

Common stock valuation for

# Meetly

Valuation date March 1, 2019
Prepared by Carta Valuations LLC on March 1, 2019

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Aaron Kim March 1, 2019

Chief Executive Officer

#### **MEETLY**

870 Market Street San Francisco, CA 94117

This report details the valuation analysis used to derive the fair market value of the common equity of Meetly (hereinafter referred to as "Meetly" or the "Company") on a per share basis ("Subject Interest") as of March 1, 2019 ("Valuation Date"). It is understood that the valuation of the Subject Interest, as developed in this report, will be used for tax planning and financial reporting purposes in recognition of Internal Revenue Code Section 409A ("409A") and FASB Accounting Standards Codification Topic 718 – Stock Compensation ("ASC 718"). As such, this report should not be used for any other purpose.

The analysis was prepared following the guidance of the American Institute of Certified Public Accountants ("AIC-PA") Accounting and Valuation Guide: Valuation of Privately-Held-Company Equity Securities Issued as Compensation (the "AICPA Guide").

The definition of fair market value is predicated on IRS Revenue Ruling 59-60.

#### STANDARD OF VALUE

For income tax purposes, the appropriate standard of value is fair market value, which is defined as:

The price, expressed in terms of cash equivalents, at which such property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or to sell, and when both have reasonable knowledge of relevant facts.

For financial reporting purposes, the appropriate standard of value is fair value, which is defined as:

The amount at which an asset (or liability) could be bought (or incurred) or sold (or settled) in a current transaction between willing parties, that is, other than in a forced or liquidation sale.

According to the May 7, 2003 FASB Board meeting, the above definition of fair value is consistent with the definition of fair market value in Internal Revenue Ruling 59-60. We are not aware of any facts that would cause a difference in our conclusions on a fair market value basis compared with fair value. As such, it is not unreasonable that our conclusion of fair value for financial reporting purposes be consistent with our conclusion of fair market value for tax reporting purposes.

#### SCOPE OF ENGAGEMENT

This report was created in compliance with guidance regarding valuation methodologies published by the AICPA.



We considered differences between the Company's preferred and common shares with respect to liquidation preferences, conversion rights, voting rights, and other features. We also considered appropriate adjustments to recognize lack of marketability related to the Subject Interest.

#### **CONCLUSIONS**

Based on the information provided and the analysis conducted, and subject to the attached Statement of Assumptions and Limiting Conditions, it is our opinion that the fair value and fair market value of one share of the Company's common stock on a non-marketable, minority basis as of the Valuation Date is as follows:

Common Stock of Meetly: \$1.68

Carta Valuations LLC's fee for this service is not contingent upon the results of the Valuation expressed herein. This Valuation is subject to the terms and conditions of the master subscription agreement between eShares, Inc. (an affiliate of Carta Valuations LLC) and Meetly executed on July 6, 2012.



# **VALUATION SUMMARY**

# Company value

Approach	Value	Weighting
Market approach (subject company transaction method)	\$68,764,000	100.00%
Concluded value	\$68,764,000	100.00%

# Common stock value

Inputs	Conclusion
Allocation methodology	Option pricing model
Fully marketable value	\$2.42
Discount for lack of marketability	30.55%
Concluded fair market value	\$1.68



# **COMPANY OVERVIEW**

Meetly is a human resource technology company operating mainly in the US with a small subsidiary located in the UK. The Company provides an HR platform to early stage companies ranging anywhere from 1 person in headcount to 250 employees. Meetly was founded in 2012.



# **MEETLY FINANCIALS**

#### Income statement

Metric	Historical <sub>[1]</sub>	ТТМ	NTM	2019	2020	2021
Revenue	\$10,000	\$1,439,854	\$3,500,000	\$5,000,000	\$6,000,000	\$7,000,000
EBITDA	(\$234,893)	(\$3,487,503)	(\$2,000,000)	(\$2,000,000)	(\$2,000,000)	(\$2,000,000)

#### Financial Metrics

Metric	Value
EBITDA Margin	-242.21%
Historical growth rate	14298.54%
Projected growth rate	143.08%

#### Balance sheet

Metric	Value
Cash and cash equivalents	\$125,000
Interest bearing liabilities	\$2,173,985

[1] 'Historical' refers to the period from March 2, 2017 to March 1, 2018.



# **CAPITALIZATION**

#### Share classes

Outstanding shares	Shares outstanding	Warrants	Options	Total
Series D Preferred	1,000,000	0	0	1,000,000
Series C Preferred	1,805,206	0	0	1,805,206
Series B Preferred	3,029,344	0	0	3,029,344
Series A Preferred	3,631,191	0	0	3,631,191
Series Seed Preferred	1,257,038	285,000	0	1,542,038
Common	5,350,812	0	2,227,032	7,577,844
Total	16,073,591	285,000	2,227,032	18,585,623

#### Liquidation preferences

Share class	Liquidation rank	Issue price	Multiplier	Dividend type	Dividend rate	Participation Y/N	Participation cap	Conversion ratio
Series D Preferred	1	\$5.36	1.00	Non-Cumulative	N/M	N	N/A	1.00
Series C Preferred	2	\$2.75	1.00	Non-Cumulative	N/M	Υ	2.00x	1.00
Series B Preferred	3	\$1.22	1.50	Non-Cumulative	N/M	Υ	2.00x	1.00
Series A Preferred	4	\$0.45	1.00	Cumulative	6.00%	N	N/A	1.00
Series Seed Preferred	5	\$0.27	1.00	Non-Cumulative	N/M	N	N/A	1.00
Common	6	_	1.00	N/A	N/A	N/A	N/A	1.00

# Convertible debt and equity

Туре	Valuation cap	Principal
SAFE	\$6,000,000	\$875,000
Convertible debt	\$8,000,000	\$1,075,000

Lowest number liquidation preference is paid out first.



#### VALUATION METHODOLOGY SUMMARY

#### Selected valuation approaches

The first step in valuing the Company's common shares was to determine the value of the Company. In arriving at a conclusion of the Company value, we considered the methodologies below:

#### Market approach: Subject company transaction method

This methodology consists of examining prior transactions of the subject Company. According to the AICPA guidelines, recent securities transactions should be considered as a relevant input for computing the enterprise valuation.

Given that there were security transactions recent to the Valuation Date, the Subject Company Transaction Method was used. Detailed discussion and information about this approach can be found in the exhibits and appendix.

#### Market approach: Guideline public company method

This methodology focuses on comparing the subject entity to publicly traded entities. Given the lack of meaningful financial statistics to apply valuation multiples, indications from other methods were considered more appropriate for high-growth, early stage companies. Accordingly we did not rely upon the Guideline Public Company Method.

#### Market approach: Guideline M&A transaction method

This approach uses valuation multiples based on actual transactions that have occurred in the subject entity's industry. Given the lack of sufficiently comparable M&A transactions, we did not rely upon the Guideline M&A Transaction Method as of the Valuation Date.

#### Invested capital approach

This methodology focuses on capital invested in the Company as of the Valuation Date. Based on a study by Andrew Metrick, an exit multiple is applied to the invested capital and the value is discounted over the selected term, using a VC rate of return. This methodology was not used, as it does not accurately represent the going concern value of the Company.

#### Asset approach

The asset approach measures the value of an asset by the cost to recreate or replace it with another of like utility. When applied to the valuation of equity interests in businesses, value is based on the net aggregate fair market value of the entity's underlying individual assets. This approach is frequently used in valuing holding companies or capital-intensive businesses. This methodology was not used, as it does not accurately represent the going concern value of the Company.

#### Income approach: Discounted cash flow

This approach focuses on the income producing capability of a business. Given the stage and size of the Company, reliable financial projections were not available. Accordingly we did not rely on the Income Approach.



# **GUIDELINE PUBLIC COMPANY DISCUSSION**

#### Public companies selected

We identified potential guideline companies to compare to Meetly. A global list of companies that could be considered similar to Meetly was compiled for comparative purposes from a variety of sources including Capital IQ and discussions with management. We selected publicly traded guideline companies based on consideration of: business descriptions, operations and geographic presence, financial size and performance, stock liquidity, and management recommendations regarding most similar companies.



# **COMPARABLE COMPANY STATISTICS**

(\$USD in thousands)

Company	LTM revenue	Historic growth rate	Projected growth	EBITDA margin	Projected EBITDA margin	Historical EBITDA growth	Projected EBITDA growth
Automatic Data Processing, Inc.	\$13,839,000	8.20%	5.86%	23.35%	24.15%	16.92%	9.47%
Oracle Corporation	\$39,893,000	2.84%	0.31%	39.85%	46.29%	-1.20%	16.51%
SAP SE	\$28,289,000	5.32%	9.14%	31.01%	34.01%	27.76%	19.67%
Smartsheet Inc.	\$159,000	61.83%	42.24%	-27.86%	-15.90%	4.86%	18.79%
Workday, Inc.	\$2,822,000	31.69%	26.02%	-9.40%	18.61%	59.50%	349.62%
Minimum	\$159,000	2.84%	0.31%	-27.86%	-15.90%	-1.20%	9.47%
10th percentile	\$1,224,000	3.83%	2.53%	-20.47%	-2.10%	1.22%	12.28%
25th percentile	\$2,822,000	5.32%	5.86%	-9.40%	18.61%	4.86%	16.51%
Mean	\$17,001,000	21.97%	16.71%	11.39%	21.43%	21.57%	82.81%
Median	\$13,839,000	8.20%	9.14%	23.35%	24.15%	16.92%	18.79%
75th percentile	\$28,289,000	31.69%	26.02%	31.01%	34.01%	27.76%	19.67%
90th percentile	\$35,252,000	49.77%	35.75%	36.32%	41.38%	46.81%	217.64%
Maximum	\$39,893,000	61.83%	42.24%	39.85%	46.29%	59.50%	349.62%
Meetly	\$1,440	14298.54%	143.08%	-242.21%	-57.14%	-1384.72%	42.65%

Source: Capital IQ



# **COMPARABLE COMPANY RANKINGS**

(From highest to lowest)

Rank	LTM revenue	Historic growth rate	Projected growth	EBITDA margin	Projected EBITDA margin	Historical EBITDA growth	Projected EBITDA growth
1	Oracle Corporation	Meetly	Meetly	Oracle Corporation	Oracle Corporation	Workday, Inc.	Workday, Inc.
2	SAP SE	Smartsheet Inc.	Smartsheet Inc.	SAP SE	SAP SE	SAP SE	Meetly
3	Automatic Data Processing, Inc.	Workday, Inc.	Workday, Inc.	Automatic Data Processing, Inc.	Automatic Data Processing, Inc.	Automatic Data Processing, Inc.	SAP SE
4	Workday, Inc.	Automatic Data Processing, Inc.	SAP SE	Workday, Inc.	Workday, Inc.	Smartsheet Inc.	Smartsheet Inc.
5	Smartsheet Inc.	SAP SE	Automatic Data Processing, Inc.	Smartsheet Inc.	Smartsheet Inc.	Oracle Corporation	Oracle Corporation
6	Meetly	Oracle Corporation	Oracle Corporation	Meetly	Meetly	Meetly	Automatic Data Processing, Inc.
Meetly	6/6	1/6	1/6	6/6	6/6	6/6	2/6

Source: Capital IQ



# **REVENUE MULTIPLES**

(\$USD in Millions)

Name	MVIC	LTM	NTM	2019	2020	2021
Automatic Data Processing, Inc.	\$69,872.71	5.05x	4.77x	4.77x	4.45x	4.14x
SAPSE	\$141,264.28	4.99x	4.58x	4.58x	4.24x	3.91x
Oracle Corporation	\$245,866.35	6.16x	6.14x	6.14x	5.99x	5.89x
Workday, Inc.	\$44,353.52	15.72x	12.47x	12.57x	10.25x	8.23x
Smartsheet Inc.	\$3,957.46	24.96x	17.55x	16.23x	12.12x	8.60x
Minimum	\$3,957.46	4.99x	4.58x	4.58x	4.24x	3.91x
10th percentile	\$20,115.88	5.01x	4.66x	4.66x	4.32x	4.00x
25th percentile	\$44,353.52	5.05x	4.77x	4.77x	4.45x	4.14x
Mean	\$101,062.86	11.38x	9.10x	8.86x	7.41x	6.15x
Median	\$69,872.71	6.16x	6.14x	6.14x	5.99x	5.89x
75th percentile	\$141,264.28	15.72x	12.47x	12.57x	10.25x	8.23x
90th percentile	\$204,025.52	21.26x	15.52x	14.77x	11.37x	8.45x
Maximum	\$245,866.35	24.96x	17.55x	16.23x	12.12x	8.60x

Source: Capital IQ



#### MARKET APPROACH: SUBJECT COMPANY TRANSACTION METHOD

The Market Approach: Subject Company Transaction Method outputs the implied total value of an enterprise by accounting for all share class rights and preferences, as of the date of the latest financing. In order to determine the value of the Company's common shares, the Company's recently closed round of financing was used. The Company sold shares of Series D Preferred for \$5.36 per share. The total equity value implied by this transaction was then applied in the context of an option pricing model to determine the value of each class of the Company's shares.

#### Equity value calculation

As noted above, this analysis considers the Series D Preferred transaction, specifically those shares issued in exchange for new capital. The analysis uses the Black-Scholes option pricing model (OPM) to determine the value of the Company that results in a cumulative value of the transacted shares equal to the amount paid for those shares, or \$5.36 per share. For purposes of determining company value with a Black-Scholes OPM, five key inputs are required:

- Total consideration of the most recent transaction (discussed above);
- The rights and preferences of the shareholders (discussed above);
- Time to liquidity;
- Risk free rate;
- Volatility

#### Time to liquidity

In the context of the OPM, the time to a liquidity event (otherwise referred to as "time to exit") constitutes the time until the Company issues an initial public offering ("IPO"), is acquired, or liquidates assets through a dissolution sale. In determining the time to liquidity, the analysis relied upon guidance from Management.

#### Risk-free rate

The risk free rate used is the constant maturity U.S. treasury rate corresponding to the applicable time to liquidity. A risk free rate of 2.830% was applied which represents the U.S. treasury rate as of the Valuation Date.

#### Volatility

The analysis considered the volatility of companies operating in the Company's comparable industry. The list of companies was further refined to include only companies with securities traded on major exchanges with sufficient pricing and volume. Typically, size and volatility are inversely correlated. A volatility of 50.00% was selected for the Company.

#### Conclusion

Given the proximity of the transaction and Valuation Date and guidance from Management, no equity adjustment was utilized in this analysis. Based on the Black-Scholes model, a value of \$68,763,512 is necessary to provide a fair value of \$5.36 per share for the Series D Preferred shares issued in exchange for new capital.



# **BACKSOLVE INPUTS**

Inputs	Value
Selected preferred share class	Series D Preferred
Backsolve date	Dec. 1, 2018
Risk-free interest rate	2.830%
Volatility	50.00%
Weighted time to exit	3.00 years
Calculated backsolve value (rounded)	\$68,763,512



# **BACKSOLVE BREAKPOINTS**

Description	From	То	Delta	Option value	Incremental value
Debt Payment: SAFEs \$6.0M Valuation Cap, Convertible Notes \$8.0M Valuation Cap	\$0	\$2,214,144	\$2,214,144	\$66,726,682	\$2,033,871
Liquidation preference: Series D Preferred	\$2,214,144	\$7,574,144	\$5,360,000	\$61,825,085	\$4,901,597
Liquidation preference: Series C Preferred	\$7,574,144	\$12,538,460	\$4,964,316	\$57,404,633	\$4,420,452
Liquidation preference: Series B Preferred	\$12,538,460	\$18,082,160	\$5,543,700	\$52,726,778	\$4,677,855
Liquidation preference: Series A Preferred	\$18,082,160	\$20,474,193	\$2,392,034	\$50,811,958	\$1,914,820
Liquidation preference: Series Seed Preferred	\$20,474,193	\$20,807,309	\$333,115	\$50,550,577	\$261,381
Participates: Series B Preferred, Series C Preferred, Common, Equity Incentive Plan	\$20,807,309	\$21,315,434	\$508,125	\$50,154,392	\$396,185
Exercises: Common \$0.05 Strike	\$21,315,434	\$22,540,814	\$1,225,380	\$49,211,551	\$942,841
Exercises: Common \$0.17 Strike	\$22,540,814	\$22,850,666	\$309,852	\$48,975,974	\$235,577
Exercises: Common \$0.2 Strike	\$22,850,666	\$23,548,012	\$697,346	\$48,449,982	\$525,991
Converts to common: Series Seed Preferred, Series Seed Preferred Warrants \$0.265 Strike	\$23,548,012	\$23,873,354	\$325,342	\$48,206,573	\$243,409
Converts to common: SAFEs \$6.0M Valuation Cap	\$23,873,354	\$25,357,357	\$1,484,003	\$47,112,363	\$1,094,211
Converts to common: Convertible Notes \$8.0M Valuation Cap	\$25,357,357	\$28,376,727	\$3,019,370	\$44,967,158	\$2,145,205
Exercises: Common \$0.55 Strike	\$28,376,727	\$29,528,412	\$1,151,686	\$44,177,299	\$789,858
Participation caps: Series B Preferred	\$29,528,412	\$30,013,375	\$484,963	\$43,849,338	\$327,961
Exercises: Common \$0.64 Strike	\$30,013,375	\$30,337,978	\$324,603	\$43,631,349	\$217,989
Converts to common: Series A Preferred	\$30,337,978	\$36,857,737	\$6,519,759	\$39,505,420	\$4,125,929
Exercises: Common \$0.97 Strike	\$36,857,737	\$42,310,852	\$5,453,115	\$36,403,962	\$3,101,458
Exercises: Common \$1.23 Strike	\$42,310,852	\$67,697,012	\$25,386,159	\$25,358,563	\$11,045,399
Converts to common: Series B Preferred	\$67,697,012	\$75,140,000	\$7,442,989	\$22,947,047	\$2,411,516
Participation caps: Series C Preferred	\$75,140,000	\$133,093,576	\$57,953,575	\$11,433,581	\$11,513,466
Converts to common: Series D Preferred	\$133,093,576	\$136,342,197	\$3,248,621	\$11,036,163	\$397,418
Converts to common: Series C Preferred	\$136,342,197	Infinity	Infinity	\$0	\$11,036,163

# **BACKSOLVE ALLOCATION**

# Percentages

Share classes	1	2	3	4	5	6	7	8	9	10
Series Seed Preferred	-	-	-	-	-	100.00%	-	-	-	-
SAFEs \$6.0M Valuation Cap	39.52%	-	-	-	-	-	-	-	-	-
Convertible Notes \$8.0M Valuation Cap	60.48%	-	-	-	-	-	-	-	-	-
Series A Preferred	-	-	-	-	100.00%	-	-	-	-	-
Series C Preferred	-	-	100.00%	-	-	-	17.76%	17.68%	17.48%	16.83%
Series D Preferred	-	100.00%	-	-	-	-	-	-	-	-
Series B Preferred	-	-	-	100.00%	-	-	29.81%	29.67%	29.33%	28.24%
Common	-	-	-	-	-	-	52.43%	52.18%	51.59%	49.66%
Common \$0.05 Strike	-	-	-	-	-	-	-	0.48%	0.47%	0.46%
Common \$0.17 Strike	-	-	-	-	-	-	-	-	1.13%	1.09%
Common \$0.2 Strike	-	-	-	-	-	-	-	-	-	3.73%
Series Seed Preferred Warrants \$0.265 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.55 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.64 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.97 Strike	-	-	-	-	-	-	-	-	-	-
Common \$1.23 Strike	-	-	-	-	-	-	-	-	-	-
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

# Percentages cont.

Share classes	11	12	13	14	15	16	17	18	19	20
Series Seed Preferred	10.24%	8.23%	6.72%	6.55%	7.78%	7.26%	6.00%	5.99%	5.99%	5.24%
SAFEs \$6.0M Valuation Cap	-	19.65%	16.04%	15.64%	18.57%	17.33%	14.33%	14.31%	14.31%	12.50%
Convertible Notes \$8.0M Valuation Cap	-	-	18.41%	17.95%	21.31%	19.90%	16.45%	16.43%	16.42%	14.35%
Series A Preferred	-	-	-	-	-	-	17.34%	17.31%	17.31%	15.12%
Series C Preferred	14.71%	11.82%	9.64%	9.40%	11.17%	10.43%	8.62%	8.61%	8.60%	7.52%
Series D Preferred	-	-	-	-	-	-	-	-	-	-
Series B Preferred	24.69%	19.84%	16.18%	15.78%	-	-	-	-	-	12.62%
Common	43.42%	34.89%	28.47%	27.76%	32.96%	30.77%	25.44%	25.40%	25.40%	22.19%
Common \$0.05 Strike	0.40%	0.32%	0.26%	0.26%	0.30%	0.28%	0.23%	0.23%	0.23%	0.20%
Common \$0.17 Strike	0.95%	0.77%	0.62%	0.61%	0.72%	0.68%	0.56%	0.56%	0.56%	0.49%
Common \$0.2 Strike	3.26%	2.62%	2.14%	2.08%	2.47%	2.31%	1.91%	1.91%	1.91%	1.67%
Series Seed Preferred Warrants \$0.265 Strike	2.32%	1.87%	1.52%	1.48%	1.76%	1.65%	1.36%	1.36%	1.36%	1.19%

# 409A Valuation for Meetly

Share classes	11	12	13	14	15	16	17	18	19	20
Common \$0.55 Strike	-	-	-	2.49%	2.95%	2.76%	2.28%	2.28%	2.28%	1.99%
Common \$0.64 Strike	-	-	-	-	-	6.64%	5.49%	5.48%	5.48%	4.79%
Common \$0.97 Strike	-	-	-	-	-	-	-	0.13%	0.13%	0.11%
Common \$1.23 Strike	-	-	-	-	-	-	-	-	0.03%	0.03%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

# Percentages cont.

Share classes	21	22	23
Series Seed Preferred	5.66%	5.42%	5.03%
SAFEs \$6.0M Valuation Cap	13.52%	12.94%	12.00%
Convertible Notes \$8.0M Valuation Cap	15.52%	14.85%	13.78%
Series A Preferred	16.35%	15.65%	14.52%
Series C Preferred	-	-	7.22%
Series D Preferred	-	4.31%	4.00%
Series B Preferred	13.64%	13.06%	12.11%
Common	23.99%	22.96%	21.30%
Common \$0.05 Strike	0.22%	0.21%	0.20%
Common \$0.17 Strike	0.53%	0.50%	0.47%
Common \$0.2 Strike	1.80%	1.72%	1.60%
Series Seed Preferred Warrants \$0.265 Strike	1.28%	1.23%	1.14%
Common \$0.55 Strike	2.15%	2.06%	1.91%
Common \$0.64 Strike	5.18%	4.96%	4.60%
Common \$0.97 Strike	0.12%	0.12%	0.11%
Common \$1.23 Strike	0.03%	0.03%	0.03%
Total	100.00%	100.00%	100.00%

# \$USD

Share classes	1	2	3	4	5	6	7	8	9	10
Series Seed Preferred	-	-	-	-	-	\$261,381	-	-	-	-
SAFEs \$6.0M Valuation Cap	\$803,759	-	-	-	-	-	-	-	-	-
Convertible Notes \$8.0M Valuation Cap	\$1,230,113	-	-	-	-	-	-	-	-	-
Series A Preferred	-	-	-	-	\$1,914,820	-	-	-	-	-
Series C Preferred	-	-	\$4,420,452	-	-	-	\$70,376	\$166,677	\$41,174	\$88,506
Series D Preferred	-	\$4,901,597	-	-	-	-	-	-	-	-
Series B Preferred	-	-	-	\$4,677,855	-	-	\$118,099	\$279,703	\$69,095	\$148,523

Share classes	1	2	3	4	5	6	7	8	9	10
Common	-	-	-	-	-	-	\$207,710	\$491,936	\$121,524	\$261,218
Common \$0.05 Strike	-	-	-	-	-	-	-	\$4,524	\$1,118	\$2,402
Common \$0.17 Strike	-	-	-	-	-	-	-	-	\$2,666	\$5,731
Common \$0.2 Strike	-	-	-	-	-	-	-	-	-	\$19,611
Series Seed Preferred Warrants \$0.265 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.55 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.64 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.97 Strike	-	-	-	-	-	-	-	-	-	-
Common \$1.23 Strike	-	-	-	-	-	-	-	-	-	-
Total	\$2,033,871	\$4,901,597	\$4,420,452	\$4,677,855	\$1,914,820	\$261,381	\$396,185	\$942,841	\$235,577	\$525,991

#### \$USD cont.

Share classes	11	12	13	14	15	16	17	18	19	20
Series Seed Preferred	\$24,936	\$90,064	\$144,070	\$51,727	\$25,503	\$15,825	\$247,601	\$185,884	\$661,787	\$126,256
SAFEs \$6.0M Valuation Cap	-	\$215,057	\$344,012	\$123,514	\$60,895	\$37,787	\$591,225	\$443,857	\$1,580,221	\$301,476
Convertible Notes \$8.0M Valuation Cap	-	-	\$394,870	\$141,773	\$69,898	\$43,374	\$678,630	\$509,475	\$1,813,837	\$346,045
Series A Preferred	-	-	-	-	-	-	\$715,243	\$536,962	\$1,911,696	\$364,715
Series C Preferred	\$35,810	\$129,340	\$206,896	\$74,284	\$36,624	\$22,726	\$355,575	\$266,945	\$950,378	\$181,314
Series D Preferred	-	-	-	-	-	-	-	-	-	-
Series B Preferred	\$60,093	\$217,047	\$347,195	\$124,657	-	-	-	-	-	\$304,266
Common	\$105,691	\$381,738	\$610,640	\$219,243	\$108,093	\$67,075	\$1,049,457	\$787,870	\$2,804,981	\$535,137
Common \$0.05 Strike	\$972	\$3,511	\$5,616	\$2,016	\$994	\$617	\$9,652	\$7,246	\$25,797	\$4,922
Common \$0.17 Strike	\$2,319	\$8,376	\$13,398	\$4,810	\$2,372	\$1,472	\$23,026	\$17,287	\$61,544	\$11,741
Common \$0.2 Strike	\$7,935	\$28,659	\$45,844	\$16,460	\$8,115	\$5,036	\$78,789	\$59,150	\$210,586	\$40,176
Series Seed Preferred Warrants \$0.265 Strike	\$5,654	\$20,420	\$32,664	\$11,728	\$5,782	\$3,588	\$56,137	\$42,144	\$150,043	\$28,625
Common \$0.55 Strike	-	-	-	\$19,647	\$9,686	\$6,011	\$94,043	\$70,602	\$251,358	\$47,954
Common \$0.64 Strike	-	-	-	-	-	\$14,480	\$226,549	\$170,080	\$605,519	\$115,521
Common \$0.97 Strike	-	-	-	-	-	-	-	\$3,956	\$14,083	\$2,687
Common \$1.23 Strike	-	-	-	-	-	-	-	-	\$3,568	\$681
Total	\$243,409	\$1,094,211	\$2,145,205	\$789,858	\$327,961	\$217,989	\$4,125,929	\$3,101,458	\$11,045,399	\$2,411,516

# \$USD cont.

Share classes	21	22	23
Series Seed Preferred	\$651,801	\$21,529	\$554,701
SAFEs \$6.0M Valuation Cap	\$1,556,376	\$51,407	\$1,324,521

# 409A Valuation for Meetly

Share classes	21	22	23
Convertible Notes \$8.0M Valuation Cap	\$1,786,467	\$59,007	\$1,520,335
Series A Preferred	\$1,882,849	\$62,191	\$1,602,359
Series C Preferred	-	-	\$796,595
Series D Preferred	-	\$17,127	\$441,276
Series B Preferred	\$1,570,779	\$51,883	\$1,336,778
Common	\$2,762,654	\$91,251	\$2,351,098
Common \$0.05 Strike	\$25,408	\$839	\$21,623
Common \$0.17 Strike	\$60,615	\$2,002	\$51,585
Common \$0.2 Strike	\$207,408	\$6,851	\$176,511
Series Seed Preferred Warrants \$0.265 Strike	\$147,778	\$4,881	\$125,764
Common \$0.55 Strike	\$247,565	\$8,177	\$210,685
Common \$0.64 Strike	\$596,382	\$19,699	\$507,538
Common \$0.97 Strike	\$13,870	\$458	\$11,804
Common \$1.23 Strike	\$3,515	\$116	\$2,991
Total	\$11,513,466	\$397,418	\$11,036,163



# **BACKSOLVE RESULTS**

Share class	Share class value	Shares outstanding	Fully marketable value
Common \$0.05 Strike	\$117,255	49,000	\$2.39
Common \$0.17 Strike	\$268,944	116,900	\$2.30
Common \$0.2 Strike	\$911,131	400,000	\$2.28
Common \$0.55 Strike	\$965,729	477,445	\$2.02
Common \$0.64 Strike	\$2,255,767	1,150,159	\$1.96
Common \$0.97 Strike	\$46,858	26,750	\$1.75
Common \$1.23 Strike	\$10,871	6,778	\$1.60
Series Seed Preferred Warrants \$0.265 Strike	\$635,208	285,000	\$2.23
Convertible Notes \$8.0M Valuation Cap	\$8,593,825	1,075,000	\$7.99
SAFEs \$6.0M Valuation Cap	\$7,434,107	875,000	\$8.50
Series D Preferred	\$5,360,000	1,000,000	\$5.36
Series C Preferred	\$7,843,671	1,805,206	\$4.35
Series B Preferred	\$9,305,972	3,029,344	\$3.07
Series A Preferred	\$8,990,835	3,631,191	\$2.48
Series Seed Preferred	\$3,063,065	1,257,038	\$2.44
Common	\$12,957,316	5,327,950	\$2.43



# **ALLOCATION**

After the value of the Company was determined, it was allocated among the various share classes. The three allocation approaches considered are outlined below:

#### Option pricing model (OPM)

The OPM allocates a company's market value of invested capital among the various capital investors. The OPM takes into account the outstanding debt, the preferred shareholders' liquidation preferences, participation rights, dividend policy, and conversion rights to determine how proceeds from a liquidity event shall be distributed among the various ownership classes at a future date.

Option pricing model inputs

Inputs	Value
Market value of invested capital	\$68,764,000
Risk-free interest rate	2.480%
Selected asset volatility	52.46%
Probability weighted time to exit	3.00 years

To calculate the fair market value of Common Stock, the Black-Scholes Option Pricing Model was used. The Black-Scholes implementation of the Option Pricing Method treats the rights of holders of various classes of securities (debt, preferred stock, common stock, warrants, and options) as call options on any value of the Company above a series of breakpoints. For the Company, these breakpoints were set after examining the Certificate of Incorporation, warrant and option agreements, loan agreements/covenants and management's records of the numbers of securities outstanding as of the Valuation Date. The values of the breakpoints were calculated by reviewing:

- The outstanding principal balance and any accrued interest on long-term debt;
- The liquidation preferences of preferred stock (including seniority of any series of preferred stock);
- The participation rights of preferred stock (including any caps on such participation);
- The strike prices of warrants and options

The Black-Scholes Model requires a series of variables, including the: value of company, time to liquidity event, risk-free rate, and volatility. Below are the key assumptions for each of these variables.

#### Company value

The implied market value of invested capital of \$68,764,000 was used as the underlying value of the company.

#### Time to liquidity

In the context of the OPM, the time to a liquidity event (otherwise referred to as "time to exit") constitutes the time until the Company issues an initial public offering ("IPO"), is acquired, or liquidates assets through a dissolution sale. In determining the time to liquidity, Carta Valuations LLC incorporated guidance from management in the probability weighted time to exit that accounts for different exit, financing, or dissolution scenarios. As for the selected time to exit used in the DLOM, it reflects an approximation of the time to an IPO or M&A event.



As per Section 6.37 of the AICPA Practice Aid, "...for early-stage firms, the next round of financing may be highly uncertain. Using a term in the OPM based on the expected time to exit, including the likelihood of dissolution in the short term, while still estimating the discount for lack of marketability based on the expected time to a successful exit may provide a more representative value for common stock in situations in which the company's ability to raise the next round of funding is highly uncertain."

#### Risk-free rate

It is commonly accepted that US Treasury securities are a good proxy for the risk-free rate. We used the yield, as of March 1, 2019 of the 3.00 year US Treasury bond, a maturity which closely approximates the forecasted liquidity horizon of the Company.

#### Volatility

The estimate for expected volatility, over the estimated time to a liquidity event, was based upon an analysis of the historical volatility of guideline public companies and factors specific to the Company. A volatility of 52.46% was selected for the Company.

#### Probability weighted expected return method (PWERM)

The Probability Weighted Expected Return Method of allocating value between security holders analyzes the capital structure of a business at the time of several different potential future outcomes. It assumes that the likelihood, timing, and size of financial success or failure can be estimated. This method involves a forward-looking analysis of the possible future outcomes available to the enterprise, the estimation of ranges of future and present value under each outcome, and the application of a probability factor to each outcome as of the valuation date.

Given the subjectivity and difficulty associated with estimating exit values and lack of empirical data to support the values at the Company's current stage of development, the probability-weighted expected return method was not selected.

#### Current value method

The Current Value Method allocates the company's current value among various equity owners based on liquidation preferences and other rights under the assumption that all capital owners act to maximize their financial return. According to AICPA guidelines, the Current Value Method is applicable in two circumstances: 1) the assumption of an imminent liquidity event in the form of an acquisition or dissolution of a company; and 2) when a company is assumed to be at such an early stage of its development that no material progress has been made on its business plan, no significant value has been created above the liquidation preference of the senior securities, and there is no reasonable basis for estimating the amount and timing of any such common equity above the liquidation preference that might be created in the future.

The Company is not very early in its development and does not face an imminent liquidity/dissolution event as of the Valuation Date. Therefore, the Current Value Method was not selected.



# **VOLATILITY SELECTION**

Comparable company	Symbol	Asset volatility
Automatic Data Processing, Inc.	ADP	18.81%
Oracle Corporation	ORCL	16.03%
SAPSE	SAP:DB	16.99%
Smartsheet Inc.	SMAR	64.49%
Workday, Inc.	WDAY	34.40%
Minimum		16.03%
10th percentile		16.41%
25th percentile		16.99%
Mean		30.15%
Median		18.81%
75th percentile		34.40%
90th percentile		52.46%
Maximum		64.49%
Selected volatility		52.46%

The volatility represents the normalized, standard deviation of the natural log of daily price returns of the comparable public companies. All pricing data is sourced from CapitalIQ.



# **BREAKPOINTS**

Description	From	То	Delta	Option value	Incremental value
Debt Payment: SAFEs \$6.0M Valuation Cap, Convertible Notes \$8.0M Valuation Cap	\$0	\$2,214,144	\$2,214,144	\$66,708,250	\$2,055,263
Liquidation preference: Series D Preferred	\$2,214,144	\$7,574,144	\$5,360,000	\$61,768,098	\$4,940,152
Liquidation preference: Series C Preferred	\$7,574,144	\$12,538,460	\$4,964,316	\$57,351,123	\$4,416,975
Liquidation preference: Series B Preferred	\$12,538,460	\$18,082,160	\$5,543,700	\$52,722,493	\$4,628,630
Liquidation preference: Series A Preferred	\$18,082,160	\$20,474,193	\$2,392,034	\$50,839,931	\$1,882,562
Liquidation preference: Series Seed Preferred	\$20,474,193	\$20,807,309	\$333,115	\$50,583,441	\$256,490
Participates: Series B Preferred, Series C Preferred, Common, Equity Incentive Plan	\$20,807,309	\$21,317,934	\$510,625	\$50,192,977	\$390,463
Exercises: Common \$0.05 Strike	\$21,317,934	\$22,549,314	\$1,231,380	\$49,264,841	\$928,136
Exercises: Common \$0.17 Strike	\$22,549,314	\$22,860,666	\$311,352	\$49,033,178	\$231,663
Exercises: Common \$0.2 Strike	\$22,860,666	\$23,561,262	\$700,596	\$48,516,337	\$516,841
Converts to common: Series Seed Preferred, Series Seed Preferred Warrants \$0.265 Strike	\$23,561,262	\$23,879,226	\$317,964	\$48,283,795	\$232,542
Converts to common: SAFEs \$6.0M Valuation Cap	\$23,879,226	\$25,365,186	\$1,485,960	\$47,213,725	\$1,070,070
Converts to common: Convertible Notes \$8.0M Valuation Cap	\$25,365,186	\$28,412,840	\$3,047,654	\$45,103,967	\$2,109,757
Exercises: Common \$0.55 Strike	\$28,412,840	\$29,568,466	\$1,155,625	\$44,333,275	\$770,692
Participation caps: Series B Preferred	\$29,568,466	\$30,055,398	\$486,932	\$44,013,273	\$320,002
Exercises: Common \$0.64 Strike	\$30,055,398	\$30,381,232	\$325,834	\$43,800,696	\$212,577
Converts to common: Series A Preferred	\$30,381,232	\$36,921,429	\$6,540,197	\$39,788,059	\$4,012,638
Exercises: Common \$0.97 Strike	\$36,921,429	\$42,391,616	\$5,470,187	\$36,779,366	\$3,008,692
Exercises: Common \$1.23 Strike	\$42,391,616	\$67,857,225	\$25,465,610	\$26,069,404	\$10,709,962
Converts to common: Series B Preferred	\$67,857,225	\$75,320,569	\$7,463,344	\$23,722,842	\$2,346,563
Participation caps: Series C Preferred	\$75,320,569	\$133,445,521	\$58,124,951	\$12,358,018	\$11,364,823
Converts to common: Series D Preferred	\$133,445,521	\$136,703,334	\$3,257,813	\$11,957,805	\$400,213
Converts to common: Series C Preferred	\$136,703,334	Infinity	Infinity	\$0	\$11,957,805



# **OPTION PRICING MODEL**

# Percentages

Share classes	1	2	3	4	5	6	7	8	9	10
Series Seed Preferred	-	-	-	-	-	100.00%	-	-	-	-
SAFEs \$6.0M Valuation Cap	39.52%	-	-	-	-	-	-	-	-	-
Convertible Notes \$8.0M Valuation Cap	60.48%	-	-	-	-	-	-	-	-	-
Series A Preferred	-	-	-	-	100.00%	-	-	-	-	-
Series C Preferred	-	-	100.00%	-	-	-	17.68%	17.59%	17.39%	16.75%
Series D Preferred	-	100.00%	-	-	-	-	-	-	-	-
Series B Preferred	-	-	-	100.00%	-	-	29.66%	29.52%	29.19%	28.11%
Common	-	-	-	-	-	-	52.66%	52.41%	51.82%	49.90%
Common \$0.05 Strike	-	-	-	-	-	-	-	0.48%	0.47%	0.45%
Common \$0.17 Strike	-	-	-	-	-	-	-	-	1.13%	1.08%
Common \$0.2 Strike	-	-	-	-	-	-	-	-	-	3.71%
Series Seed Preferred Warrants \$0.265 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.55 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.64 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.97 Strike	-	-	-	-	-	-	-	-	-	
Common \$1.23 Strike	-	-	-	-	-	-	-	-	-	-
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



# Percentages cont.

Share classes	11	12	13	14	15	16	17	18	19	20
Series Seed Preferred	10.20%	8.20%	6.69%	6.53%	7.74%	7.23%	5.98%	5.97%	5.97%	5.22%
SAFEs \$6.0M Valuation Cap	-	19.63%	16.02%	15.62%	18.54%	17.31%	14.32%	14.30%	14.30%	12.50%
Convertible Notes \$8.0M Valuation Cap	-	-	18.39%	17.93%	21.28%	19.87%	16.44%	16.42%	16.41%	14.35%
Series A Preferred	-	-	-	-	-	-	17.28%	17.26%	17.25%	15.08%
Series C Preferred	14.65%	11.78%	9.61%	9.37%	11.12%	10.39%	8.59%	8.58%	8.58%	7.50%
Series D Preferred	-	-	-	-	-	-	-	-	-	-
Series B Preferred	24.59%	19.76%	16.13%	15.73%	-	-	-	-	-	12.58%
Common	43.65%	35.08%	28.63%	27.92%	33.13%	30.94%	25.59%	25.56%	25.55%	22.34%
Common \$0.05 Strike	0.40%	0.32%	0.26%	0.25%	0.30%	0.28%	0.23%	0.23%	0.23%	0.20%
Common \$0.17 Strike	0.95%	0.76%	0.62%	0.61%	0.72%	0.67%	0.56%	0.56%	0.56%	0.49%
Common \$0.2 Strike	3.25%	2.61%	2.13%	2.08%	2.46%	2.30%	1.90%	1.90%	1.90%	1.66%
Series Seed Preferred Warrants \$0.265 Strike	2.31%	1.86%	1.52%	1.48%	1.76%	1.64%	1.36%	1.35%	1.35%	1.18%
Common \$0.55 Strike	-	-	-	2.48%	2.94%	2.75%	2.27%	2.27%	2.27%	1.98%
Common \$0.64 Strike	-	-	-	-	-	6.62%	5.47%	5.47%	5.46%	4.78%
Common \$0.97 Strike	-	-	-	-	-	-	-	0.13%	0.13%	0.11%
Common \$1.23 Strike	-	-	-	-	-	-	-	-	0.03%	0.03%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



# Percentages cont.

Share classes	21	22	23
Series Seed Preferred	5.64%	5.40%	5.01%
SAFEs \$6.0M Valuation Cap	13.51%	12.93%	12.00%
Convertible Notes \$8.0M Valuation Cap	15.51%	14.84%	13.77%
Series A Preferred	16.31%	15.60%	14.48%
Series C Preferred	-		7.20%
Series D Preferred	-	4.30%	3.99%
Series B Preferred	13.60%	13.02%	12.08%
Common	24.15%	23.11%	21.45%
Common \$0.05 Strike	0.22%	0.21%	0.20%
Common \$0.17 Strike	0.52%	0.50%	0.47%
Common \$0.2 Strike	1.80%	1.72%	1.60%
Series Seed Preferred Warrants \$0.265 Strike	1.28%	1.22%	1.14%
Common \$0.55 Strike	2.14%	2.05%	1.90%
Common \$0.64 Strike	5.16%	4.94%	4.59%
Common \$0.97 Strike	0.12%	0.11%	0.11%
Common \$1.23 Strike	0.03%	0.03%	0.03%
Total	100.00%	100.00%	100.00%



# \$USD

Share classes	1	2	3	4	5	6	7	8	9	10
Series Seed Preferred	-	-	-	-	-	\$256,490	-	-	-	-
SAFEs \$6.0M Valuation Cap	\$812,212	-	-	-	-	-	-	-	-	-
Convertible Notes \$8.0M Valuation Cap	\$1,243,050	-	-	-	-	-	-	-	-	-
Series A Preferred	-	-	-	-	\$1,882,562	-	-	-	-	-
Series C Preferred	-	-	\$4,416,975	-	-	-	\$69,020	\$163,278	\$40,295	\$86,562
Series D Preferred	-	\$4,940,152	-	-	-	-	-	-	-	-
Series B Preferred	-	-	-	\$4,628,630	-	-	\$115,824	\$273,999	\$67,620	\$145,262
Common	-	-	-	-	-	-	\$205,620	\$486,427	\$120,045	\$257,881
Common \$0.05 Strike	-	-	-	-	-	-	-	\$4,432	\$1,094	\$2,350
Common \$0.17 Strike	-	-	-	-	-	-	-	-	\$2,609	\$5,606
Common \$0.2 Strike	-	-	-	-	-	-	-	-	-	\$19,181
Series Seed Preferred Warrants \$0.265 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.55 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.64 Strike	-	-	-	-	-	-	-	-	-	-
Common \$0.97 Strike	-	-	-	-	-	-	-	-	-	-
Common \$1.23 Strike	-	-	-	-	-	-	-	-	-	-
Total	\$2,055,263	\$4,940,152	\$4,416,975	\$4,628,630	\$1,882,562	\$256,490	\$390,463	\$928,136	\$231,663	\$516,841



# \$USD cont.

Share classes	11	12	13	14	15	16	17	18	19	20
Series Seed Preferred	\$23,726	\$87,748	\$141,194	\$50,299	\$24,783	\$15,374	\$240,050	\$179,762	\$639,687	\$122,521
SAFEs \$6.0M Valuation Cap	-	\$210,035	\$337,964	\$120,397	\$59,321	\$36,799	\$574,587	\$430,280	\$1,531,162	\$293,266
Convertible Notes \$8.0M Valuation Cap	-	-	\$387,927	\$138,197	\$68,091	\$42,239	\$659,532	\$493,891	\$1,757,525	\$336,622
Series A Preferred	-	-	-	-	-	-	\$693,430	\$519,276	\$1,847,857	\$353,924
Series C Preferred	\$34,072	\$126,013	\$202,766	\$72,234	\$35,590	\$22,078	\$344,731	\$258,152	\$918,641	\$175,949
Series D Preferred	-	-	-	-	-	-	-	-	-	-
Series B Preferred	\$57,177	\$211,465	\$340,264	\$121,217	-	-	-	-	-	\$295,263
Common	\$101,506	\$375,411	\$604,067	\$215,195	\$106,028	\$65,774	\$1,027,000	\$769,070	\$2,736,756	\$524,176
Common \$0.05 Strike	\$925	\$3,420	\$5,504	\$1,961	\$966	\$599	\$9,357	\$7,007	\$24,935	\$4,776
Common \$0.17 Strike	\$2,206	\$8,160	\$13,131	\$4,678	\$2,305	\$1,430	\$22,324	\$16,717	\$59,489	\$11,394
Common \$0.2 Strike	\$7,550	\$27,922	\$44,929	\$16,006	\$7,886	\$4,892	\$76,386	\$57,202	\$203,554	\$38,987
Series Seed Preferred Warrants \$0.265 Strike	\$5,379	\$19,895	\$32,012	\$11,404	\$5,619	\$3,486	\$54,425	\$40,756	\$145,032	\$27,778
Common \$0.55 Strike	-	-	-	\$19,105	\$9,413	\$5,839	\$91,175	\$68,277	\$242,964	\$46,535
Common \$0.64 Strike	-	-	-	-	-	\$14,067	\$219,640	\$164,478	\$585,298	\$112,103
Common \$0.97 Strike	-	-	-	-	-	-	-	\$3,825	\$13,613	\$2,607
Common \$1.23 Strike	-	-	-	-	-	-	-	-	\$3,449	\$661
Total	\$232,542	\$1,070,070	\$2,109,757	\$770,692	\$320,002	\$212,577	\$4,012,638	\$3,008,692	\$10,709,962	\$2,346,563



# \$USD cont.

Share classes	21	22	23
Series Seed Preferred	\$641,489	\$21,619	\$599,451
SAFEs \$6.0M Valuation Cap	\$1,535,474	\$51,748	\$1,434,852
Convertible Notes \$8.0M Valuation Cap	\$1,762,475	\$59,399	\$1,646,977
Series A Preferred	\$1,853,061	\$62,451	\$1,731,627
Series C Preferred	-	-	\$860,859
Series D Preferred	-	\$17,199	\$476,876
Series B Preferred	\$1,545,928	\$52,101	\$1,444,621
Common	\$2,744,463	\$92,493	\$2,564,614
Common \$0.05 Strike	\$25,006	\$843	\$23,367
Common \$0.17 Strike	\$59,656	\$2,011	\$55,747
Common \$0.2 Strike	\$204,127	\$6,879	\$190,750
Series Seed Preferred Warrants \$0.265 Strike	\$145,441	\$4,902	\$135,910
Common \$0.55 Strike	\$243,649	\$8,211	\$227,682
Common \$0.64 Strike	\$586,946	\$19,781	\$548,483
Common \$0.97 Strike	\$13,651	\$460	\$12,756
Common \$1.23 Strike	\$3,459	\$117	\$3,232
Total	\$11,364,823	\$400,213	\$11,957,805



# **OPTION PRICING MODEL RESULTS**

Share class	Share class value	Shares outstanding	Fully marketable value
Common \$1.23 Strike	\$10,918	6,778	\$1.61
Common \$0.97 Strike	\$46,913	26,750	\$1.75
Common \$0.05 Strike	\$116,541	49,000	\$2.38
Common \$0.17 Strike	\$267,461	116,900	\$2.29
Series Seed Preferred Warrants \$0.265 Strike	\$632,038	285,000	\$2.22
Common \$0.2 Strike	\$906,251	400,000	\$2.27
Common \$0.55 Strike	\$962,851	477,445	\$2.02
Common \$0.64 Strike	\$2,250,796	1,150,159	\$1.96
Series Seed Preferred	\$3,044,193	1,257,038	\$2.42
Series D Preferred	\$5,434,226	1,000,000	\$5.43
SAFEs \$6.0M Valuation Cap	\$7,428,098	_	_
Series C Preferred	\$7,827,218	1,805,206	\$4.34
Convertible Notes \$8.0M Valuation Cap	\$8,595,926	_	_
Series A Preferred	\$8,944,188	3,631,191	\$2.46
Series B Preferred	\$9,299,370	3,029,344	\$3.07
Common	\$12,996,524	5,377,950	\$2.42



# DISCOUNT FOR LACK OF MARKETABILITY

When selecting a discount for lack of marketability ("DLOM") to be applied to the subject Company's common shares, Carta Valuations LLC relied primarily on put option models as a means to satisfy the AICPA's preference to use quantitative approaches over more subjective approaches when appropriate. Court case rulings (i.e. Mandelbaum, et al v. Commissioner Internal Revenue), restricted stock studies, and IPO studies were also used to gauge the reasonableness of the put option model results. The results from the selected put option model(s) shown below, suggest a DLOM of 30.55%

Selected approach: The Chaffe Approach

Inputs	Value
Risk-free interest rate	2.480%
Time to exit	3.00 years
Volatility	52.87%
Total equity value, S	\$1.00
Equity breakpoint, X	\$1.00
Continuously compounded dividend yield rate, q	0.00%
Standard normal cumulative distribution of d1, N(d1)	64.68%
Standard normal cumulative distribution of d2, N(d2)	29.49%
Calculated value of Put option	\$0.31
Calculated discount for lack of marketability, Chaffe approach	30.55%
Selected discount for lack of marketability	30.55%



# APPRAISER BIO AND CREDENTIALS

#### Sushil Chacko

Managing Director, Carta Valuations LLC

Sushil has extensive experience in private and public company valuations across a wide-range of disciplines for transaction purposes and for financial reporting and tax compliance purposes.

Sushil's experience includes being a Corporate Finance analyst at Lehman Brothers and a Vice President in the M&A/Financial Advisory Department at JPMorgan where she oversaw the financial analysis underlying M&A transactions and provided Fairness Opinions related to M&A transactions.

Most recently, Sushil was a Director in the Transactions Services group at PricewaterhouseCoopers (PwC) specializing in audit review of private company valuations and portfolio valuations of venture capital firms and private equity firms.

Sushil has an MBA with concentration in Finance from Harvard Business School and a BA degree specializing in Economics and Mathematics from Mount Holyoke College.



#### APPRAISER BIO AND CREDENTIALS

#### **Bob Chung**

Director, Carta Valuations LLC

Bob Chung joined Carta Valuations LLC as a Director in June 2018. Prior to joining Carta, Bob was a Director in the Valuations Services group at BPM LLP, a fully-integrated professional services firm based in Northern California.

Bob has more than 15 years of business valuation experience. His engagement experience includes the valuation of public and private business entities, equity securities, intangible assets, and financial derivatives. He has performed valuation engagements for a variety of purposes, including mergers and acquisitions, initial and secondary public offerings, privatizations, bankruptcy / reorganization, financial reporting, tax planning and reporting, litigation support and strategic planning. He has performed valuations and/or executed transactions in a variety of industries, including information technology, software development, life sciences, manufacturing and retail.

Previously, Bob was in the Transactions Services group at PricewaterhouseCoopers where he specialized in business valuations. Prior to PwC, Bob was Chief Financial Officer of MediaRing.com Ltd., a Singapore-based provider of VoIP services and technology. While at MediaRing, he led the company's initial public offering, which was the first loss-making company permitted to list on the Main Board of the Stock Exchange of Singapore. Prior to joining MediaRing, Bob was an Executive Director in CIBC World Markets' Technology and Telecommunications investment banking group in Singapore and Taiwan where he focused on the semiconductor space. Prior to joining CIBC, Bob was a Director in the Technology Investment Banking group of Cowen & Company, a boutique investment bank specializing in the technology, telecommunications, media and health care industries.

Bob earned an MBA in Finance from The Wharton School, University of Pennsylvania and his BA in Economics from Harvard University. Bob is a candidate member of the American Society of Appraisers.



# APPRAISER BIO AND CREDENTIALS

#### Candice Bassell, CPA, ABV, CFF

Director, Carta Valuations LLC

Candice Bassell is a Director with Carta Valuations LLC. Candice has specialized in the valuation of privately-held business interests since 2005. She has performed valuations for tax compliance, financial reporting, and litigation support.

Candice has extensive experience serving clients in a variety of industries, including biotechnology, pharmaceuticals, Internet software and services, manufacturing, retail, healthcare, and construction.

Candice previously served as a Managing Director at Grant Thornton LLP, where she was the practice leader for the Pacific Northwest Forensic and Valuation Services group. Candice is a Certified Public Accountant (CPA) and holds the Accredited in Business Valuation (ABV) and Certified in Financial Forensics (CFF) credentials. She is a member of the American Institute of Certified Public Accountants and a candidate member of the American Society of Appraisers.

Candice has provided valuation-related court testimony and has been a speaker at national valuation conferences. She served on the Technical Advisory Board for the AICPA's FVS Consulting Digest publication from 2012 through 2016 and as a member of the AICPA's ABV Credential Committee in 2015 and 2016. Candice was a technical reviewer for A Consensus View: Q&A Guide to Financial Valuation by James Hitchner, Shannon Pratt, and Jay Fishman. She was also a contributor to Valuing Early Stage and Venture-Backed Companies by Neil Beaton.

Candice received an MBA in Finance and a BA in English from the University of Kansas.



## **Runar Sigmarsson**

Manager, Carta Valuations LLC

Runar Sigmarsson is a Manager with Carta Valuations LLC and has over 10 years in corporate finance related roles, spanning from business valuation and investment banking to corporate financial planning and analysis. His industry exposure includes energy, real estate, banking, insurance, retail, commercial airline, pharmaceutical, and various private equity holdings scattered across Europe and North America.

Runar began his career in the Corporate Finance group of KPMG in Iceland, focusing on investment banking (debt and equity raising, sell-side mergers and acquisitions) and business valuation for public and private companies. Prior to joining Carta, Runar was a Manager in Business Valuation at KPMG's Houston office, focusing on valuation engagements for tax, financial reporting, and strategic purposes for public and private companies. Before KPMG Houston, Runar worked in corporate financial planning and analysis for FMC Technologies, Inc., a publicly traded Fortune 500 company headquartered in Houston, Texas. Prior to FMC Technologies, Inc., Runar was a Senior Associate in Ernst & Young's Business Valuation group in Houston, Texas.

Runar received his master's degree in International Business and Marketing from the University of Iceland and Copenhagen Business School, and previously, a bachelor's degree in International Studies from the University of Washington.



## Jaron Watumull Wright, CFA

Manager, Carta Valuations LLC

Jaron Watumull Wright is a Manager with Carta Valuations LLC, focusing on valuations of late-stage, venture-backed technology companies. Before joining the Carta Valuations LLC team, Jaron worked at SVBA Analytics where he focused on early and late stage 409A valuations.

Prior to joining SVB Analytics, Jaron was an Account Manager for CapMx where he supported clients through equity compensation management and ASC718 (formerly FAS123r) expensing. Before joining CapMx, Jaron worked for a start-up technology company after working at PricewaterhouseCoopers, where he assisted with financial audits.

Jaron received his bachelor's degree in finance from the University of San Francisco. He passed Level III of the CFA Program in 2014.



## **Patrick Harrington**

Manager, Carta Valuations LLC

Patrick Harrington is a Manager with Carta Valuations LLC, responsible for conducting due diligence and financial analysis on valuation engagements for late-stage technology companies.

Prior to joining Carta Valuations LLC, Patrick worked as a Manager with SVB Analytics where he executed a variety of advisory and valuation engagements.

Before SVB Analytics, Patrick worked as a Lead Qualification Specialist at InsideView, Inc. where he was responsible for screening inbound leads and performing predictive analyses to drive business development.

Patrick holds FINRA Series 63 and Series 79 licenses.

Patrick earned a bachelor's degree in Finance with a minor in Economics from Fordham University, graduating Summa Cum Laude and as a member of Beta Gamma Sigma and Phi Kappa Phi Honors Societies.



#### Tami Tande

Manager, Carta Valuations LLC

Tami Tande joined Carta Valuations LLC as a Valuation Manager in November 2017. Prior to joining Carta Valuations LLC, Tami worked as a Manager in the valuation department at Moss Adams, LLP, a fully integrated professional services firm.

Since 2013, Tami has valued several privately-held companies for a variety of purposes, including: employee stock ownership plans (ESOPs), gift tax, estate planning, potential sale and acquisitions, 409A compensation plans, financial reporting, and corporate planning purposes.

Tami has valued companies in several different industries, including but not limited to, companies operating in the information technology, software development, engineering, distributor/wholesale, restaurant, grocery store, gas station, manufacturing, and construction space.

Tami has also worked on a variety of consulting projects involving assisting management with making informed financial decisions for the company.

Tami received her master's degree in finance with a focus on business valuation from Seattle University. She passed Level I of the CFA Program in 2011.

#### Contributing analysts

Fred Admin'strator

Fred Admin'strator

Valuations Analyst Reviewing Analyst



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- 1. The analyses and conclusion of value included in the valuation report are subject to the specified assumptions and limiting conditions, and they are the personal analyses and conclusions of value of the valuation analyst.
- 2. The economic and industry data included in the valuation report have been obtained from various printed or electronic reference sources that the valuation analyst believes to be reliable. The valuation analyst has not performed any corroborating procedures to substantiate that data.
- 3. The parties for which the information and use of the valuation report is restricted are identified; the valuation report is not intended to be and should not be used by anyone other than such parties.
- 4. The analyst's compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
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- 7. The valuation analyst has no obligation to update the report or the conclusion of value for information that comes to his or her attention after the date of the report.



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- 1. The conclusion of value arrived at herein is valid only for the stated purpose as of the date of the valuation.
- 2. Financial statements and other related information provided by Meetly or its representatives, in the course of this engagement, have been accepted without any verification as fully and correctly reflecting the enterprise's business conditions and operating results for the respective periods, except as specifically noted herein. Carta Valuations LLC has not audited, reviewed, or compiled the financial information provided to us and, accordingly, we express no audit opinion or any other form of assurance on this information.
- 3. Public information and industry and statistical information have been obtained from sources we believe to be reliable. However, we make no representation as to the accuracy or completeness of such information and have performed no procedures to corroborate the information.
- 4. We do not provide assurance on the achievability of the results forecasted by Meetly because events and circumstances frequently do not occur as expected; differences between actual and expected results may be material; and achievement of the forecasted results is dependent on actions, plans, and assumptions of management.
- 5. The conclusion of value arrived at herein is based on the assumption that the current level of management expertise and effectiveness would continue to be maintained, and that the character and integrity of the enterprise through any sale, reorganization, exchange, or diminution of the owners' participation would not be materially or significantly changed.
- 6. This report and the conclusion of value arrived at herein are for the exclusive use of our client for the sole and specific purposes as noted herein. They may not be used for any other purpose or by any other party for any purpose. Furthermore, the report and conclusion of value are not intended by the author and should not be construed by the reader to be investment advice in any manner whatsoever. The stated valuation represents the considered conclusion of value of Carta Valuations LLC, based on information furnished to them by Meetly and other sources.
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- 10. Carta Valuations LLC is not an environmental consultant or auditor, and it takes no responsibility for any actual or potential environmental liabilities. Any person entitled to rely on this report, wishing to know whether such liabilities exist, or the scope and their effect on the value of the property, is encouraged to obtain a professional environmental assessment. Carta Valuations LLC does not conduct or provide environmental assessments and has not performed one for the subject property.



- 11. Carta Valuations LLC has not determined independently whether Meetly is subject to any present or future liability relating to environmental matters (including, but not limited to CERCLA/Superfund liability) nor the scope of any such liabilities. Carta Valuations LLC's valuation takes no such liabilities into account, except as they have been reported to Carta Valuations LLC by Meetly or by an environmental consultant working for Meetly, and then only to the extent that the liability was reported to us in an actual or estimated dollar amount. Such matters, if any, are noted in the report. To the extent such information has been reported to us, Carta Valuations LLC has relied on it without verification and offers no warranty or representation as to its accuracy or completeness.
- 12. Carta Valuations LLC has not made a specific compliance survey or analysis of any subject property to determine whether it is subject to, or in compliance with, the American Disabilities Act of 1990, and this valuation does not consider the effect, if any, of noncompliance.
- 13. No change of any item in this report shall be made by anyone other than Carta Valuations LLC, and we shall have no responsibility for any unauthorized change.
- 14. Unless otherwise stated, no effort has been made to determine the possible effect, if any, on the subject business due to future Federal, state, or local legislation, including any environmental or ecological matters or interpretations thereof.
- 15. If prospective financial information approved by management has been used in our work, we have not examined or compiled the prospective financial information and therefore, do not express an audit opinion or any other form of assurance on the prospective financial information or the related assumptions. Events and circumstances frequently do not occur as expected and there will usually be differences between prospective financial information and actual results, and those differences may be material.
- 16. We have conducted interviews with the current management of Meetly concerning the past, present, and prospective operating results of the company.
- 17. Except as noted, we have relied on the representations of the owners, management, and other third parties concerning the value and useful condition of all equipment, real estate, investments used in the business, and any other assets or liabilities, except as specifically stated to the contrary in this report. We have not attempted to confirm whether or not all assets of the business are free and clear of liens and encumbrances or that the entity has good title to all assets.
- 18. Nothing in this valuation report is to be construed as a fairness opinion as to the fairness of an actual or proposed transaction, a solvency opinion, or an investment recommendation. For various reasons, the price at which the assets might be sold in a specific transaction between specific parties on a specific date might be significantly different from the value expressed in this report.
- 19. This report is limited to issues concerning compliance with IRC §409(A). Additional issues may exist that could affect the federal tax treatment of the interests that are subject to the report, and the report does not consider or provide a conclusion with respect to any additional issues. Carta Valuations LLC's report is not intended or written to be used, and cannot be used, by the Company or any other person or entity, for the purpose of avoiding any penalties that may be imposed on any taxpayer.
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# **Appendix**



## COMPARABLE COMPANY DESCRIPTIONS

## Automatic Data Processing, Inc.

Automatic Data Processing, Inc. provides business process outsourcing services worldwide. The company operates through two segments, Employer Services and Professional Employer Organization (PEO) Services. The Employer Services segment offers various human resources (HR) business process outsourcing and technology-enabled human capital management solutions. Its offerings include payroll services, benefits administration, talent management, HR management, time and attendance management, insurance, retirement, and tax and compliance services. This segment provides solutions via a software-and service-based delivery model, which businesses of various types and sizes can use to recruit, pay, manage, and retain employees; and serves approximately 570,000 clients via the company's cloud-based strategic software as a service offering. The PEO Services segment offers HR outsourcing solutions through a co-employment model. It offers HR administration services, such as employee recruitment, payroll and tax administration, time and attendance management, benefits administration, employee training and development, online HR management tools, and employee leave administration; and employee benefits that enable eligible worksite employees with access to group health, dental and vision coverage, 401(k) retirement savings plan, health savings accounts, flexible spending accounts, group term life and disability coverage, and employee assistance program. It also provides employer liability management services, including workers' compensation program, unemployment claims management, safety compliance guidance, access to employment practices liability insurance, and guidance on compliance with the U.S. federal, state, and local employment laws and regulations. Automatic Data Processing, Inc. has a strategic relationship with Financial Engines Inc. to offer independent advisory services to employers. The company was founded in 1949 and is headquartered in Roseland, New Jersey.

## **Oracle Corporation**

Oracle Corporation develops, manufactures, markets, sells, hosts, and supports application, platform, and infrastructure technologies for information technology (IT) environments worldwide. It provides services in three primary layers of the cloud: Software as a Service, Platform as a Service, and Infrastructure as a Service. The company licenses its Oracle Database software, which enables storage, retrieval, and manipulation of data; and Oracle Fusion Middleware software to build, deploy, secure, access, and integrate business applications, as well as automate their business processes. It also provides software for mobile computing to address the development needs of businesses; Java, a software development language; and big data solutions. In addition, the company offers human capital and talent management, enterprise resource planning, customer experience and customer relationship management, procurement, project portfolio management, supply chain management, business analytics and enterprise performance management, and industry-specific application software, as well as financial management and governance, risk, and compliance applications. Further, it provides Oracle Engineered Systems, servers, storage, industry-specific hardware, management software, and hardware support products, as well as operating systems, and virtualization and other hardware-related software. Additionally, the company offers customers software license updates and product support contracts; database, middleware, and development software, as well as cloud-based platform and infrastructure; and IT strategy alignment, enterprise architecture planning and design, initial software implementation and integration, application development and integration, security assessments, and ongoing software enhancements and upgrade, as well as customer support and education services. The company was founded in 1977 and is headquartered in Redwood City, California.



#### SAP SE

SAP SE operates as an enterprise application software and database company worldwide. It offers SAP HANA and SAP S/4HANA, which are in-memory computing platforms that store and process huge data, and eliminate the maintenance of separate legacy systems and siloed data; SAP BW/4HANA, a data warehouse software; SAP S/ 4HANA Cloud, a software-as-a-service solution that provides the scalability, ease of management, and security; SAP SuccessFactors, a suite of human capital management solutions to develop, manage, engage, and empower the workforce; SAP Concur, a travel and expense management solution; SAP Ariba, a guided buying, light enablement, and open platform solution; and SAP Fieldglass, a solution to procure and manage external workforce. The company also provides SAP Cloud Platform, an in-memory platform-as-a-service to build, run, and extend business applications; SAP BusinessObjects Cloud, a cloud analytics solution; SAP Digital Boardroom, a solution to access company data in real time; and SAP Leonardo, a solution to digitize manufacturing, logistics, and asset management processes, as well as maintenance, consulting, and training services. It serves various lines of business, including asset management, commerce, finance, human resources, manufacturing, marketing, research and development/ engineering, sales, service, sourcing and procurement, supply chain, and sustainability, as well as the consumer, discrete manufacturing, energy and natural resources, financial services, public services, and services sectors. The company has a strategic partnership with Apple Inc. to build a SAP Cloud Platform software development kit for iOS that enables businesses, designers, and developers to build their own native iOS apps for iPhones and iPads. SAP SE was founded in 1972 and is headquartered in Walldorf, Germany.

#### Smartsheet Inc.

Smartsheet Inc. provides cloud-based platform for execution of work. It enables teams and organizations to plan, capture, manage, automate, and report on work. The company offers Smartdashboards that provides the status of work to align individuals, managers, and executives; Smartportals to easily locate and access from any device the resources available for a project without IT assistance; Smartcards to organize, share, and act on workflows; and Smartgrids to keep teams on task by easily tracking multiple moving parts. It also provides Smartprojects; Smartcalendars, which align teams and organizations by connecting deadlines to workflows; Smartforms enables business users to collect information in a structured and consistent format; Smartautomation that automates repetitive processes; and Smartintegrations enable organizations and teams to connect, sync, and extend enterprise applications. In addition, it offers Connectors; and Control Center that enables organizations to achieve consistent work execution. As of January 31, 2018, it served approximately 92,000 customers. The company was founded in 2005 and is headquartered in Bellevue, Washington.

#### Workday, Inc.

Workday, Inc. provides enterprise cloud applications for finance and human resources worldwide. It provides applications for customers to manage critical business functions to optimize their financial and human capital resources. The company offers Workday Financial Management application that provides functions of general ledger, accounting, accounts payable and receivable, cash and asset management, employee expense and revenue management, projects, procurement, inventory, and grants management. It also provides Workday Human Capital Management application, which includes human resources management, such as workforce lifecycle and organization management, compensation, absence, and employee benefits administration; and global talent management comprising goal and performance management, succession planning, and career and development planning. In addition, the company offers Workday Financial Performance Management application; Workday Learning application; Workday Payroll application for enterprise payroll; Workday Planning application to create, collaborate, and



take action on financial and workforce plans; Workday Time Tracking application, which automates workforce management processes; and Workday Recruiting, an application to support candidates, hiring managers, the interview team, and recruiters. Further, it provides Prism Analytics that enables customers to bring together various data; Workday Professional Services Automation application to supports the billable projects lifecycle; and Workday Student, a student and faculty lifecycle information system. The company serves technology, financial services, business and professional services, healthcare and life sciences, manufacturing, retail and hospitality, education, and government and non-profit industries. The company was formerly known as North Tahoe Power Tools, Inc. and changed its name to Workday, Inc. in July 2005. Workday, Inc. was founded in 2005 and is headquartered in Pleasanton, California.

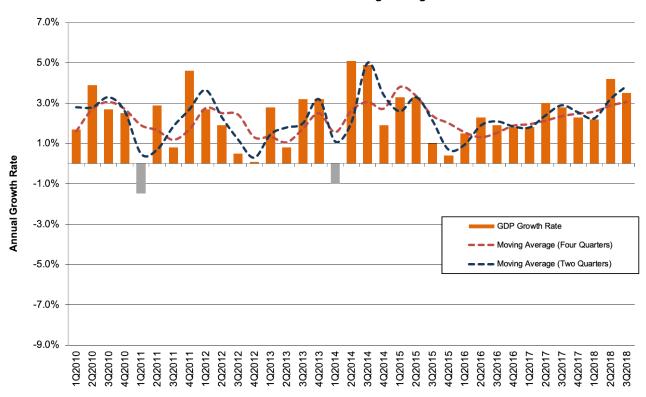


## **ECONOMIC OVERVIEW 3Q 2018**

The U.S. economy—as indicated by GDP—grew at an annual rate of 3.5% in the third quarter of 2018, which is slower than the upwardly revised rate of 4.2% reported for the second quarter of 2018. Still, the 3.5% rate marked the second highest quarterly GDP rate in four years and put 2018 on pace to have the largest annual average GDP figure in over a decade.

Total government spending increased, to 3.3%, in the third quarter, which was higher than the 2.5% rate in the second quarter. Private fixed investment, which includes residential and business spending, was down 0.3%, which marked its first decline in the past 10 quarters. The trade deficit was \$54.0 billion, which is higher than the \$45.7 billion reported in the second quarter of 2018. The goods deficit increased \$0.6 billion in September, to \$77.2 billion, while the services surplus decreased \$0.1 billion, to \$23.2 billion.

The Leading Economic Index increased 0.5% in September, coming in at 111.8 points. This marked the 12th consecutive month of gains, with the upward momentum suggesting that solid growth in the U.S. economy will remain through the rest of the year and into 2019. The strengths in the index were widespread in September, although momentum has slowed in recent months because of a slowdown in the housing market component due to the pressure in recent months regarding rising interest rates.

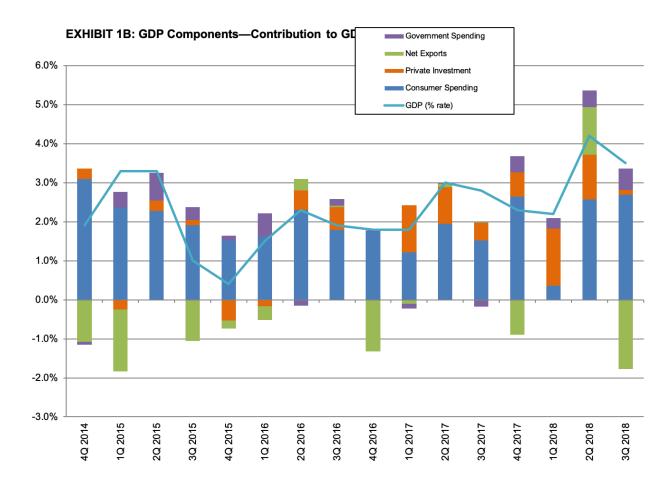


**EXHIBIT 1A: Real Gross Domestic Product and Moving Averages** 

Source of data: U.S. Department of Commerce.

Note: Figures are seasonally adjusted at annual rates. As the U.S. Department of Commerce issues revised data, some historically reported figures may change.





Employment in September increased by 134,000 jobs, as gains in professional and business services, healthcare, construction, and transportation and warehousing contributed to the rise. The figures in the job report for September were lower than expected possibly because of Hurricane Florence. The September jobs report did, however, contain an upward revision of 87,000 more jobs over the past two months after figures from July and August were increased from what were originally reported: July's figures went from 147,000 jobs to 165,000 jobs, and August's figures were revised from 201,000 jobs to 270,000 jobs.

In a separate report, the Labor Department said initial claims for state unemployment benefits remained near record lows. For the week ending September 8, there were 204,000 unemployment claims, the lowest mark since December 1969. In addition, the streak of 185 consecutive weeks below the 300,000 threshold, a figure that is associated with a strong labor market, is the longest such stretch since 1970, when the labor market was smaller.

The White House Council of Economic Advisers believes an 80,000-jobs-a-month pace is needed to maintain a low and stable unemployment rate. In September, unemployment was at 3.7%, which was 0.2 percentage point better than it was in August and the lowest rate since December 1969. The labor-force participation rate remained unchanged, at 62.7%.

Wages grew eight cents in September, increasing to \$27.24. Real average hourly earnings, seasonally adjusted from September 2017 to September 2018, increased 2.8%.



In the third quarter, the Federal Open Market Committee (FOMC) met twice. In the first meeting, in view of realized and expected labor market conditions, and sustained rise near 2% inflation, the FOMC determined the federal funds rate would remain unchanged, at between 1.75% and 2.00%. In determining to maintain the existing level, the committee noted the strong labor market conditions but also stated that the market measures of inflation remained low.

During the second meeting of the quarter, the FOMC voted to raise the target range for the federal funds rate to between 2.00% and 2.25%. In determining to raise the federal funds rate, the committee cited that the economic outlook had strengthened and that market measures for inflation had increased.

The Consumer Confidence Index improved 3.7 points in September, to 138.4, extending the streak of gains to three consecutive months. At 138.4, the index hit its highest level since September 2000 and is not too far off from the all-time high set in the same year. Consumers' assessment of current conditions improved 0.3 point in September, to 173.1, from an upwardly revised score of 172.8 in August. The survey noted that, for now, consumers appear to be shrugging off the trade tensions. Households were upbeat about business conditions over the next six months, with many planning purchases of household appliances, motor vehicles, and houses. The Consumer Sentiment Index increased 3.9 points in September, to 100.1 points, climbing above the 100.0-point mark for only the third time since January 2004. The index was fueled by the optimistic expectations across all households for improved personal finances in the year ahead and the most favorable financial prospects since 2004. At its peak, consumer sentiment levels averaged 105.3 from 1997 to 2000.

The 3Q 2018 Wells Fargo/Gallup Small Business Index surged 12.0 points, to a record 118.0 points in its August report. The high indicators drove the quarterly reading from small-business owners on their overall financial situation, cash flow, and ability to obtain credit. The survey follows the news of 4.2% growth in the U.S. GDP during the second quarter, outperforming the average growth rate of 2.3% from the fourth quarter of 2012 to the first quarter of 2018.

The third-quarter survey asked small-business owners about their challenges in hiring. Eighteen percent of those small-business owners surveyed said hiring and retaining employees remained the top challenge they face. Thirty-five percent of those surveyed said they plan to hire new employees in the next 12 months. Other top challenges business owners cited included taxes and attracting new business, both at 9%. Small-business owners also listed hiring as their top challenge in the May, October, and July surveys.

Small-business owners expressed their confidence in the economy through their attitudes about their current and future financial situation. Seventy-eight percent of small-business owners reported their financial situation today is very or somewhat good, and 84% of small-business owners said they expect their financial situation will be very or somewhat good a year from now.

In addition, both current and projected future cash flow were key drivers of small-business optimism, with 69% classifying their cash flow over the past 12 months as very or somewhat good, up 6.0 percentage points from the previous quarter and the highest reading in the history of the survey. Over the next year, 77% expect their cash flow to be very or somewhat good.



Small-business owners also reported on their ability to obtain credit when they need it. Forty-nine percent said they expect obtaining credit over the next 12 months will be very or somewhat easy, which is up 5.0 percentage points over last quarter and the highest reading for this measure since 2007.

However, despite soaring optimism, small-business owners' sentiment about their company revenues remained relatively consistent with the previous quarter. Roughly half of respondents said their revenues increased over the last 12 months, and 61% said they expect company revenues will increase over the next 12 months.

The Present Situation Index (how business owners gauge their perception of the past 12 months) increased 7.0 points, to a reading of 52.0, and the future expectations index (how business owners expect their businesses to perform over the next 12 months) increased 5.0 points, to 66.0. During the second quarter of 2018, the Present Situation Index reported at 45.0 and the future expectations index was at 61.0.

Since August 2003, the Wells Fargo/Gallup Small Business Index has surveyed small-business owners on current and future perceptions of their business's financial situation. The Small Business Index is published once a quarter. This index consists of owners' ratings of their business's current situation and their expectations for the next 12 months, measured in terms of their overall financial situation, revenue, cash flow, capital spending, number of jobs, and ease of obtaining credit. Before the recession and financial crisis of 2008-2009, Small Business Index scores were generally in triple digits. The Small Business Index reached its peak of 114.0 in December 2006 and hit a low of -28.0 in July 2010.

Middle-market business sentiment ticked down 0.1 point in the third quarter, as the RSM U.S. Middle Market Business Index came in at 134.4 points. Despite the decline, the figure remains at a robust level. The report noted that strong net earnings, revenue, employment, and pricing figures reported by middle-market executives polled during the period bolstered the outlook. The survey noted that nearly 56% of respondents indicated the economy had improved somewhat or substantially over the past quarter, while the same amount expect the economy to continue to improve somewhat or substantially during the next half year. Executives also noted that policymakers at the Federal Reserve should proceed cautiously on interest rate hikes. While the economy and the middle market are sturdy enough to absorb rate hikes in September and December, by midyear 2019, Fed policy could become restrictive ahead of an impending decline in fiscal outlays one year from now. This may create the conditions for unwinding the economic strength that has characterized the middle market since 2014.

U.S. long-term growth rose in the third quarter after increasing at an annual rate of 3.5% based on the Bureau of Economic Analysis' advanced estimate of gross domestic product. The third-quarter rate is down from the 4.2% growth of last quarter but is on pace with the annual average in 2018 to reach the highest GDP in over a decade.

The manufacturing sector decreased 1.5 percentage points in September, to 59.8%, as measured by the Institute for Supply Management's manufacturing index. The decline follows a strong August reading, of 61.3%, which was the highest level for the index since May 2004. The report shows the economic activity in the manufacturing sector expanded in September for the 25th consecutive month and the overall economy grew for the 113th consecutive month. A reading above 50% indicates that the manufacturing economy is generally expanding, while a reading below 50% indicates that it is generally contracting.



The Federal Reserve reported that total industrial production increased 0.3% in September, after rising 0.4% in August. Total industrial production advanced at an annual rate of 3.3% in the third quarter. At 108.5% of its 2012 average, total industrial production in September was 5.1% above its level from one year ago. Capacity utilization for the industrial sector was unchanged in August, at 78.1%, a rate that is 1.7 percentage points below its long-run (1972-to-2017) average.

As measured by the Institute for Supply Management's services index (NMI), the services sector increased 3.1 percentage points in September, to 61.6%. The September figure represents continued growth in the nonmanufacturing sector for the 104th consecutive month and the overall economy for the 109th consecutive month. An NMI reading above 50% indicates the nonmanufacturing-sector economy is generally expanding, while a reading below 50% indicates the nonmanufacturing sector is generally contracting.

The U.S. stock markets posted mixed results in September, as three of the five major U.S. stock indexes declined. The Dow Jones Industrial Average advanced 2.0% in September and is up 9.0% in the third quarter. The Nasdaq Composite fell 0.8% but is up 7.1% for the quarter. The S&P 500 Index rose 0.6% and is up 7.2% for the quarter, while the S&P MidCap 400 retreated 1.1% in September but is up 3.5% for the quarter. The small-cap-focused Russell 2000 declined 2.4% in September but is up 3.3% for the quarter. Volatility, as measured by the Chicago Board Options Exchange Volatility Index, ranged between 11.1 and 15.6 and recorded an average of 12.9 for the month.

Throughout the third quarter, the yield on the benchmark 10-year U.S. Treasury bond steadily rose: At the start of the quarter, the 10-year Treasury yield was 2.87%; by the end of the quarter, the rate was 3.00%.

Housing starts declined in September, falling 5.3% when compared to August. The adjusted annual rate for September was 1.201 million units, which is 3.7% above the figures over the past 12 months. Gains were seen across two of the four regions, with a sizable gain of 29.0% in the Northeast, but losses in the Midwest and South regions of 14.0% and 13.7%, respectively, dragged the overall figures down. Building permits authorized, which can be seen as a sign of how much construction is in the pipeline, fell by 0.6% in September but is 10.7% above the level of a year ago. Building permits for single-family homes increased 1.1%, but multifamily homes decreased 2.7%. Existing-home sales fell 3.4% in September, as sales of existing homes posted a seasonally adjusted annual rate of 5.15 million. The drop in September was the largest monthly decline in over two years and extends the streak of declines to six consecutive months. Economists had expected existing-home sales to fall to a rate of 5.30 million homes, according to a poll by Reuters. Distressed home sales remained at 3.0% of sales in September, which is the lowest level since October 2008, but down from 4% from one year ago. The National Association of Realtors Confidence Index for current conditions decreased 7.0 points in September, to 56.0. In September, the NAHB/ Wells Fargo Housing Marking Index remained unchanged, at 67.0. Two of the three HMI components increased in September, as the component for current sales conditions rose 1.0 point, to 74.0; the component charting sales expectations in the next six months rose 2.0 points, to 74.0 points; and the component measuring buyer traffic held steady, at 49.0.

NAR's Realtors Confidence Index (RCI) for single-family houses reported a reading of 56.0 and is down 9.0 points over the past 12 months (strong = 100; moderate = 50; weak = 0). The RCI is a key indicator of housing market strength based on a monthly survey of over 50,000 real estate practitioners.



The National Association of Realtors' most recent Commercial Real Estate Outlook, analyzing the second quarter of 2018, found that sales volume rose 0.5% on a year-over-year basis and prices increased 5.1% over the same period. Leasing activity picked up, as vacancies experienced upward pressures, while low inventory remained the principal concern among realtors, as the wide pricing gap between buyers and sellers affected over 20% of respondents.

EXHIBIT 2A: Historical Economic Data 2004-2017 and Forecasts 2018-2027

					Historical	Data											Conse	nsus Foreca	sts**	
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023-2027
Real GDP*	3.8	3.3	2.7	1.8	-0.1	-2.5	2.6	1.6	2.2	1.8	2.6	2.9	1.6	2.2	2.9	2.6	2.1	2.1	2.1	2.1
ndustrial production*	2.6	3.3	2.2	2.5	-3.6	-11.5	5.5	2.9	2.8	2.0	3.1	-1.0	-1.9	1.6	3.7	2.6	2.5	2.4	2.4	2.3
Consumer spending*	3.8	3.5	3.0	2.2	-0.2	-1.3	1.7	1.9	1.5	1.5	2.9	3.7	2.7	2.5	2.6	2.6	2.3	2.3	2.3	2.3
Real disposable personal income*	3.6	1.5	4.0	2.1	1.5	-0.4	1.0	2.5	3.1	-1.4	4.0	4.1	1.7	2.6	2.8	2.4	2.3	2.2	2.2	2.3
Business investment*	5.2	7.0	7.1	5.9	0.6	-14.5	4.5	8.7	9.5	4.1	6.9	1.8	0.5	5.3	7.2	4.7	3.7	3.8	3.8	3.6
Nominal pretax corp. profits*	21.5	15.1	11.4	-7.1	-16.0	8.4	25.0	4.0	10.0	1.7	5.4	-2.9	-1.1	3.2	7.1	4.5	3.4	3.6	3.6	3.9
Total government spending*	1.6	0.6	1.5	1.6	2.5	3.5	0.0	-3.1	-2.1	-2.4	-0.9	1.9	1.4	-0.1	1.7	2.4	NA	NA	NA	NA
Consumer price inflation*	2.7	3.4	3.2	2.8	3.8	-0.4	1.6	3.2	2.1	1.5	1.6	0.1	1.3	2.1	2.5	2.3	2.3	2.3	2.3	2.3
Core PCE*											1.6	1.3	1.7	1.6	1.9	2.1				
3-month Treasury bill rate	1.40	3.22	4.85	4.48	1.40	0.15	0.14	0.05	0.09	0.06	0.03	0.2	0.50	1.40	2.3	3.0	2.9	3.0	3.0	3.1
10-year Treasury bond yield	4.27	4.29	4.80	4.63	3.66	3.26	3.22	2.78	1.80	2.35	2.54	2.2	2.45	2.80	3.2	3.5	3.8	3.9	3.9	4.1
Unemployment rate	5.5	5.1	4.6	4.6	5.8	9.3	9.6	8.9	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.5	NA	NA	NA	NA
Housing starts (millions)	1.956	2.068	1.801	1.355	0.906	0.554	0.587	0.609	0.781	0.925	1.003	1.112	1.174	1.203	1.278	1.360	NA	NA	NA	NA

rs are based on percent change from preceding period. consumer price inflation, unemployment rate, 3-month Treassury rate, and 10-year Treassury yield are the annual averages.

umbers are based on percent change from preceding period (excludes unemployment rate, housing starts, 3-month Treasury rate, and 10-year Treasury yield). Consumer price inflation informages. The 2018 through 2022 forecasts for the 3-month Treasury rate and 10-year Treasury yield are for the end of each period. Forecasts for 2023-2027 signify the average for that period.

Every month, Consensus Economics surveys a panel of 30 prominent United States economic and financial forecasters for their predictions on a range of variables including future growth, inflation, current account and budget balances, and interest rates.

EXHIBIT 2B: Historical Energy Data 2005-2017 and Forecasts 2018-2019

					Historica	l Data						EIA Forecasts				% Change	
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2018	2019
Brent crude oil spot price*	54.60	65.18	72.49	96.94	61.75	79.64	111.33	111.65	108.56	98.89	52.32	43.74	54.15	74.43	75.06	37.5%	0.8%
West Texas intermediate crude oil price*	56.65	66.06	72.34	99.67	61.96	79.50	94.90	94.08	97.98	93.17	48.67	43.33	50.79	68.46	69.56	34.8%	1.6%
Heating oil retail price**	219.50	247.30	266.40	350.90	252.40	297.10	365.70	378.60	378.28	371.35	264.92	210.28	250.66	305.45	317.77	21.9%	4.0%
Gasoline regular grade retail price**	227.10	257.60	280.60	325.70	234.90	278.10	352.60	362.70	350.55	336.38	242.83	214.92	241.69	278.81	285.31	15.4%	2.3%
Electricity residential retail price***	9.43	10.40	10.65	11.26	11.51	11.54	11.72	11.88	12.13	12.52	12.65	12.55	12.90	12.93	13.31	0.2%	2.9%
Electricity commerical retail price***	8.72	9.46	9.65	10.26	10.16	10.19	10.23	10.09	10.26	10.74	10.64	10.37	10.68	10.74	10.84	0.6%	0.9%
Electricity industrial retail price***	5.57	6.16	6.39	6.96	6.83	6.77	6.82	6.67	6.89	7.10	6.91	6.76	6.91	7.00	7.09	1.3%	1.3%
Natural gas Henry Hub spot price****	8.81	6.74	6.98	8.86	3.95	4.39	4.00	2.75	3.73	4.39	2.63	2.61	3.10	2.99	3.12	-3.5%	4.3%
Airline Ticket Price Index	236.60	247.30	251.70	282.00	258.00	278.20	304.00	305.00	312.70	307.70	292.23	282.56	275.78	272.79	329.65	-1.1%	20.8%
Producer Price Index: Petroleum	1.65	1.93	2.14	2.72	1.76	2.25	2.99	3.07	2.95	2.78	1.76	1.44	1.74	2.18	2.20	25.3%	0.9%
Producer Price Index: all commodities	1.57	1.65	1.73	1.90	1.73	1.85	2.01	2.02	2.03	2.05	1.90	1.85	1.94	2.02	2.06	4.1%	2.0%

Source of historical and forecast data: U.S. Energy Information Administration.

Notes:
\*Dollars per barrel
\*\*Cents per gallon, U.S. average
\*\*\*Cents per killowatthour, U.S. average
\*\*\*Dollars per million Btu

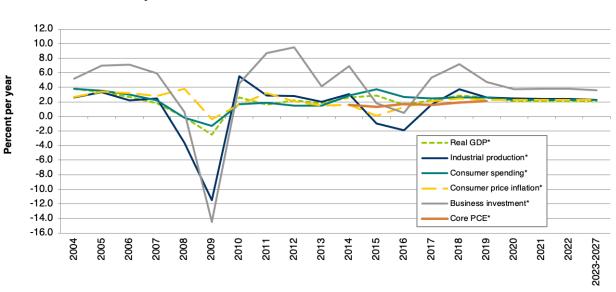


EXHIBIT 2: Key Economic Variables Actual 2004-2017 and Forecast 2018-2026

 $Source \ of \ historical \ data: U.S.\ Department \ of \ Labor \ and \ The \ Federal \ Reserve \ Board.$   $Source \ of \ forecasts: Consensus \ Forecasts.$ 

 $^*$ Numbers are based on percent change from preceding period. Consumer price inflation information is annual averages.



**EXHIBIT 4: Economic Indicators Historical Data** 

				Monthly	Data							
	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18
Real GDP			2.3			2.2			4.2			3.5
Consumer spending			3.9			0.5			3.8			4.0
Business investment			4.8			11.5			8.7			0.8
Total government spending			2.4			1.5			2.5			3.3
Exports			6.6			3.6			9.3			-3.5
Imports			11.8			3.0			-0.6			9.1
CPI (one-month % change)	0.1	0.3	0.2	0.5	0.2	-0.1	0.2	0.2	0.1	0.2	0.2	0.1
Unemployment rate	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.8	4.0	3.9	3.9	3.7
PMI	58.5	58.2	59.3	59.1	60.8	59.3	57.3	58.7	60.2	58.1	61.3	59.8
NMI	59.8	57.3	56.0	59.9	59.5	58.8	56.8	58.6	59.1	55.7	58.5	61.6
нмі	68.0	69.0	74.0	72.0	71.0	70.0	68.0	70.0	68.0	68.0	67.0	67.0
Housing starts (millions)	1.265	1.303	1.210	1.334	1.290	1.327	1.276	1.329	1.177	1.184	1.268	1.201
Building permits (millions)	1.343	1.323	1.320	1.366	1.323	1.377	1.364	1.301	1.292	1.303	1.249	1.241

Notes: Real GDP and subcomponents data only available on a quarterly basis and therefore, are quarterly figures. GDP and its subcomponents, along with housing starts and building permits, are seasonally adjusted at annual rates. PMI is the Institute of Supply Management's Manufacturing Index — any reading above 50.0% suggests growth in the manufacturing economy, whereas a reading below 50.0% indicates contraction. NMI is the Institute of Supply Management's Non-Manufacturing Index, which measures the strength of the services sector—any reading above 50.0% suggests growth, whereas a reading below 50.0% indicates contraction. HMI is the National Association of Home Builders/Wells Fargo Housing Market Index—any reading over 50 indicates that more builders view sales conditions as good than poor.

				Quarterly	Data							
	4Q 14	1Q 15	2Q 15	3Q 15	4Q 15	1Q 16	2Q 16	3Q 16	4Q 16	1Q 17	2Q 17	3Q 17
Real GDP	1.9	3.3	3.3	1.0	0.4	1.5	2.3	1.9	1.8	1.8	3.0	2.8
Consumer spending	4.7	3.5	3.4	2.9	2.3	2.4	3.4	2.7	2.6	1.8	2.9	2.2
Business investment	2.0	-1.8	2.0	1.1	-3.9	-1.2	3.8	4.6	0	9.6	7.3	3.4
Total government spending	-0.4	2.3	4.0	1.9	0.7	3.4	-0.8	1.0	0.2	-0.8	0.0	-1.0
Exports	4.7	-4.2	3.8	-3.5	-2.2	-2.4	3.4	6.1	-3.6	5.0	3.6	3.5
Imports	11.0	6.6	3.2	4.1	-0.4	0.5	0.9	4.9	6.2	4.8	2.5	2.8
CPI (3-month % change)	-0.5	-0.1	0.6	0.0	0.2	0.1	0.7	0.3	0.3	0.1	0.3	0.3
Unemployment rate	5.6	5.5	5.3	5.1	5.0	5.0	4.9	4.9	4.7	4.5	4.4	4.2
PMI	54.9	52.3	53.1	50.0	48.0	51.8	53.2	51.5	54.5	56.6	56.7	60.2
NMI	56.9	56.9	56.2	56.7	55.8	54.5	56.5	57.1	56.6	55.6	57.2	59.4
HMI	58.0	52.0	60.0	61.0	60.0	58.0	60.0	65.0	69.0	71.0	66.0	64.0
Housing starts (millions)	1.081	0.974	1.201	1.209	1.138	1.128	1.190	1.062	1.268	1.189	1.225	1.158
Building permits (millions)	1.070	1.079	1.363	1.125	1.218	1.115	1.193	1.270	1.266	1.260	1.312	1.254

Notes: Unemployment rate, housing starts, building permits, PMI, NIMI, and HIMI are readings from the last month of the quarter. GDP and its subcomponents, along with housing starts and building permits, are seasonally adjusted at annual rates.

	Yearly Data												
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Real GDP	2.7	1.9	-0.1	-2.5	2.6	1.6	2.2	1.8	2.5	2.9	1.6	2.2	
Consumer spending	3.0	2.2	-0.2	-1.3	1.7	1.9	1.5	1.5	2.9	3.7	2.7	2.5	
Business investment	7.1	5.9	0.6	-14.5	4.5	8.7	9.5	4.1	6.3	3.4	0.5	5.3	
Total government spending	1.5	1.8	2.5	3.5	0.0	-3.1	-2.1	-2.4	-0.9	1.9	1.4	-0.1	
Exports	9.0	8.7	5.7	-8.4	12.1	7.1	3.4	3.6	4.3	0.6	-0.1	3.0	
Imports	6.3	2.5	-2.2	-13.1	13.1	5.6	2.7	1.5	5.1	5.5	1.9	4.6	
Consumer Price Index	3.2	2.8	3.8	-0.4	1.6	3.2	2.1	1.5	1.6	0.1	1.3	2.1	
Unemployment rate	4.6	4.6	5.8	9.3	9.6	8.9	8.1	7.4	6.2	5.3	4.9	4.4	
Housing starts (millions)	1.801	1.355	0.906	0.554	0.587	0.609	0.781	0.925	1.003	1.112	1.174	1.202	
Building permits (millions)	1.838	1.398	0.905	0.583	0.605	0.624	0.830	0.991	1.052	1.183	1.190	1.263	

Notes: Yearly Consumer Price Index rates and yearly unemployment rates are the annual average rates.

Personal consumption includes spending on services and durable and nondurable goods.

Government spending includes federal, state, and local government spending.

As the government issues revised data, some historical reported figures may have changed.

Source of data: U.S. Department of Commerce, U.S. Department of Labor, U.S. Census Bureau, The Federal Reserve Board, the Institute of Supply Management, and the National Association of Home Builders.

## **ECONOMIC OUTLOOK**

Consensus Economics Inc., publisher of Consensus Forecasts—USA, reports that the consensus of U.S. forecasters believe that real GDP will increase at a seasonally adjusted annual rate of 2.8% in the fourth quarter of 2018 and 2.5% in the first quarter of 2019. Every month, Consensus Economics surveys a panel of 30 prominent U.S. economic and financial forecasters for their predictions on a range of variables, including future growth, inflation, current account and budget balances, and interest rates. The forecasters expect GDP to be 2.9% in 2018 and 2.6% in



2019.

They forecast that consumer spending will increase at a rate of 2.6% in the fourth quarter of 2018 and 2.3% in the first quarter of 2019. They expect consumer spending to increase 2.5% in 2018 and 2.5% in 2019.

The forecasters believe unemployment will average 3.7% in the fourth quarter of 2018 and 3.6% in the first quarter of 2019. They predict that unemployment will average 3.9% in 2018 and 3.6% in 2019.

The forecasters believe that the three-month Treasury bill rate will be 2.3% at the end of the fourth quarter of 2018 and 2.5% at the end of the first quarter of 2019. They predict the 10-year Treasury bond yield will be 3.1% at the end of the fourth quarter of 2018 and 3.2% at the end of the first quarter of 2019.

They also believe consumer prices will rise at a rate of 2.4% in the fourth quarter of 2018 and 2.4% in the first quarter of 2019. They expect consumer prices to increase 2.5% in 2018 and 2.3% in 2019. They expect producer prices to increase at a rate of 2.2% in the fourth quarter of 2018 and 2.1% in the first quarter of 2019. The forecasters anticipate producer prices will rise 3.0% in 2018 and 2.0% in 2019.

The forecasters believe real disposable personal income will rise at a rate of 2.3% in the fourth quarter of 2018 and 2.7% in the first quarter of 2019. They believe real disposable personal income will increase 2.9% in 2018 and 2.5% in 2019.

The forecasters expect industrial production to increase at a rate of 2.7% in the fourth quarter of 2018 and 2.5% in the first quarter of 2019. They forecast that industrial production will increase 3.8% in 2018 and 2.7% in 2019.

Nominal pretax corporate profits are expected to rise 7.1% in 2018 and 4.7% in 2019. The forecasters also project housing starts will be 1,280,000 in 2018 and 1,330,000 in 2019.

The most recent release of The Livingston Survey (the Survey) predicts higher growth for 2018 than had been predicted in its prior survey. The Survey, conducted by the Federal Reserve Bank of Philadelphia, is the oldest continuous survey of economists' expectations. It summarizes the forecasts of economists from industry, government, banking, and academia. The participants project real GDP to grow at an annual rate of 3.1% in the second half of 2018 and 2.7% in the first half of 2019. They believe that GDP will grow 2.20% annually over the next 10 years.

The Survey forecasted the unemployment rate to be 3.7% in December 2018 and to fall to 3.6% by June 2019. The unemployment rate is expected to be 3.9% in December 2018.

The forecasters in the Survey expected consumer price inflation (CPI) to be 2.2% in December 2018 and 2.2% in June 2019. The Survey expects CPI to average 2.28% over the next 10 years. The Survey also expects producer price inflation (PPI) to be 2.1% in December 2018 and 2.0% in June 2019.

The Survey predicted the interest rate on three-month Treasury bills will be 2.35% at the end of December 2018. From there, the forecasters expect that the rate will increase to 2.69% in June 2019 and to 2.93% in December 2019. They predicted the interest rate on 10-year Treasury bonds would reach 3.25% at the end of December 2018. According to the Survey, the rate will then rise to 3.50% in June 2019 and to 3.60% in December 2019. The forecasters have increased their previous projections for future S&P 500 index values. They expect the S&P 500 index



to be at 2,824.0 by the end of December 2018, 2,850.0 at the end of June 2019, and 2,880.3 at the end of December 2019.

The Energy Information Administration (EIA) predicts that the West Texas Intermediate crude oil spot price will average approximately \$68.46 per barrel in 2018 before rising to \$69.56 per barrel in 2019, compared with \$50.79 per barrel in 2017. The EIA expects retail prices for regular-grade gas to average \$2.79 per gallon in 2018 and rise to \$2.85 per gallon in 2019, compared with \$2.42 per gallon in 2017.

The Energy Information Administration believes the Henry Hub natural gas spot price will average \$2.99 per million Btu (MMBtu) in 2018 and \$3.12 per MMBtu in 2019, compared with \$2.99 per MMBtu in 2017. The cost of coal delivered to electricity-generating plants, which averaged \$2.08 per MMBtu in 2017, is expected to average \$2.09 per MMBtu in 2018 and \$2.10 per MMBtu in 2019. Residential electricity prices, which averaged 12.90 cents per kilowatt-hour (kWh) in 2017, are expected to average 12.93 cents per kWh in 2018 then rise to 13.31 cents per kWh in 2019. The airline ticket price index, which averaged 275.78 in 2017, is expected to be 272.79 in 2018 before rising to 329.65 in 2019.

The National Association of Realtors' Realtors Confidence Index for the outlook of single-family homes was at 56.0 points in September (strong = 100; moderate = 50; weak = 0). The RCI for the outlook for townhomes decreased four points, to 47.0, while the outlook for condos declined 6.0 points in September, to 45.0. The RCI is a key indicator of housing market strength based on a monthly survey of over 50,000 real estate practitioners. Practitioners are asked about their expectations for home sales, prices, and market conditions.

NAR projects existing-home sales in 2018 to be 5.420 million before increasing to 5.530 million (+2.0%) in 2019. It believes that new single-family home sales will be 655,000 (+6.9%) in 2018, before increasing to 740,000 (+13.0%) in 2019. NAR believes the median existing-home price will be \$259,000 (+4.8%) in 2018, before increasing to \$268,000 (+3.5%) in 2019. NAR believes the median new-home price will increase to \$323,600 (+0.2%) in 2018, before rising to \$331,000 (+2.3%) in 2019. It expects housing starts to increase to 1,278,000 (+6.2%) in 2018, then to 1,360,000 (+6.4%) in 2019. NAR believes the 30-year fixed mortgage rate will average 4.6% in 2018, before rising to 5.2% in 2019, and the 5-1 hybrid adjustable rate mortgage will average 3.9% in 2018 and 4.5% in 2019.

The most recent three-year outlook from the Urban Land Institute (ULI) and Ernst & Young (EY) found that real estate economists and analysts believe the economy will continue to expand over the next three years, though they expect employment growth to slow and the unemployment rate to plateau as the economy reaches full employment. The ULI/EY Real Estate Consensus Forecast, a semiannual publication, is based on a survey of 45 of the industry's top economists and analysts representing 33 of the country's leading real estate investment, advisory, and research firms and organizations. The forecast for each indicator is the median forecast from the 45 survey respondents. The key findings from the Real Estate Consensus Forecast include:



- Annual commercial property transaction volume is expected to decline to \$475 billion in 2018 and \$415 billion by 2020. Still, these are among the highest annual volumes and remain well above the long-term average.
- The issuance of commercial mortgage-backed securities (CMBS), a key source of financing for commercial real estate, rebounded in 2017, to \$88 billion. Issuance is expected to remain essentially level in 2018 and 2019, at \$90 billion and \$88 billion, before decreasing slightly in 2020, to \$80 billion.
- Commercial real estate prices are projected to grow at subdued and relatively slowing rates relative to recent years, at 6.0% in 2018, 5.0% in 2019, and 4.0% in 2020. These are all below the long-term average growth rate of 4.4%.
- Institutional real estate assets are forecasted to provide total returns of 6.5% in 2018 and 5.0% in 2020. By property type, 2018 returns are expected to range from 11.4% for industrial to 4.5% for retail. Total returns in 2020 are expected to range from 7.2% for industrial to 3.9% for retail.
- Both apartment and office vacancy rates are expected to plateau in 2018 from their 2017 rates, before edging up in both 2019 and 2020. Both industrial and retail availability rates are expected to see slight declines in 2018 before seeing an increase in 2020 above their 2017 levels. The hotel occupancy rate is forecast to increase slightly in 2018, plateau in 2019, and then decline slightly in 2020.
- Commercial property rent is expected to continue to increase in the next three years across all sectors, although at more subdued rates than in recent years. In 2018, rent increases will range from 3.9% for industrial to 1.8% for retail. Rental rate growth rates in all four sectors are expected to decelerate in both 2019 and 2020. Rent increases in 2020 will range from 2.4% for industrial to 0.6% for retail. Hotel RevPAR is expected to increase by 3.0% in 2018 and 1.5% in 2020.
- Single-family housing starts are projected to increase from 848,900 units in 2017 to 900,000 units in 2018 and 930,000 in 2019. This brings annual starts just below their long-term average and completes eight straight years of growth. Housing starts are expected to moderate back to 900,000 in 2020.
- In 2018, 17 real estate indicators are projected to be better than their 20-year averages, while six are expected to be worse. Also, inflation is expected to be above its long-term average, while the 10-year Treasury rate and the NCREIF capitalization rate are projected to be lower than their long-term averages.
- In 2020, eight indicators are expected to be better than their 20-year average and 15 are expected to be worse. Similar to the 2018 projections, inflation in 2020 is expected to be above its long-term average, while the 10-year Treasury rate and the cap rate are projected to be lower than their 20-year averages.

#### Source

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## **INDUSTRY SUMMARY**

The Human Resources and Benefits Administration industry provides a wide range of everyday office administrative services to businesses in the United States. Operators offer assistance with financial planning, billing and record keeping, personnel, physical distribution and logistics. In addition, the industry provides general and specialized management services on a day-to-day or contracted basis. Over the past five years, the industry has performed well as rebounding business sentiment, rising consumer spending and improvement in overall economic conditions encouraged companies to outsource administrative duties. Additionally, the rising number of businesses has increased the potential number of customers for operators. Consequently, revenue will grow at an annualized rate of 3.1% to \$56.3 billion over the five years to 2016. However, in 2016, growth is expected to slow to 1.2% due to declining corporate profit. Over the five years to 2016, industry operators have experienced strong demand from small and medium-sized businesses. As the economy recovered from the recession and business growth boomed, small companies often chose to focus on core activities and outsource unrelated functions. Also, changing healthcare regulations have increased the number of medium businesses that offer coverage, increasing demand for benefits administration services. Driven by strong demand over the five years to 2016, industry participation has risen. Companies that fair best offer a variety of outsourcing services. These services include Accounting Services industry (IBISWorld report 54121c), Tax Preparation Services industry (IBISWorld report 54121d) and the Payroll and Bookkeeping Services industry (IBISWorld report 54121b); however, revenue from them is not included in the Human Resources and Benefits Administration industry. By providing clients with these other services, operators can be seen as an all-in-one provider. This is especially important for larger clients (500 or more employees). The industry is expected to continue performing well over the next five years to 2021, with revenue rising at an annualized rate of 1.3% to \$60.0 billion. However, as growth for corporate profit and the number of businesses slows after postrecessionary booms, this will lead to slightly lower industry growth. Despite this, downstream customers are expected to continue to outsource tasks not related to their core business in order to better compete in their respective markets.

#### **MAJOR PRODUCTS**

#### Human resources administration

Human resources services covers a broad range of products and services and includes on-going supervisory education and training regarding risk management and employment laws, policies and procedures. This type of administration involves the handling of sensitive and complicated employment issues such as employee discipline, termination and wage and salary planning analysis. Industry players often provide comprehensive employee handbooks, including customized, site-specific materials concerning each worksite, to all worksite employees. In addition, service providers maintain employee records compliance with various state and federal laws and regulations to substantially reduce legal actions arising from lack of proper documentation. Human resources administration has shrunk as a percentage of revenue over the past five years due to declines in the national unemployment rate and relatively faster growth in other product segments, including outsourced benefits administration and regulatory compliance services. In 2016, human resources administration category is estimated to account for 37.4% of revenue.



#### Benefits administration

Industry players often offer a broad range of benefit programs directly to client employees. Service providers administer these benefit programs, thereby reducing the administrative responsibilities of clients for maintaining complex and tax-qualified employee benefit plans. Service providers have the opportunity to combine multiple worksites into benefit programs, enabling industry players to take advantage of certain economies of scale in the administration and provision of employee benefits. Benefit programs normally include life insurance coverage, pension plans and a choice of different health, dental, vision and prescription card coverage. Industry operators do not directly underwrite insurance plans, but rather provide prepackaged plans to clients on behalf of insurance companies. Employees may also participate in 401(k) or other retirement plans as well as medical and dependent-care reimbursement programs provided by industry operators. This segment has increased significantly over the past decade, reflecting factors such as rapidly rising plan participation and increased complexity arising from more stringent regulatory and legislative compliance requirements. In 2016, this segment is estimated to generate 31.5% of revenue. The Affordable Care Act (ACA) that was signed into law in 2010 has drastically increased revenue from benefits administration. The ACA requires all businesses with 50 or more employees to offer employee health coverage or pay a fine. According to ZaneBenefits, the deadline for businesses with 50 to 99 full-time equivalent employees to offer coverage has been extended to 2016 and 2015 to companies with 100 or more full-time equivalent employees. The ACA has nonetheless resulted in more businesses offering health coverage to their employees and increased revenue from the benefits administration segment.

#### Regulatory compliance administration

Industry players offering regulatory-compliance management often assume responsibility for the compliance with many employment-related regulatory requirements. Accordingly, service providers must comply with numerous federal, state and local laws, including certain tax, workers' compensation, unemployment, immigration, overtime and hourly wage laws. Other laws that require employer compliance are the Americans with Disabilities Act, the Family and Medical Leave Act, laws administered by the Equal Employment Opportunity Commission, and employee benefits laws such as Employee Retirement Income Security Act and the Consolidated Omnibus Budget Reconciliation Act. Continuous introduction of new legislation, particularly within the finance and insurance sector, has driven demand for third-party service providers that offer regulatory compliance management services. In 2016, this segment is estimated to generate 17.7% of revenue.

#### Other services

Other administrative services can range from simple back-office operations to complex financial services such as trades processing for brokerage firms and investor communication for listed organizations. Some larger industry participants also provide payroll administration services as a part of their service portfolio. However, revenue derived from payroll services is not included in this industry, but is rather a component of the Payroll and Bookkeeping Services industry. Payroll involves preparation and processing of client employee paychecks and electronic direct deposits. Industry players provide their clients with supporting journals, summaries and management reports. Service providers normally process and collect federal, state and local payroll taxes from the client and remit these to the appropriate taxing authority, as well as preparing relevant tax returns and archiving past records as required by law. Other services will generate an estimated 13.4% of revenue in 2016.



#### MAJOR MARKETS

#### **Businesses**

Commercial businesses represent the vast majority of revenue for the industry, with large corporations (e.g. businesses with over 500 employees) accounting for a majority of this segment. Small businesses typically have little need to outsource human resources and benefits administration due to the small size of their workforce. As a result, businesses with less than 20 employees account for only 14.7%. Although the industry serves a proportionally larger number of clients within the small business segment, revenue generated per client in this category is relatively lower. Businesses with between 20 and 500 employees are expected to account for an additional 27.7% of industry revenue. These companies typically have greater reason to outsource human resources and benefits administration as more workers require larger human resources departments and the complexity of handling benefits and general administration becomes increasingly difficult as companies grow. As companies grow in size, it becomes increasingly difficult for them to navigate regulatory compliance administration. Consequently, businesses with 500 employees or more represent the largest single market for industry services, accounting for an estimated 35.6% of industry revenue in 2016. Over the past five years, rising corporate profit margins and improved business sentiment has boosted the business segment's share of industry revenue. Additionally, the Affordable Care Act (ACA) has also increased revenue from the segment, especially from companies between 50 and 500 employees. The ACA requires businesses with 50 or more full time equivalent employees to offer health cover or face a fine. Before the ACA, many of these companies did not offer coverage, and employers who may not have the time or knowledge to handle arranging coverage are more willing to outsource it to industry operators.

#### Nonprofit organization and the public sector

Nonprofit organizations are estimated to account for 7.8% of industry revenue. Due to limited knowledge of compliance laws and the voluntary nature of nonprofit work, most nonprofit organizations choose to outsource human resource management duties to industry operators in order to focus more effectively on their own line of work. In contrast, government agencies typically outsource this work to industry operators in order to improve bureaucratic efficiency and cut down on administrative expenses. Operators that serve government agencies generally focus solely on the public sector and are typically subject to much broader regulations than operators that primarily serve the business or nonprofit sectors. In 2016, the federal government is expected to account for 3.5% of industry revenue, while state and local governments account for a combined 2.6% share.

## Individuals

Individuals, including independent contractors and freelancers, require a variety of human resources services such as on-going training and education, direct benefits administration, medical case management services, computer systems management and other services. Individuals unaffiliated with an incorporated business are estimated to account for the remaining 8.1% of industry revenue in 2016, having declined in share over the past five years. A greater share of compliance and case management duties are being handled by employers on behalf of their employees, rather than directly by individuals.



# **OPERATING CONDITIONS**

**CAPITAL INTENSITY** 

**REVENUE VOLATILITY** 

**REGULATION** 



# **INDUSTRY STRUCTURE**

## **BARRIERS TO ENTRY**



# **COMPETITIVE LANDSCAPE**

MARKET SHARE CONCENTRATION

COMPETITION

**GLOBALIZATION** 



## STAGE OF DEVELOPMENT

#### SELECTED STAGE OF DEVELOPMENT: STAGE FOUR

The American Institute of Certified Public Accountants (AICPA) defines six stages of enterprise development:

#### STAGE ONE

Enterprise has no product revenue to date and limited expense history, and typically an incomplete management team with an idea, plan, and possibly some initial product development. Typically, seed capital or first-round financing is provided during this stage by friends and family, angels, or venture capital firms focusing on early-stage enterprises, and the securities issued to those investors are occasionally in the form of common stock but are more commonly in the form of preferred stock.

#### STAGE TWO

Enterprise has no product revenue but substantive expense history, as product development is underway and business challenges are thought to be understood. Typically, a second or third round of financing occurs during this stage. Typical investors are venture capital firms, which may provide additional management or board of directors expertise. The typical securities issued to those investors are in the form of preferred stock.

#### STAGE THREE

Enterprise has made significant progress in product development; key development milestones have been met (for example, hiring of a management team); and development is near completion (for example, alpha and beta testing), but generally there is no product revenue. Typically, later rounds of financing occur during this stage. Typical investors are venture capital firms and strategic business partners. The typical securities issued to those investors are in the form of preferred stock.

#### STAGE FOUR

Enterprise has met additional key development milestones (for example, first customer orders, first revenue shipments) and has some product revenue, but is still operating at a loss. Typically, mezzanine rounds of financing occur during this stage. Also, it is frequently in this stage that discussions would start with investment banks for an IPO.

## **STAGE FIVE**

Enterprise has product revenue and has recently achieved breakthrough measures of financial success such as operating profitability or breakeven or positive cash flows. A liquidity event of some sort, such as an IPO or a sale of the enterprise, could occur in this stage. The form of securities issued is typically all common stock, with any outstanding preferred converting to common upon an IPO (and perhaps also upon other liquidity events).



## **STAGE SIX**

Enterprise has an established financial history of profitable operations or generation of positive cash flows. An IPO or sale of the enterprise could also occur during this stage.



## **VALUATION METHODOLOGIES**

In valuing the FMV of Meetly's common stock, Carta Valuations LLC has considered the three generally accepted valuation approaches as recommended by the American Institute of Certified Public Accountants (AICPA).

In its <u>Valuation of Privately-Held-Company Equity Securities Issued as Compensation</u> publication, the AICPA outlines three approaches to determining fair market value: market approach, income approach, and asset approach.

#### MARKET APPROACH

According to the AICPA, the **market approach** is a valuation technique that uses prices and other relevant information generated by market transactions involving identical or comparable (that is, similar) assets, liabilities, or a group of assets and liabilities, such as a business. The market approach derives value based on the value implied by these other similar enterprises or transactions. Using this approach, Carta Valuations LLC would examine investments by unrelated parties or examine transactions in enterprises with equity securities similar to Meetly. Within the market approach, Carta Valuations LLC considers three valuation methods:

- Guideline Public Company Method
- Guideline Company Transactions Method
- Subject Company Transactions Method

#### GUIDELINE PUBLIC COMPANY METHOD

Relevant market multiples from the guideline comparable public companies are developed using metrics such as revenue and earnings before interest, taxes, depreciation and amortization (EBITDA).

#### **GUIDELINE TRANSACTIONS METHOD**

This methodology utilizes valuation multiples based on actual transactions that have occurred in the subject entity's industry or related industries to arrive at an indication of value. These derived multiples are then adjusted and applied to the appropriate operating data of the subject entity to arrive at an indication of value.

#### SUBJECT COMPANY TRANSACTIONS METHOD

The method is useful for valuators when there has been a recent transaction in the company's own securities. At a fundamental level, the Subject Company Transactions Method answers the singular question:

What would the total value of the enterprise need to be, in order for a third-party investor to invest at the given per-share price, accounting for all liquidation preferences and seniorities for all share classes in the enterprise?

In other words, given that an investment occurred, the method outputs the implied total value of the enterprise if the valuation accounts for all share class rights and preferences, as of the date of the latest financing.



According to the AICPA, the backsolve is the most reliable indicator of enterprise value for early-stage customers, provided that the relevant transactions in the enterprise's shares have occurred at **arm's length**\*.

The Subject Company Transactions Method considers the various terms of an enterprise's stockholder agreements that would affect the distributions to each class of equity upon a liquidity event as of the future liquidation date, including:

- the level of seniority among securities,
- dividend policy,
- conversion ratios,
- and cash allocations.

\*Arm's length transaction: A transaction that was entered into by informed but unrelated market participants, simultaneously seeking the best terms possible.

\*Note: In many situations, the transactions are not done at arm's length. It is still possible to perform the valuation in these cases, but additional considerations need to be made.

### **INCOME APPROACH**

According to the FASB ASC glossary, the Income Approach is defined as a:

"Valuation technique that converts future amounts (for example, cash flows or income and expenses) to a single current (that is, discounted) amount."

This approach finds conceptual support in the basic assumption that the value of an enterprise is represented by the aggregate expectations of future income and cash flows.

#### DISCOUNTED CASH FLOW METHOD

The income approach converts future cash flows to a single, current discounted amount. The fair value measurement is estimated on the basis of the value indicated by current market expectations about those future cash flow amounts. The DCF method converts these future cash flows to their present value using a specific discount rate that factors in the time value of money and any measurable level of risks associated with the business.

#### WACC CALCULATION

The Weighted Average Cost of Capital ("WACC") is the rate of return specific to the enterprise being valued that reflects the risk of investment in said enterprise. In general, the higher the WACC, the higher an investor's expected return would be for an investment in the enterprise. When performing a Discounted Cash Flow analysis, Carta Valuations LLC computes an enterprise-specific WACC using the Capital Asset Pricing Model ("CAPM").



The CAPM formula is defined as follows:

$$R_E = R_F + B * (R_M) + SP + CP$$

Where:

 $R_e$  = Return on equity  $R_f$  = Risk-free rate

 $\beta$  = Beta  $R_m$  = Market risk premium

SP = Small company size premium

CP = Company-specific risk premium

#### **SMALL COMPANY RISK PREMIUM**

Given that most of the comparable public companies are much larger than the enterprise being valued, we apply an additional risk premium to the cost of equity calculation to reflect the additional premium that investors would require to invest in small cap public stocks.

#### COMPANY-SPECIFIC RISK PREMIUM

To capture the added risk involved in investing in smaller, less profitable, and less mature companies, an additional company specific risk premium is applied to the cost of equity calculation. This risk premium reflects the additional risk associated with the enterprise's revenue relative to the market at large.

## **ASSET APPROACH**

Among the three valuation approaches discussed, the AICPA considers the Asset Approach in most circumstances to be the weakest valuation method from a conceptual standpoint. Typically this approach would only be used when valuing enterprises that:

- are in the very early stages of development,
- have not yet raised any arms-length financing,
- or when there is a limited (or no) basis for the application of the Income Approach or the Market Approach.

#### **COST TO RECREATE METHOD**

This method defines an enterprise's fair market value as the sum total of the enterprise's assets minus the sum total of the corresponding liabilities. In the case that an enterprise's assets are not sufficiently captured on its balance sheet, the **cost to recreate** method assumes that the enterprise's fair market value is consistent with the replacement cost (i.e. **cost to recreate**) of the enterprise's assets.



## **EQUITY VALUE ALLOCATION**

After calculating the total value of the enterprise, valuators must then allocate the value to the various classes of securities in the capital structure. The generally accepted methods of equity allocation are explained below.

#### **CURRENT VALUE METHOD (CVM)**

The Current Value Method allocates enterprise value to the various series of an enterprise's preferred stock based on the respective liquidation preferences or conversion values, in accordance with the terms of the enterprise's Articles/Certificate of Incorporation.

This approach involves allocating the company's current value among the various capital owners based on their respective liquidation preferences and conversion, dividend, and other rights under the assumption that all capital owners act in a manner that maximizes their financial return. Unlike the OPM and the PWERM approaches, this methodology is not forward-looking, and therefore fails to consider the possibility that the value of the company and the individual share classes will increase or decrease between the valuation date and a future date when the common shareholders receive a return on their investment (e.g., through a liquidity event such as an IPO or sale/merger). Per the AICPA guidelines:

"Because the CVM focuses on the present and is not forward looking, the task force believes its usefulness is limited primarily to two types of circumstances. The first occurs when a liquidity event in the form of an acquisition or dissolution of the enterprise is imminent, and expectations about the future of the enterprise as a going concern are virtually irrelevant. The second occurs when an enterprise is at such an early stage of its development that (a) no material progress has been made on the enterprise's business plan, (b) no significant common equity value has been created in the business above the liquidation preference on the preferred shares, and (c) no reasonable basis exists for estimating the amount and timing of any such common equity value above the liquidation preference that might be created in the future."



## **OPTION PRICING MODEL**

This approach allows for the allocation of the determined value of the company among the various equity capital owners (preferred and common shareholders). The OPM uses the preferred shareholders' liquidation preferences, participation rights, dividend policy, and conversion rights to determine how proceeds from a liquidity event shall be distributed among the various ownership classes at a future date. Per the AICPA guidelines:

"The OPM treats common stock and preferred stock as call options on the company's value, with exercise prices based on the liquidation preferences of the preferred stock. Under this method, the common stock has value only if the funds available for distribution to shareholders exceed the value of the liquidation preferences at the time of a liquidity event (for example, a merger or sale), assuming the enterprise has funds available to make a liquidation preference meaningful and collectible by the shareholders. The common stock is modeled as a call option that gives its owner the right, but not the obligation, to buy the underlying value at a predetermined or exercise price. In the model, the exercise price is based on a comparison with the value rather than, as in the case of a "regular" call option, a comparison with a per-share stock price. Thus, common stock is considered to be a call option with a claim on the equity at an exercise price equal to the remaining value immediately after the preferred stock is liquidated."

#### PROBABILITY WEIGHTED EXPECTED RETURN

This approach involves the estimation of future potential outcomes for the company, as well as values and probabilities associated with each respective potential outcome. The common stock per share value determined using this approach is ultimately based upon probability-weighted per share values resulting from the various future scenarios, which can include an IPO, merger or sale, dissolution, or continued operation as a private company. Per the AICPA guidelines:

"Under a PWERM, the value of the various equity securities are estimated based upon an analysis of future values for the enterprise, assuming various future outcomes. Share value is based upon the probability-weighted present value of expected future investment returns, considering each of the possible future outcomes available to the enterprise, as well as the rights of each share class."



### **OPTION PRICING MODEL**

Carta Valuations LLC estimated the fair market value of Meetly common stock using the Option Pricing Model (OPM).

One of the most common AICPA-approved methods to value private companies with complex capital structures is the Option Pricing Model. The Option Pricing Model (OPM) treats each share class as a call option on the value of the entire firm, with exercise prices based on the liquidation preferences of the preferred stock. One notable benefit to using the OPM is that it accounts for the economic rights often seen in venture-capital backed preferred shares, including preferred liquidation preferences and payout seniority. In this method, each share class only has value if the funds available for distribution to shareholders exceed the value of the liquidation preferences at the time of a liquidity event for each of the prior share classes in a company's cap table.

Using the OPM, the common stock is modeled as a call option that gives its owner the right, but not the obligation, to buy the underlying value at a predetermined price. The considered "price" of these common-stock "call options" is based on the value of the entire enterprise at specific values ('breakpoints'). Thus, the common stock is considered to be a call option with a claim on the equity at an exercise price equal to the remaining value immediately after all share classes with lower-numbered liquidation seniority have liquidated. Carta Valuations LLC utilizes the Black-Scholes-Merton Option Pricing Model.

## **OPTION PRICING MODEL CONSIDERATIONS**

The OPM considers the various terms of an enterprise's stockholder agreements that would affect the distributions to each class of equity upon a liquidity event as of the future liquidation date, including:

- the level of seniority among securities,
- dividend policy,
- conversion ratios,
- and cash allocations.

#### OPTION PRICING MODEL INPUTS

The Option Pricing Model relies on four inputs:

- the total value of the enterprise,
- the expected time to exit,
- the risk free rate of interest as of the valuation date,
- the volatility derived from similar publicly traded companies.

The formula for the Option Pricing Model is as follows:

$$C = S_0 e^{-qt} * N(d_1) - X e^{-rt} * N(d_2)$$

## Where:

- $S_0$  = Total value
- X = Breakpoint value
- q = Continuously compounded dividend yield
- t = Time to exit (years)
- $\sigma$  = Volatility
- r = Risk free rate

and  $\mathbf{d}_1$  and  $\mathbf{d}_2$  are defined as:

$$d_1 = \frac{\ln(\frac{S_0}{X}) + t \left(r - q + \frac{\sigma^2}{2}\right)}{\sigma \sqrt{t}}$$

$$d_2 = d_1 - \sigma \sqrt{t}$$



## **VOLATILITY ASSUMPTIONS**

Volatilities are estimated using historical daily pricing data, provided by CapIQ, for the selected comparable companies. The historical pricing data is gathered for a look-back period that matches the expected term.

Although more typical in later stage companies, the subject company may use both equity and debt instruments to finance their business activities. Per Section 6.36 of the AICPA Valuation of Privately-Held-Company Equity Securities Issued as Compensation, "[...] consideration should be given to the effect of the company's leverage." In order to account for the different capital structures across the subject company and its peer group, Carta Valuations LLC makes adjustments to the capital structure based on the Merton model and the equity volatility and asset volatility relationships listed below.

Under certain circumstances, applying an asset volatility and allocating enterprise value may have the effect of shifting value from the senior equity securities to the junior equity securities, as the liquidation preference for the senior securities is "sandwiched" between debt and the junior securities. When this sandwich effect occurs, Carta Valuations LLC deems it appropriate to apply an equity volatility instead of an asset volatility. When such circumstance does not exist, the most appropriate volatility to use when allocating value across all investments is the asset volatility.

$$EquityValue = AssetValue * N(d_1) - [Debt * e^{(-rT)} * N(d_2)]$$

$$EquityVolatility = \frac{AssetVolatility*(AssetValue*N(d_1))}{EquityValue}$$

- Asset Value = total equity and debt value (S<sub>0</sub>)
- Equity Value = total equity value only
- **Debt** = total value of debt claims outstanding (X)
- q = continuously compounded dividend yield

- t = probability weighted time to exit (years)
- $\sigma$  = volatility
- r = risk-free rate
- N(.) = standard normal cumulative distribution function



## **VALUATION ADJUSTMENTS**

#### DISCOUNT FOR LACK OF MARKETABILITY

When valuing closely-held (private) companies, valuators typically apply a discount for lack of marketability (DLOM) to the share price, to account for the fact that private company shares are not as liquid as their public comparable company counterparts. In other words, one should expect to pay less for a closely-held (private) share of stock than that same investor would pay for a publicly-traded, fully liquid security.

<u>Discount for lack of marketability:</u> "An amount or percentage deducted from the value of an ownership interest to reflect the relative absence of marketability." 1

<u>Marketability:</u> "The ability to quickly convert property to cash at minimal cost, with a high degree of certainty of realizing the anticipated amount of proceeds." <sup>1,2</sup>

#### WHAT TO CONSIDER

This valuation, in accordance with the parameters set forth in **Mandelbaum v. Commissioner**<sup>3</sup>, takes into account the following:

- The value of the subject corporation's privately traded securities vis-a-vis its publicly traded securities (or, if the subject corporation does not have stock that is traded both publicly and privately, the cost of a similar corporation's public and private stock);
- an analysis of the subject corporation's financial statements;
- the corporation's dividend-paying capacity, its history of paying dividends, and the amount of its prior dividends;
- the nature of the corporation, its history, its position in the industry, and its economic outlook;
- the corporation's management;
- the degree of control transferred with the block of stock to be valued;
- any restriction on the transferability of the corporation's stock;
- the period of time for which an investor must hold the subject stock to realize a sufficient profit;
- the corporation's redemption policy;
- the cost of effectuating a public offering of the stock to be valued, e.g. legal, accounting, and underwriting fees.



#### SUMMARY OF APPROACHES

In preparing this valuation, we considered number of different approaches to computing the proper Discount for Lack of Marketability, loosely categorizable into the following: benchmark study approach and securities-based approaches.

<sup>&</sup>lt;sup>1</sup>International Glossary of Business Valuation Terms, as adopted in 2001 by American Institute of Certified Public Accountants, American Society of Appraisers, Canadian Institute of Chartered Business Valuators, National Association of Certified Valuation Analysts, and The Institute of Business Appraisers.

fied Valuation Analysts, and The Institute of Business Appraisers.

<sup>2</sup>Shannon P. Pratt, Alina V. Niculita, Valuing a Business, The Analysis and Appraisal of Closely HeldBusinesses, 5th ed (New York: McGraw Hill, 2008), p.39.

<sup>&</sup>lt;sup>3</sup>Mandelbaum v. Commissioner, T.C. Memo 1995-255, 36.

ASecurities Act of 1933 (Section 230.144). Note: Because the holder of restricted common stock is prohibited from selling any of the stock for full year (1997-2008, thereafter holding period is six months) and has additional constraints on the amounts that may be sold for an additional year, the restricted stock is significantly less liquid (and therefore less valuable) than its unrestricted counterpart.



### BENCHMARK STUDY APPROACH

This approach estimates the appropriate DLOM based on restricted stock studies, as well as pre-Initial Public Offering (IPO) pricing studies. This valuation considers the pre-IPO pricing studies a generally less-accurate indicator of private company DLOM for smaller, earlier-stage companies.

**Restricted stock:** unregistered common stock of a corporation identical in every respect to its publicly traded shares, except that it has not been registered, and is therefore, not freely tradable.<sup>4</sup>

We considered the following restricted stock studies because the effect of lack of marketability can be quantified by comparing the sale price of publicly traded shares to the sale price of so-called restricted shares of the same company that are identical in all rights and powers except for their ability to be freely marketed. Restricted stock studies are published, empirical studies, the most often cited of which are indicated below:

Empirical study	Time period covered	Mean DLOM
SEC overall average <sup>[a]</sup>	Jan 1966 - Jan 1969	25.8%
SEC non-reporting OTC companies <sup>[a]</sup>	Jan 1966 - Jan 1969	32.6%
Gelman <sup>[b]</sup>	Jan 1968 - Dec 1970	33.0%
Trout <sup>[c]</sup>	Jan 1968 - Dec 1972	33.5%
Moroney [d]	Jan 1969 - Dec 1972	35.6%
Maher <sup>[e]</sup>	Jan 1969 - Dec 1973	35.4%
Standard Research Consultants <sup>[f]</sup>	Oct 1978 - Jun 1982	45.0% (median)
Willamette Management Associates <sup>[g]</sup>	1981 - 1984	31.2% (median)
Silber [h]	Jan 1981 - Dec 1988	33.8%
FMV Opinions, Inc. [i]	Jan 1979 - Apr 1992	23.0%
Management Planning, Inc. <sup>[j]</sup>	Jan 1980 - Dec 1996	27.1%
Bruce Johnson Study <sup>[k]</sup>	Jan 1991 - Dec 1995	20.0%
Columbia Financial Advisors <sup>[1]</sup>	Jan 1996 - Apr 1997	21.0%
Columbia Financial Advisors <sup>[1]</sup>	May 1997 - Dec 1998	13.0%

<sup>[</sup>a]Discounts Involved in Purchases of Common Stock (1966-1969), Institutional Investor Study Report of the Securities and Exchange Commission, H.R. Do. No. 92-64, Part 5, 92nd Congress, 1st Session, 1971, 2444-2456.

<sup>[</sup>b]Gelman, Milton, An Economist Financial Analyst's Approach to Valuing Stock of a Closely Held Company, Journal of Taxation, June 1972, 353-354.

<sup>[</sup>c] Trout, Robert R., Estimation of the Discount Associated with the Transfer of Restricted Securities, Taxes, June 1997, 381-384.

<sup>&</sup>lt;sup>[d]</sup>Moroney, Robert E., Most Courts Overvalue Closely Held Stocks, Taxes, March 1993, 144-154.

<sup>[</sup>e] Maher, Michael J., Discounts for Lack-of-marketability for Closely Held Business Interests, Taxes, September 1976, 562-71.

<sup>[</sup>f]Pittock, William F., and Stryker, Charles H., Revenue Ruling 77-287 Revisited, SRC Quarterly Reports, Spring 1983.

<sup>[</sup>g]Willamette Management Associates study (unpublished)

<sup>[</sup>h]Silber, William L., Discounts on Restricted Stock: The Impact of Illiquidity on Stock Prices, Financial Analysts Journal, July-August 1991, 60-64.

<sup>[</sup>i] Hall, Lance S., and Timothy C. Polacek, "Strategies for Obtaining the Largest Valuation Discounts," Estate Planning, January/February 1994. pp. 38-44.

<sup>[</sup>I]Oliver, Robert P. and Roy H Meyers, "Discounts Seen in Private Placements of Restricted Stock: The Management Planning, Inc., Long-Term Study (1980-1996)" (Chapter 5) in Robert F, Reilly and Robert P. Schweihs, eds, The Handbook of Advanced Business Valuations (New York: McGraw-Hill, 2000).

<sup>[</sup>k] Johnson, Bruce, "Restricted Stock Discounts, 1991-95", Shannon Pratt's Business Valuation Update, Vol. 5, No. 3, March 1999, pp. 1-3. "Quantitative Support for Discounts for Lack of Marketability." Business Valuation Review, December, 1999, pp. 152-155

<sup>[</sup>I] CFAI Study, Aschwald, Kathryn F., "Restricted Stock Discounts Decline as Result of 1-Year Holding Period – Studies After 1990 'No Longer Relevant' for Lack of Marketability Discounts", SHANNON PRATT'S BUSINESS VALUATION UPDATE, Vol. 6, No. 5, May 2000, pp. 1-5.



## SECURITIES-BASED APPROACHES

Securities-based approaches to computing Discount for Lack of Marketability rely on firmly-established stock option pricing theory. In compiling this valuation, we considered three distinct stock option pricing models - The Longstaff Approach, The Chaffe Approach, and The Finnerty Approach.

## THE LONGSTAFF APPROACH<sup>5</sup>

$$Discount = \left(2 + \frac{\sigma^2 T}{2}\right) N \left(\frac{\sqrt{\sigma^2 T}}{2}\right) + \sqrt{\frac{\sigma^2 T}{2\pi}} \exp\left(-\frac{\sigma^2 T}{8}\right) - 1$$

T = time to exit

 $\sigma$  = volatility

N(.) = Standard normal cumulative distribution function

## REPRESENTATIVE DLOMS

Time to exit	Volatility:	25.00%	50.00%	75.00%	100.00%	125.00%
1 year		21.6%	46.6%	75.3%	108.1%	145.2%
2 years		31.5%	70.1%	116.7%	172.0%	236.9%
3 years		39.5%	90.0%	153.0%	229.9%	321.9%
4 years		46.6%	108.1%	186.8%	284.9%	404.0%
5 years		53.0%	125.0%	219.3%	338.4%	484.7%

The Longstaff model outputs DLOMs in excess of 100% at very low volatilities, and as such is generally considered an inaccurate overestimation of a proper DLOM. Thus, the Longstaff model should only be used as a guideline, but in most cases should not be used as the sole method to calculate a given DLOM.

<sup>&</sup>lt;sup>5</sup> Longstaff, Francis A., "How Much Can Marketability Affect Security Values?", The Journal of Finance, Vol. L, No. 5 (1995), pp.1767-1774.



## THE CHAFFE APPROACH<sup>6</sup>

$$P = Xe^{-rt} * \mathcal{N}(-d_2) - S_0e^{-qt} * \mathcal{N}(-d_1)$$

 $S_0$  = total equity value

 $\sigma$  = volatility

X = equity breakpoint value

**r** = risk-free rate

q = continuously compounded dividend yield

N(.) = standard normal cumulative distribution function

t = time to expiration (% of year)

## REPRESENTATIVE DLOMS

Time to exit	Volatility:	25.00%	50.00%	75.00%	100.00%	125.00%
1 years		9.25%	18.97%	27.48%	37.40%	45.86%
2 years		12.61%	26.01%	37.41%	50.11%	60.25%
3 years		14.97%	30.98%	44.20%	58.28%	68.81%
4 years		16.81%	34.84%	49.30%	64.02%	74.35%
5 years		18.32%	37.97%	53.50%	68.20%	78.00%

<sup>&</sup>lt;sup>6</sup> David B.H. Chaffe III, "Option Pricing as a Proxy for Discount for Lack of Marketability in Private Company Valuations," Business Valuation Review (December 1993): 182–6. (Model corrected and updated in 2009; the Carta Valuations LLC uses the corrected, updated model)



## THE FINNERTY APPROACH<sup>7</sup>

$$D(T) = V_0 e^{-qT} \left[ \mathcal{N}(v\sqrt{T}/2) - \mathcal{N}(-v\sqrt{T}/2) \right] \qquad v\sqrt{T} = \sqrt{\sigma^2 T + \ln[2(e^{\sigma^2 T} - \sigma^2 T - 1)] - 2\ln(e^{\sigma^2 T} - 1)}$$

$$v\sqrt{T} = \sqrt{\sigma^2 T + \ln[2(e^{\sigma^2 T} - \sigma^2 T - 1)] - 2\ln(e^{\sigma^2 T} - 1)}$$

**D(T)** = Discount for Lack of Marketability

 $V_0$  = The value of the share of common stock without transfer restrictions

q = Continuously compounded dividend yield

t = Time to expiration (% of year)

 $\sigma$  = Volatility

r = Risk-free rate

e = The mathematical constant = 2.71828...

N(.) = standard normal cumulative distribution function

## REPRESENTATIVE DLOMS

Time to exit	Volatility:	25.00%	50.00%	75.00%	100.00%	125.00%
1 year		5.72%	11.24%	16.34%	20.85%	24.62%
2 years		8.04%	15.50%	21.84%	26.63%	29.74%
3 years		9.79%	18.52%	25.26%	29.50%	31.49%
4 years		11.24%	20.85%	27.54%	30.95%	32.05%
5 years		12.49%	22.73%	29.10%	31.66%	32.22%

Note: The Finnerty model has a mathematical asymptote at approximately 32%. Thus, for companies at higher volatilities, this model may understate the proper DLOM. 7 John D. Finnerty, "The Impact of Transfer Restrictions on Stock Prices." Analysis Group/ Economics (October 2002).



#### THE DIFFERENTIAL PUT APPROACH

The Differential Put Approach is an option pricing model method that quantitatively approximates a discount for lack of marketability of common stock in a company where a precedent transaction, typically a preferred stock financing round, is used as an indication of fair value.

When applying the backsolve methodology to determine the value of common stock based on the price paid in the most recent preferred financing round, the resulting value of common stock already incorporates an implied discount for lack of marketability that is reflected in the price of the most recent preferred stock transaction. Therefore, according to the differential put approach, the appropriate discount for lack of marketability for the common stock is the incremental discount between the common stock and most recently transacted preferred share class.

The Chaffe or the Finnerty put models are applied to the share class volatilities to determine the specific discount for each share class.

$$\begin{split} D(T) &= V_0 e^{-qT} \left( N(v\sqrt{T}/2) - N(-v\sqrt{T}/2) \right) \\ v\sqrt{T} &= \sqrt{\sigma^2 T + \ln\left(2\left(e^{\sigma^2 T}\right)\right) - 2\ln\left(e^{\sigma^2 T} - 1\right)} \\ \text{DLOM}_{\text{incremental}} &= 1 - (1 - \text{DLOM}_{\text{common}})/(1 - \text{DLOM}_{\text{preferred}}) \end{split}$$

$$\sigma_{
m class} = \sigma_{
m equity} * ext{Equity Value} * N(d_1) / ext{Class Value}$$
 $N(d_1)_{
m class} = \sum (N(d_1)_{
m incremental} * ext{Incremental Allocation})$ 

$$p = Xe^{-rt}N(-d_2) - S_0N(-d_1)$$

 $S_0$  = total equity value

X = equity breakpoint value

t = Time to expiration (% of year)

 $\sigma$  = Volatility

r = Risk-free rate

e = The mathematical constant = 2.71828...

N(.) = standard normal cumulative distribution function



# **VOLATILITY ANALYSIS**

Historical volatilities as of the valuation date.

Company name	1 year	2 years	3 years	4 years	5 years
Automatic Data Processing, Inc.	21.14%	20.37%	18.81%	19.02%	19.22%
Oracle Corporation	18.81%	17.22%	16.03%	16.57%	16.48%
SAPSE	19.72%	17.29%	16.99%	18.52%	18.59%
Smartsheet Inc.	64.49%	64.49%	64.49%	64.49%	64.50%
Workday, Inc.	38.95%	33.34%	34.40%	35.78%	36.78%
Maximum	64.49%	64.49%	64.49%	64.49%	64.50%
90th percentile	54.27%	52.03%	52.46%	53.01%	53.41%
75th percentile	38.95%	33.34%	34.40%	35.78%	36.78%
Median	21.14%	20.37%	18.81%	19.02%	19.22%
Mean	32.62%	30.54%	30.15%	30.88%	31.11%
25th percentile	19.72%	17.29%	16.99%	18.52%	18.59%
10th percentile	19.17%	17.25%	16.41%	17.35%	17.32%
Minimum	18.81%	17.22%	16.03%	16.57%	16.48%

Source: Capital IQ



# **BACKSOLVE VOLATILITY ANALYSIS**

Historical volatilities as of the backsolve date.

Company name	1 year	2 years	3 years	4 years	5 years
Automatic Data Processing, Inc.	20.24%	19.45%	18.66%	18.51%	18.83%
Oracle Corporation	18.80%	16.42%	16.24%	16.73%	16.43%
SAPSE	19.34%	16.27%	17.86%	18.71%	18.48%
Smartsheet Inc.	70.32%	70.32%	70.33%	70.33%	70.33%
Workday, Inc.	37.42%	34.28%	36.40%	35.50%	36.99%
Maximum	70.32%	70.32%	70.33%	70.33%	70.33%
90th percentile	57.16%	55.91%	56.76%	56.40%	56.99%
75th percentile	37.42%	34.28%	36.40%	35.50%	36.99%
Median	20.24%	19.45%	18.66%	18.71%	18.83%
Mean	33.22%	31.35%	31.90%	31.96%	32.21%
25th percentile	19.34%	16.42%	17.86%	18.51%	18.48%
10th percentile	19.02%	16.33%	16.89%	17.44%	17.25%
Minimum	18.80%	16.27%	16.24%	16.73%	16.43%

Source: Capital IQ