,162	\$17,368,373	\$17,073,246	\$16,636,332	\$16,202,944	\$15,774,625	\$15,348,830	\$14,925,176	\$14,503,260	\$14,082,590	\$13,663,660	\$13,245,984	\$12,830,000
Call Value	\$6,991,929	\$12,959,730	\$19,439,595	\$25,919,460	\$32,399,325	\$38,879,190	\$45,359,055	\$51,838,920	\$58,318,785	\$64,798,650	\$71,278,515	\$77,758,380	\$84,238,245	\$90,718,110
Debt														
Series A	\$0	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000
Series A1	\$0	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
Series A2	\$0	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165	\$1,859,165
Series A3	\$0	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330	\$3,718,330
Series A4	\$0	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660	\$7,436,660
Series A5	\$0	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640	\$29,746,640
Series B	\$0	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000	\$45,900,000
Preferred Warrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Stock Options	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Conversion Stock	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implied Value of Common - Start	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implied Value of Common - End	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

	Total Value	Series A	Per Share
Debt	\$6,991,929	\$	\$1,961,818
Series A	\$33,492,550	\$3,000,000	\$11.18
Series A1	\$26,198,772	\$3,500,000	\$11.23
Series A2	\$6,456,969	\$1,859,165	\$11.33
Series A3	\$6,086,959	\$3,718,330	\$11.87
Series A4	\$17,787,786	\$7,436,660	\$11.97
Series A5	\$26,323,680	\$29,746,640	\$13.93
Series B	\$45,900,000	\$45,900,000	\$18.79
Preferred Warrants	\$3,456,663	\$787,854	\$4.51
Net Stock Options	\$18,719,456	\$18,719,456	\$11.93
Conversion Stock	\$26,829,162	\$26,829,162	\$15.11
Total	\$26,740,092		

Best Practices Board of Director Level

Selecting a Provider

Why not hire the lowest bidder?

409A reports often audited by Big 4

- AICPA Practice Aid is the (high) hurdle
- Low quality reports can be kicked back and/or blacklisted
- Spend more on audit fees and potentially redoing the valuation with a low quality provider – consider the all-in cost.

Good Reporting

Standards: USPAP; SSVS 1

A good report:

- Tells the story in an understandable way
- Is complete
- Includes appraiser qualifications

Rules of Thumb - Pitfalls

10 to 1 Rule

- DOA
- A recent study by a Fair Value Forum firm shows the median is **29%** of last round

Discount for Lack of Marketability

- Always 40%

Who's Value World are You In?

- **VC:** Pre- and Post- Money values
- **Valuation Analyst:** Each security has a distinct value based on rights and preferences

How Frequently to Update?

- IRS – 409A valuations should be updated upon stock grants if the value has changed; in any case, the valuation is stale after one year
 - What will trigger a value change such that an update is necessary?
- Our Recommendation:
 - Grant options on a quarterly basis
 - Evaluate internal and external valuation indicators of value; have things changed?
 - Document in board minutes
- IPO window
 - Quarterly

Q&A