



EMPLOYEE OWNED 2019

Tips for Reviewing Management's Financial Projections

THE CONFERENCE & TRADE SHOW

for **ESOPs**

Tips for Reviewing Management's Financial Projections



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Outline

- Introduction to projections
 - Importance of projections
 - Common methods for preparing projections
- Common tools to review projections
 - Common-sized financial statements
 - Ratio analysis
 - Industry benchmarks
 - Comparison to prior projections
- Behavioral considerations
 - Introduction to behavioral bias
 - Common types of behavioral bias

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Projections/forecasts

- Preparing projections/forecasts
- Top-down
- Bottom-up
- What story does the forecast tell?



Projection issues in recent complaints

Projection Issue	Total (16 Cases)	Maran	Sierra Aluminum	SJP	AIT Labs	Bruister	Sonnax	Tobacco Rag	Big G Express	Constellis	Commodity Control	Gruber	Parrot Cellular	Graphite Sales	Mona Vie	Sentry	Rembar
Revenue Growth Rate	12	X	X	X	X	X	X		X	X		X	X	X	X		
Margins	8	X	X		X	X	X	X				X	X				
Inconsistent with Historical	9	X	X	X		X	X				X	X		X	X		
Inconsistent with Industry	8	X	X	X	X	X		X	X		X						
Inconsistent with Economy	3	X		X					X								
Prior Projections	2				X					X							
Compensation	3							X					X				X
Capital Expenditures	2		X		X												
Cyclical	4	X	X	X												X	
Customer Concentration	5	X		X		X		X		X							
Long-term Growth Rate	2						X				X						
Lack of Projections	1															X	

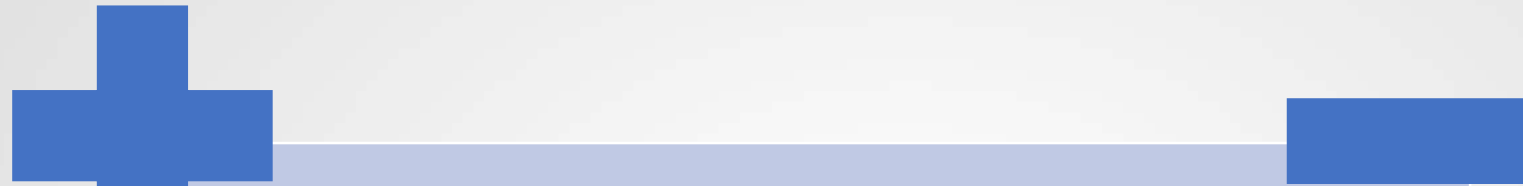
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Top-down forecasting



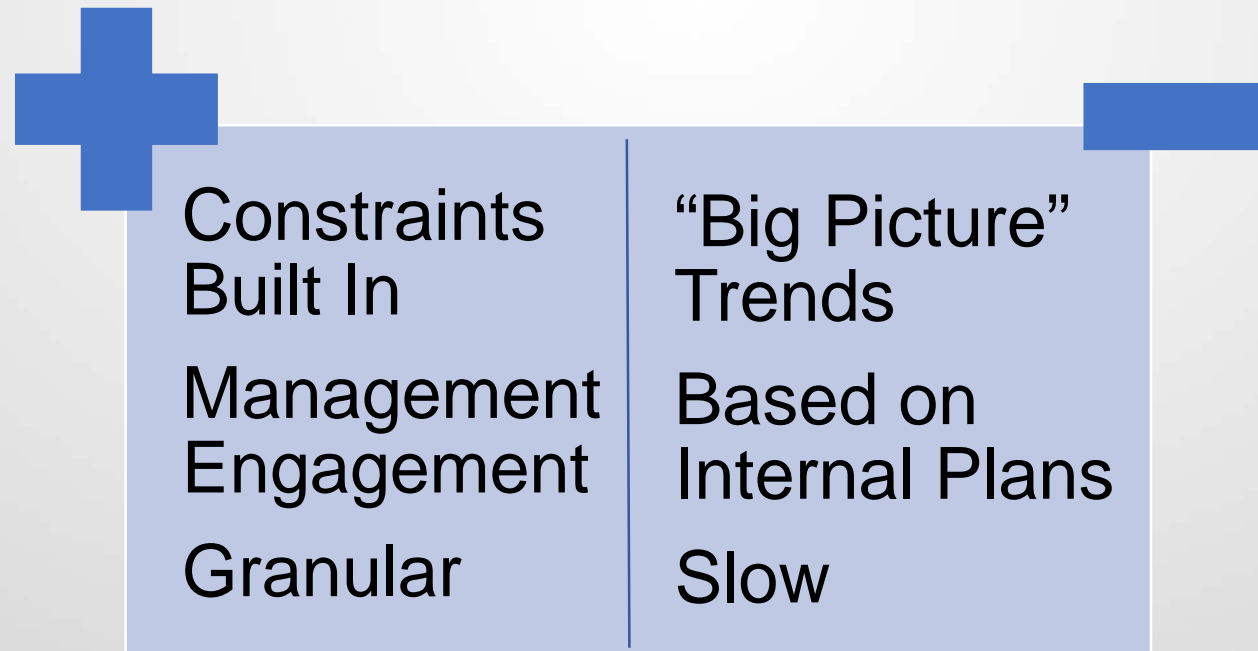
Top-down forecasting



Market driven	Constraints
Trend driven / Stable	Competitor response
Fast	Over- simplified

Bottom-up forecasting

- Starts at the unit level (part, contract, hours)
- Builds up from there based on capacity



Forecast considerations

External

- Economic conditions
- Industry trends
- Implied market share
- Competitive response
- Disruptive technologies
- New competitors
- Regulatory changes

Internal

- Capital expenditure plans
- Working capital needs
- Plant / productive capacity
- Staffing requirements
- Sustainable growth rates
- Business systems maturity

Reviewing projections

Common-sized financial statements

	Historical Years					Projected Years		
	As of December 31,					As of December 31,		
	2014	2015	2016	2017	2018	2019	2020	2021
	%	%	%	%	%	%	%	%
ASSETS								
Current Assets:								
Cash and Cash Equivalents	10.7	14.0	6.8	15.6	11.3	7.5	8.0	8.2
Trade Accounts Receivable - Net	34.9	32.6	38.7	32.7	37.4	43.1	44.5	45.6
Other Current Assets	0.6	1.3	5.1	1.8	1.1	1.1	1.2	1.2
Marketable Securities	<u>34.4</u>	<u>34.0</u>	<u>32.8</u>	<u>33.6</u>	<u>34.5</u>	<u>33.3</u>	<u>32.3</u>	<u>31.7</u>
Total Current Assets	80.6	81.8	83.5	83.7	84.3	85.1	85.9	86.7
Fixed Assets:								
Furniture and Equipment	1.3	1.2	1.3	2.1	2.1	2.6	3.1	3.6
Buildings and Improvements	25.5	25.0	23.6	23.6	24.2	24.2	24.2	24.4
Land	<u>3.4</u>	<u>3.3</u>	<u>3.1</u>	<u>3.1</u>	<u>3.2</u>	<u>3.2</u>	<u>3.2</u>	<u>3.2</u>
Gross Fixed Assets	30.2	29.5	28.0	28.7	29.5	30.0	30.5	31.1
Accumulated Depreciation	<u>(10.8)</u>	<u>(11.3)</u>	<u>(11.5)</u>	<u>(12.4)</u>	<u>(13.8)</u>	<u>(15.1)</u>	<u>(16.4)</u>	<u>(17.9)</u>
Net Fixed Assets	<u>19.4</u>	<u>18.1</u>	<u>16.5</u>	<u>16.3</u>	<u>15.7</u>	<u>14.9</u>	<u>14.1</u>	<u>13.3</u>
Total Assets	<u><u>100.0</u></u>	<u><u>100.0</u></u>	<u><u>100.0</u></u>	<u><u>100.0</u></u>	<u><u>100.0</u></u>	<u><u>100.0</u></u>	<u><u>100.0</u></u>	<u><u>100.0</u></u>

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Reviewing projections

Common-sized financial statements

	Historical Years					Projected Years		
	As of December 31,					As of December 31,		
	2014	2015	2016	2017	2018	2019	2020	2021
	%	%	%	%	%	%	%	%
LIABILITIES & SHAREHOLDERS' EQUITY								
Current Liabilities:								
Accounts Payable	2.4	2.0	2.8	2.8	2.0	2.1	2.2	2.2
Billings in Excess of Revenue Recognized	5.6	6.5	8.2	6.9	8.7	9.4	9.7	9.9
Accrued ESOP Contribution	3.3	3.8	4.0	3.9	3.4	3.3	3.4	3.5
Accrued Stock Appreciation Rights	3.6	3.8	3.8	3.8	4.2	4.8	5.1	5.4
Accrued Payroll Taxes	-	-	-	-	-	0.3	0.3	0.3
Other Accrued Employee Benefits	9.1	8.3	8.7	9.0	8.6	8.6	8.9	8.9
Other Accrued Expenses	5.2	4.1	3.8	3.8	3.7	3.7	3.8	3.9
Total Current Liabilities	29.4	28.5	31.3	30.2	30.6	32.2	33.4	34.3
Long-Term Liabilities	-	-	-	-	-	-	-	-
Shareholders' Equity	70.6	71.5	68.7	69.8	69.4	67.8	66.6	65.7
TOTAL LIABILITIES & EQUITY	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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Reviewing projections

Common-sized financial statements

	Historical Years					Projected Years		
	FYE December 31,					FYE December 31,		
	2014	2015	2016	2017	2018	2019	2020	2021
	%	%	%	%	%	%	%	%
Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Contract Costs	<u>84.0</u>	<u>84.7</u>	<u>84.4</u>	<u>85.3</u>	<u>84.7</u>	<u>85.3</u>	<u>85.2</u>	<u>85.1</u>
Gross Margin	16.0	15.3	15.6	14.7	15.3	14.7	14.8	14.9
G&A Expense	<u>12.2</u>	<u>11.4</u>	<u>11.4</u>	<u>10.7</u>	<u>11.8</u>	<u>12.0</u>	<u>11.9</u>	<u>11.9</u>
Income from Operations	3.8	3.9	4.3	3.9	3.6	2.6	2.9	3.0
Other Income/(Expense)	<u>0.5</u>	<u>0.2</u>	<u>0.4</u>	<u>0.5</u>	<u>0.1</u>	<u>0.6</u>	<u>0.5</u>	<u>0.5</u>
Pretax Income	<u><u>4.3</u></u>	<u><u>4.0</u></u>	<u><u>4.7</u></u>	<u><u>4.4</u></u>	<u><u>3.7</u></u>	<u><u>3.2</u></u>	<u><u>3.5</u></u>	<u><u>3.5</u></u>
Capital Expenditures	0.1	0.1	0.2	0.5	0.1	0.3	0.3	0.3

Reviewing projections

Ratio analysis

- Return on assets
- Return on equity
- EBIT and EBITDA margins
- Ratio of capital expenditures to sales
- Revenue growth rate
- Ratio of free cash flow to invested capital to sales

Reviewing projections

Ratio analysis

FYE December 31,					5-Yr.	Key Factors	PYE December 31,			3-Yr.
2014	2015	2016	2017	2018	Average		2019	2020	2021	Average
						Profitability				
4.9%	4.7%	4.8%	5.0%	3.8%	4.7%	Return on Assets	3.5%	3.9%	4.1%	3.8%
7.0%	6.6%	6.9%	7.2%	5.5%	6.6%	Return on Equity	5.2%	5.9%	6.2%	5.8%
4.0%	4.0%	4.3%	4.1%	3.8%	4.0%	EBIT Margin	2.6%	2.9%	3.0%	2.9%
4.6%	4.6%	4.9%	4.7%	4.6%	4.7%	EBITDA Margin	3.5%	3.8%	3.9%	3.7%
3.0%	1.6%	2.7%	2.8%	4.4%	2.9%	Free Cash Flow to Sales	1.4%	2.1%	2.3%	2.0%
						Growth				
					<u>CAGR</u>	Revenue Growth Rate	7.6%	3.1%	2.0%	<u>CAGR</u>
-11.2%	-1.5%	0.2%	8.9%	-18.9%	-5.0%	EBITDA Growth Rate	-19.8%	13.5%	4.5%	-1.7%
-19.0%	-2.6%	6.2%	5.3%	-20.4%	-6.8%					

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Reviewing projections

Industry benchmarks

- Industry sources such as: IBIS World, Risk Management Association (RMA), First Research, and S&P Capital IQ
- Guideline publicly traded companies

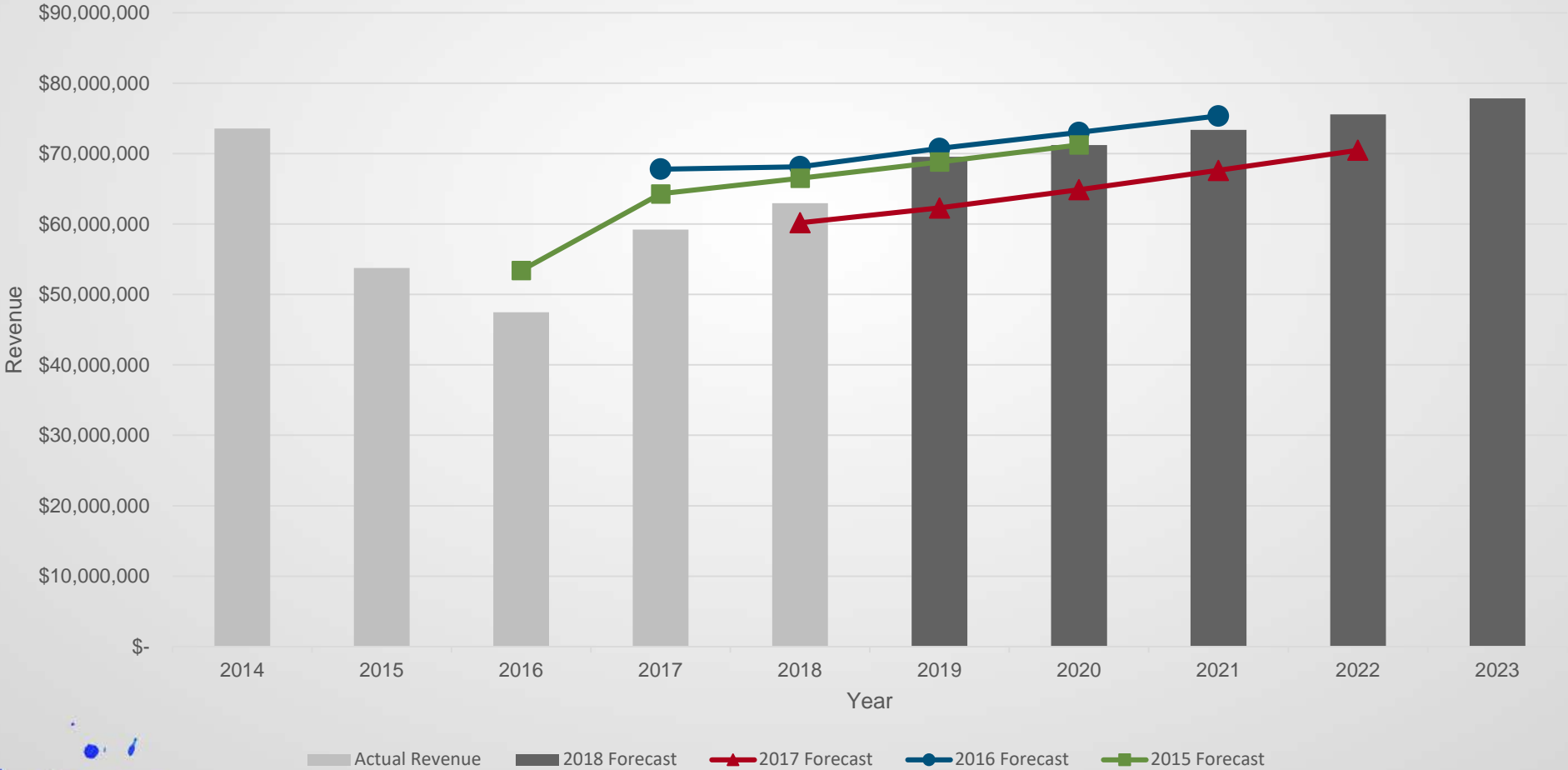
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Reviewing projections

Comparison to prior projections

Revenue results vs Forecast by year



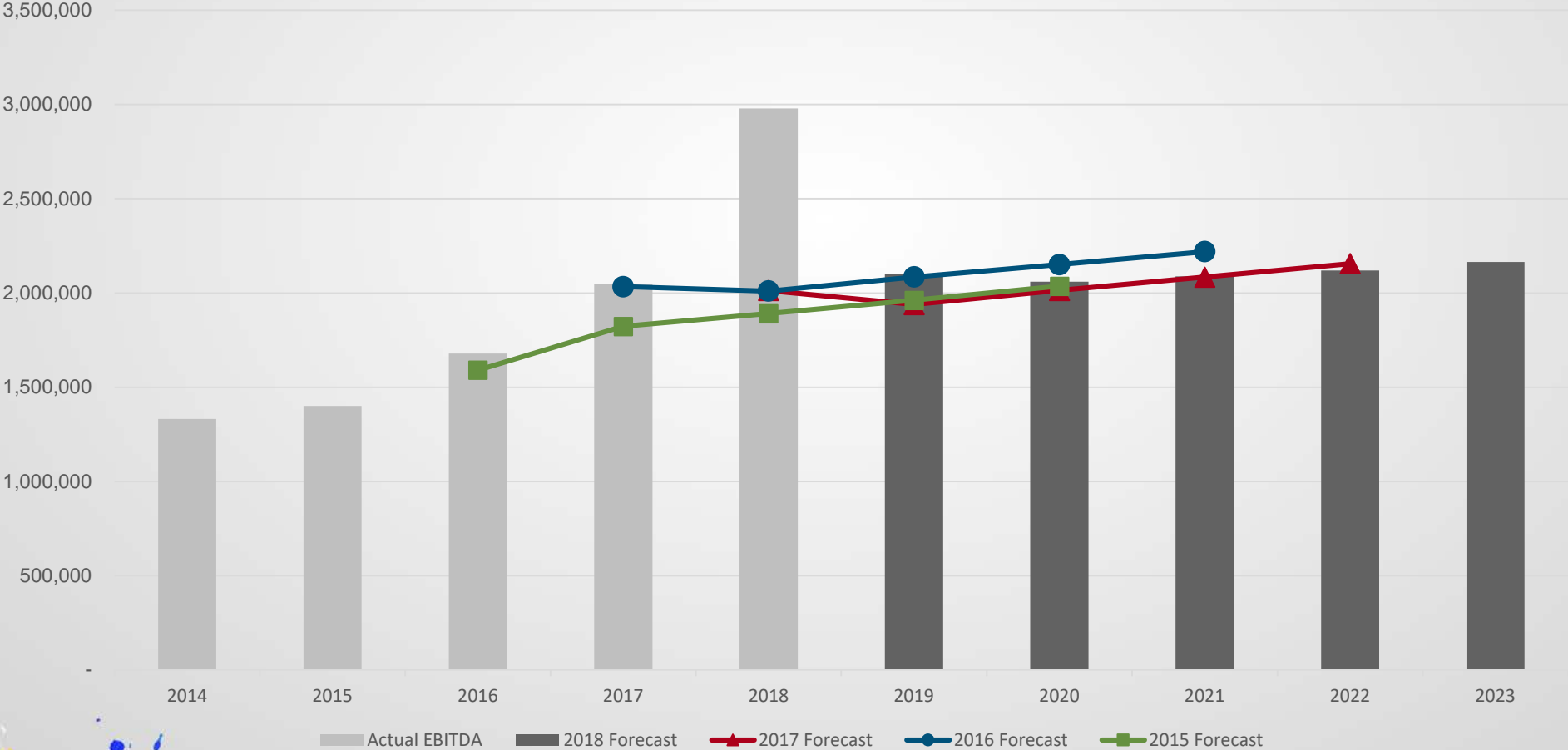
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Reviewing projections

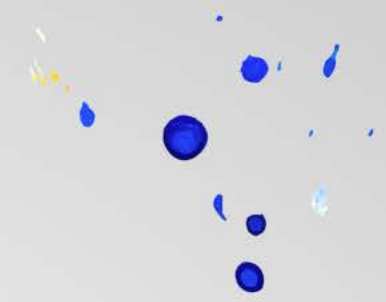
Comparison to prior projections

EBITDA results vs Forecast by year



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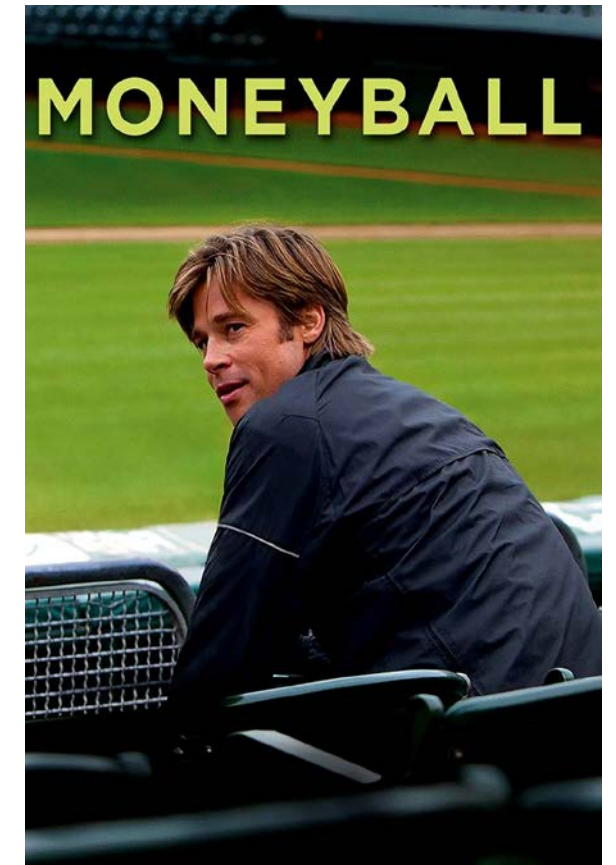
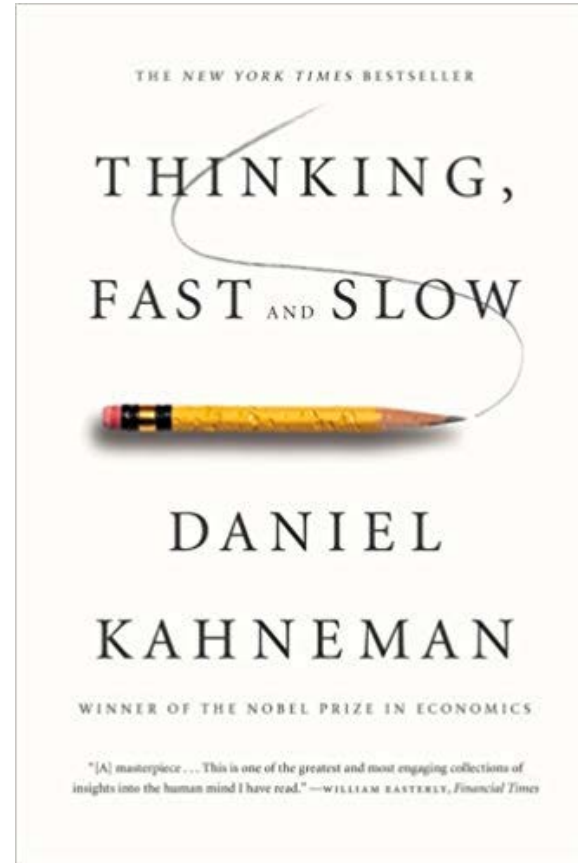
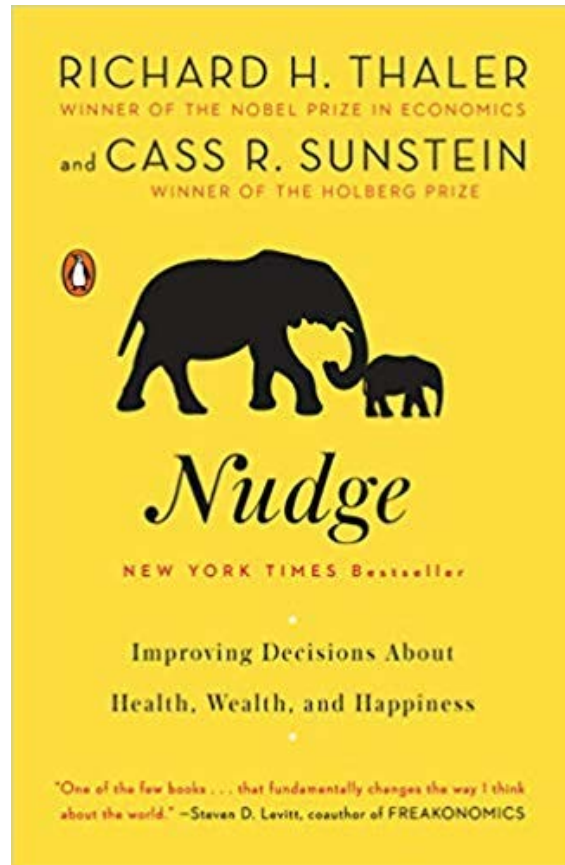
What is Behavioral Bias?



Behavioral bias

- Biases that result in irrational decisions
- Behavioral finance, behavioral economics, cognitive errors, emotional biases

Forerunners



How our brain works

- System 1 – operates automatically and quickly, with minimal effort and no sense of voluntary control
- System 2 – allocates attention to the effortful mental activities that demand it, such as complex computations

Causality

- Consider the story:
- Fred's parents were late. The caterers were expected soon. Fred was angry.

Causality

- Consider the story:
- After spending a day exploring beautiful sights in the crowded streets of New York, Jane discovered that her wallet was missing.

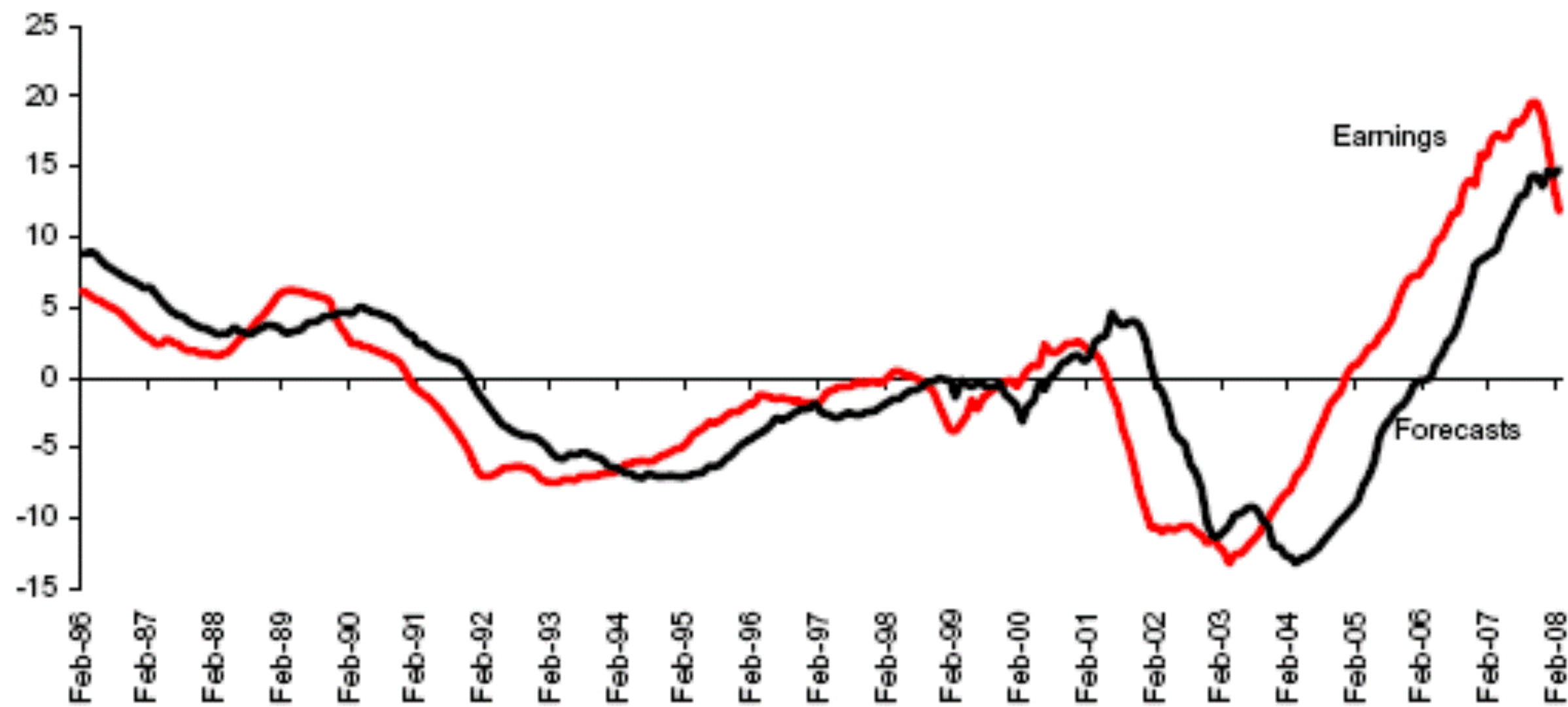
Common types of behavioral bias

- Conservatism
- Confirmation
- Representativeness
- Illusion of control
- Hindsight
- Anchoring and adjustment
- Mental accounting
- Framing
- Availability
- Survivorship bias
- Loss aversion
- Overconfidence
- Status quo
- Hindsight bias
- Endowment
- Regret aversion
- The halo effect

Conservatism bias

- A belief perseverance bias in which people maintain their prior views or forecasts by inadequately incorporating new information
- Lack of capacity to incorporate new info (mental stress)
- How does this new information change my forecast?

Analysts lag reality (S&P500 earnings, deviations from trend, \$ per share)



Confirmation bias

- A belief perseverance bias in which people tend to look for and notice what confirms their beliefs
- “The most likely reason for the excessive influence of confirmatory information is that it is easier to deal with cognitively” – Thomas Gilovich

Representativeness bias

- A belief perseverance bias in which people tend to classify new information based on past experiences and classifications
- Base rate neglect
- Sample size neglect

The “Linda Problem”

- Linda is thirty-one years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in antinuclear demonstrations.

Is Linda more likely to:

- Be an elementary school teacher
- Work in a bookstore and take yoga classes
- Be active in the feminist movement
- Be a psychiatric social worker
- Be a member of the League of Women Voters
- Be a bank teller
- Be an insurance salesperson
- Be a bank teller who is active in the feminist movement

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Illusion of control bias

- The expectancy of a personal success probability inappropriately higher than the objective probability would warrant
- People permitted to select their own numbers in a hypothetical lottery game were willing to pay a higher price per ticket than subjects gambling on randomly assigned numbers

Hindsight bias

- Refers to our tendency to produce simplified narratives of the past
- Seeing the past as “predictable” and “reasonable to expect”
- Am I rewriting history or being honest with myself about mistakes I made?

Anchoring and adjustment

- An information-processing bias in which the use of a psychological heuristic influences the way people estimate probabilities



Mental accounting bias

- An information processing bias in which people treat one sum of money differently from another equal-sized sum based on which mental account it is assigned to

Framing

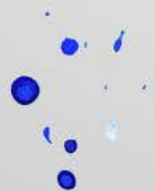
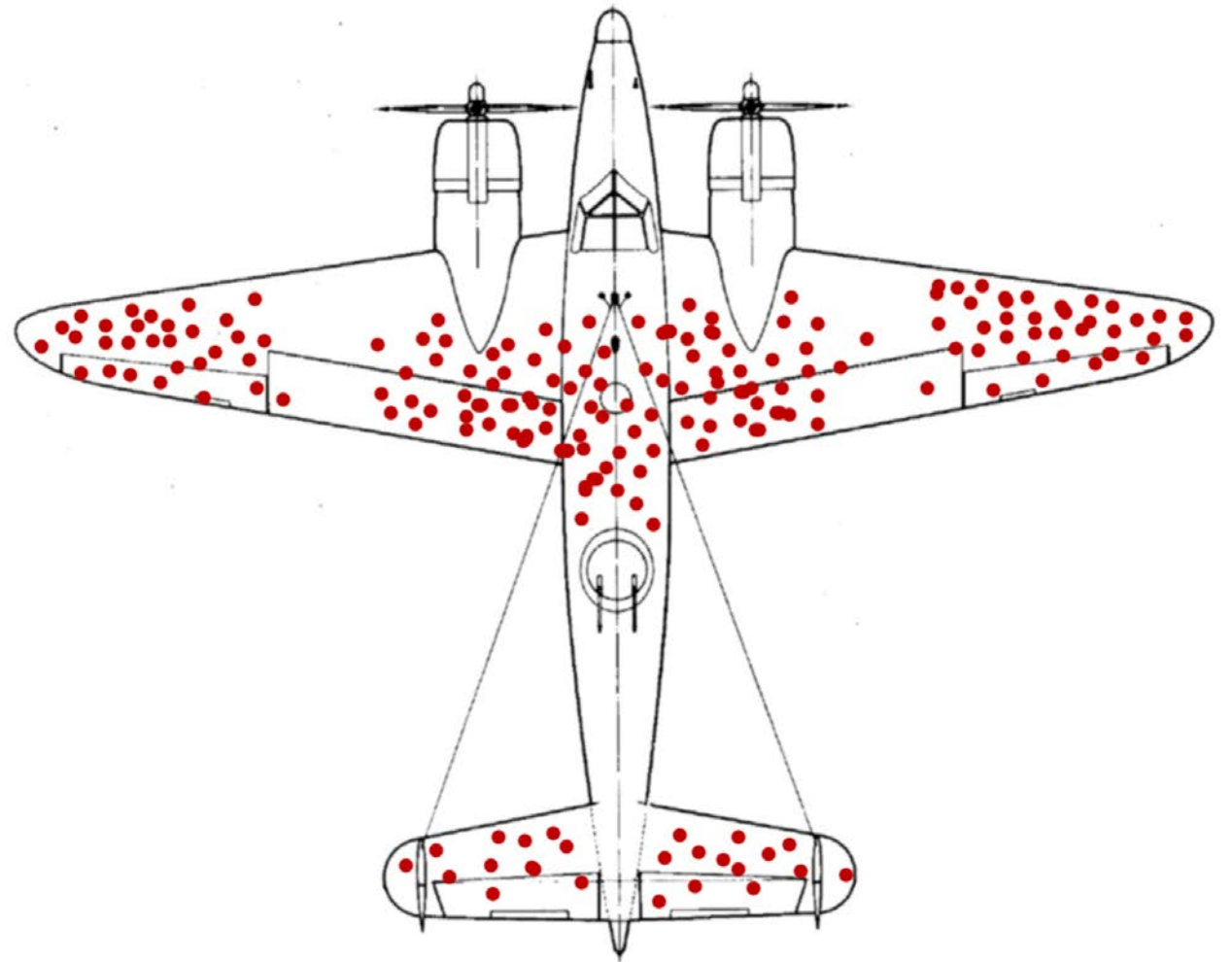
- An information-processing bias in which a person answers a question differently based on the way in which it is asked (i.e., framed)

Availability bias

- An information-processing bias in which people take a heuristic approach to estimating the probability of an outcome based on how easily the outcome comes to mind
- Retrievability
- Categorization
- Narrow range of experience
- Resonance

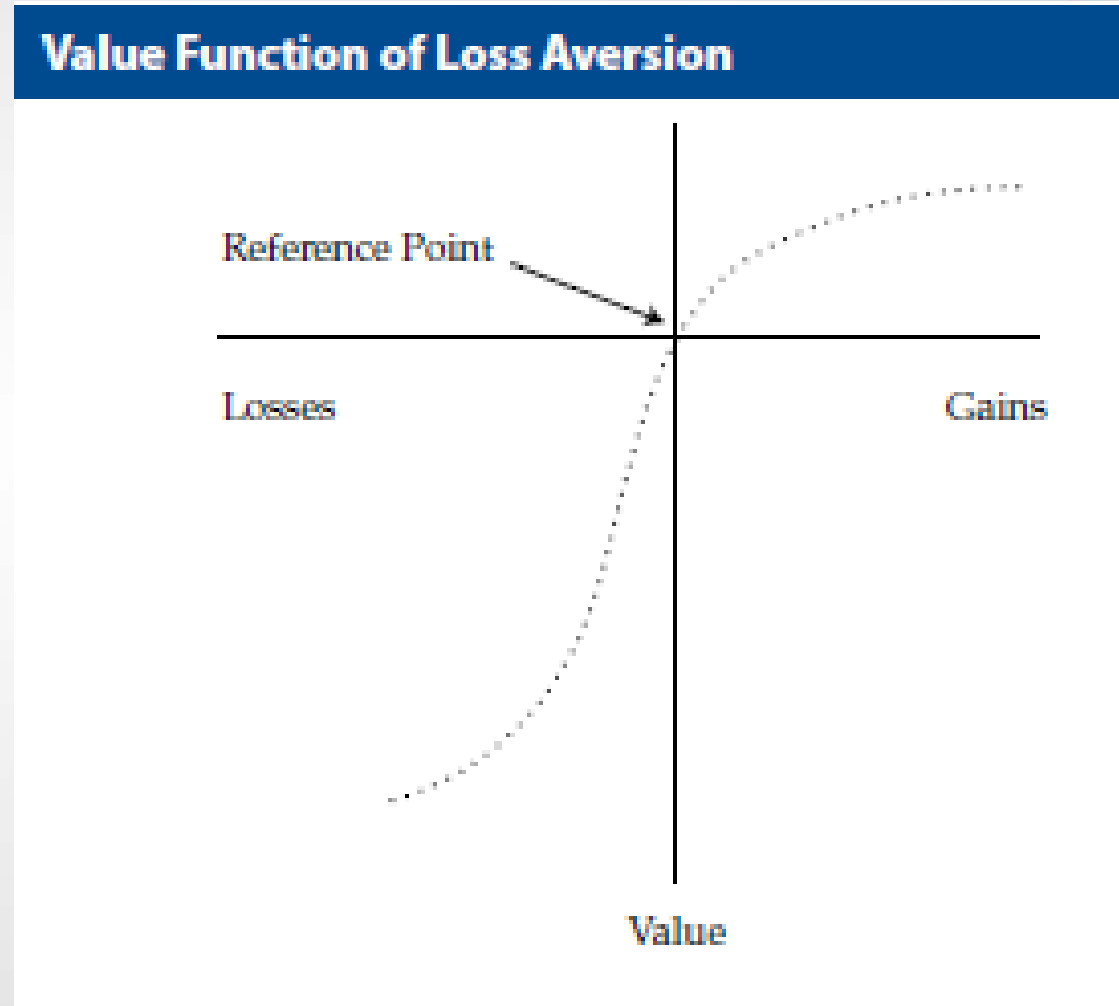
Survivorship bias

- An information processing bias where the results, or survivors, of a particular outcome are disproportionately evaluated



Loss aversion bias

- A bias in which people tend to strongly prefer avoiding losses as opposed to achieving gains
- When comparing absolute values, the utility derived from a gain is much lower than the utility derived from a loss



Overconfidence bias

- Bias in which people demonstrate unwarranted faith in their own intuitive reasoning, judgments, and/or cognitive abilities

Status quo bias

- An emotional bias in which people do nothing instead of making a change

Endowment bias

- An emotional bias in which people value an asset more when they hold rights to it than when they do not
- Inconsistent because the price you are willing to pay should equal the price you are willing to sell

Regret aversion bias

- An emotional bias in which people tend to avoid making decisions that will result in action out of fear that the decision will turn out poorly
- “Worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally.” –John Maynard Keynes

The halo effect

- The tendency to like, or dislike, everything about a subject
- Occurs because our minds have difficulty balancing the complexity of the world

Kyle Wishing, CFA



- Kyle serves as a manager with Willamette Management Associates. He provides valuations and economic analyses for mergers and acquisitions, ESOP formations, solvency opinions, economic event analyses, restructuring and reorganization analyses, and transfer tax purposes.
- Kyle leads the firm's ESOP practice, providing analysis related to ESOP transactions, annual updates, and disputes out of the Atlanta, Georgia, office.
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Seth Webber, CFA/ASA, CVA



- Since joining BerryDunn in 2007, Seth has brought his combination of valuation, consulting, and operations skills to bear for his clients, helping them navigate challenging issues related to business valuation. He leads a diverse team of valuation experts that draw on the deep resources of BerryDunn to help clients address their needs.
- Seth is heavily involved in working with clients to define and execute transition plans, including valuations relating to ESOPs, management buyouts, sales, and gifting. He also provides expert witness services to clients and attorneys on business valuation, economic damages, and lost profits.
- Seth holds an MBA, as well as numerous credentials (CFA, CEPA, CVA, ASA, CBA) all focused on gaining knowledge to help his clients answer difficult questions related to value and succession planning.
- Seth can be reached at 207-541-2297 or swebber@berrydunn.com

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