

FORVIS

Interest Rates, Valuation, & Distress in Levered Companies

Forensics Institute Fall 2022 – October 26, 2022

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Introductions

FORV/S

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Introductions



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Overview

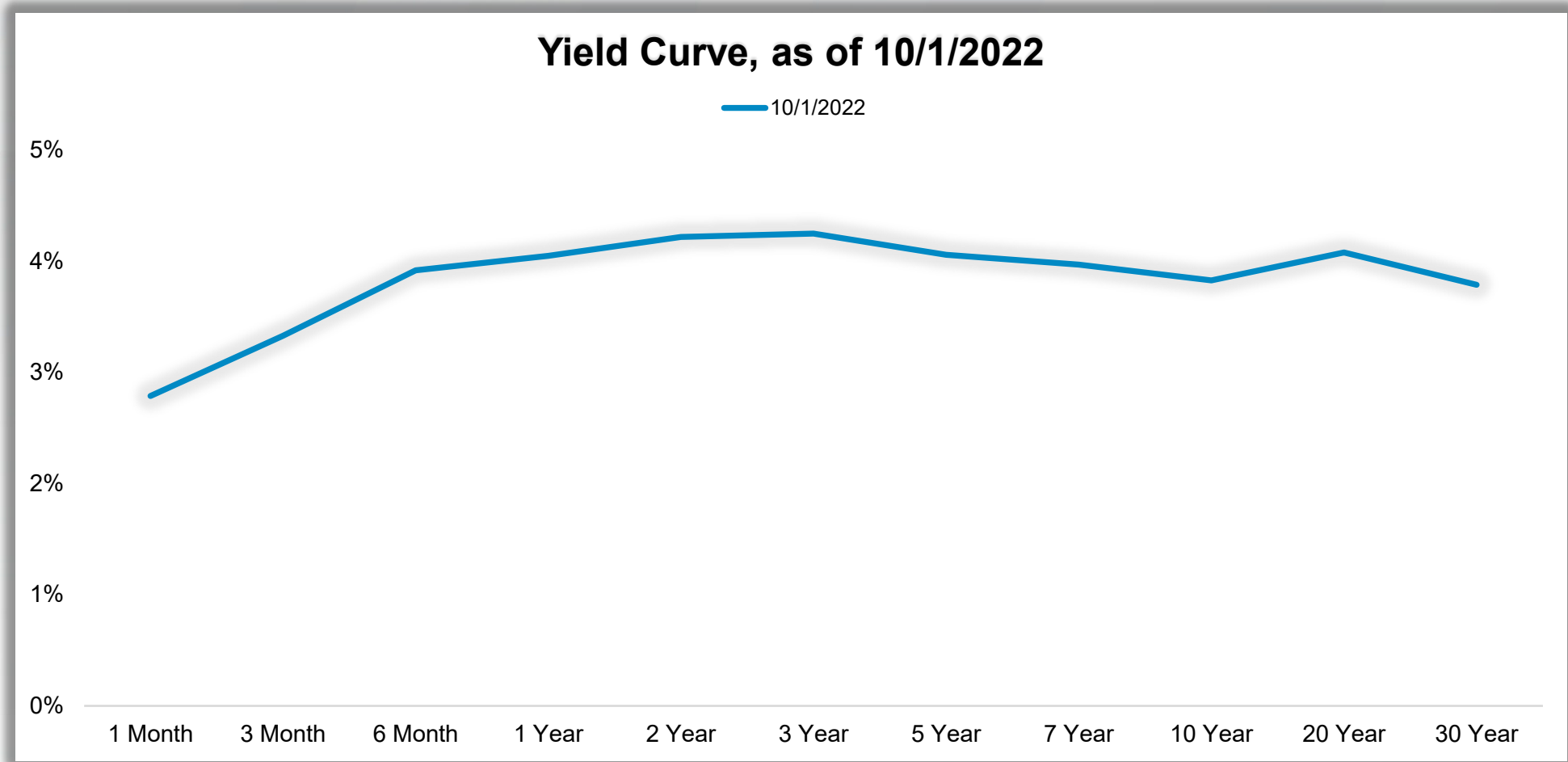
- Interest rates are rising
- Equity valuations are declining
- Recession?
- Distress may be around the corner

Current Market

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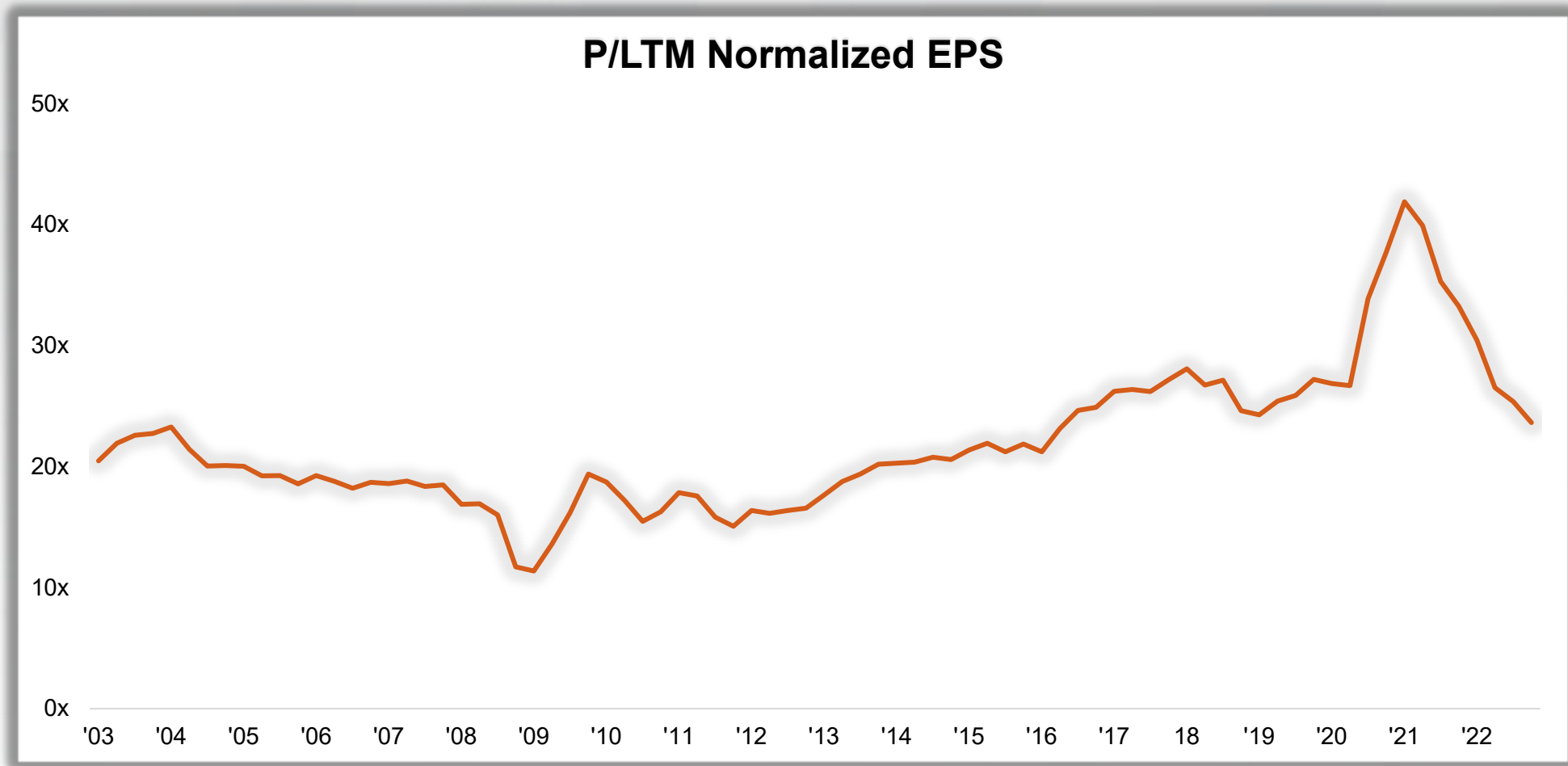
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Interest Rate



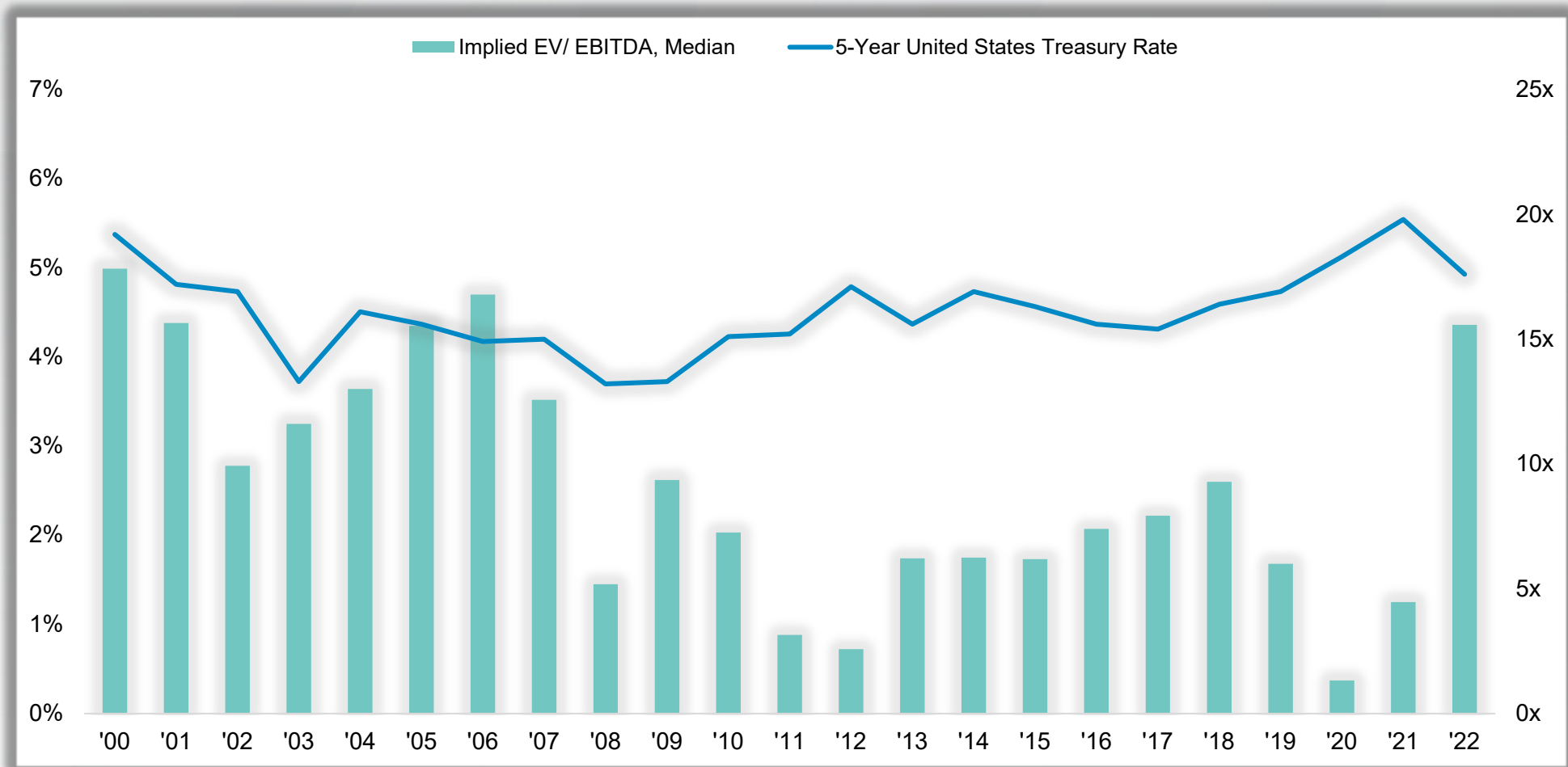
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Multiples



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M&A Multiples



Interest Rates

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Bond Pricing

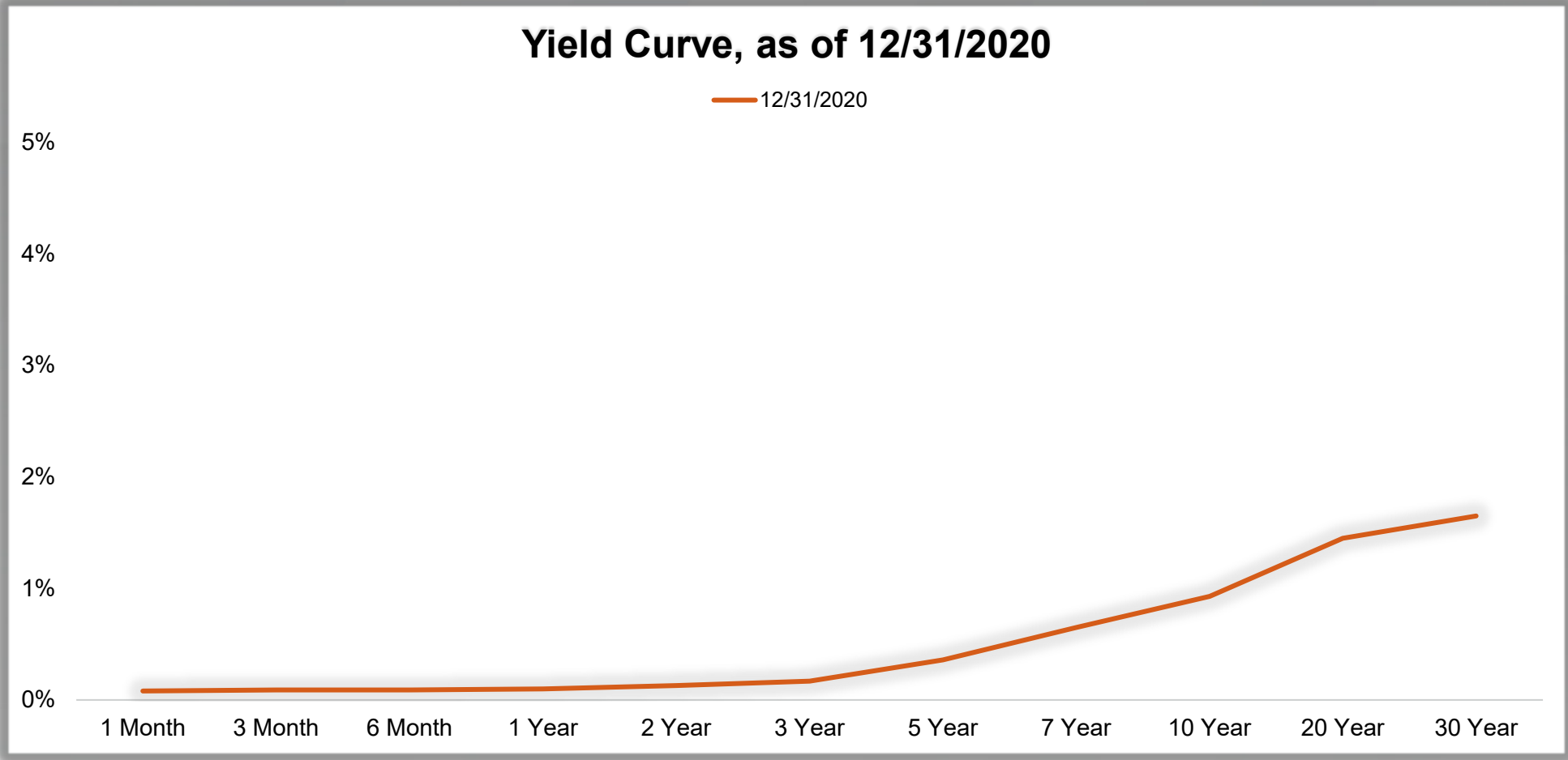
Semi-Annual Pay Bond

At Par	
Face Value	\$100
Coupon	4.5%
Term	5 years
Number of Payments	10
Yield	4.5%
Value	\$100.00

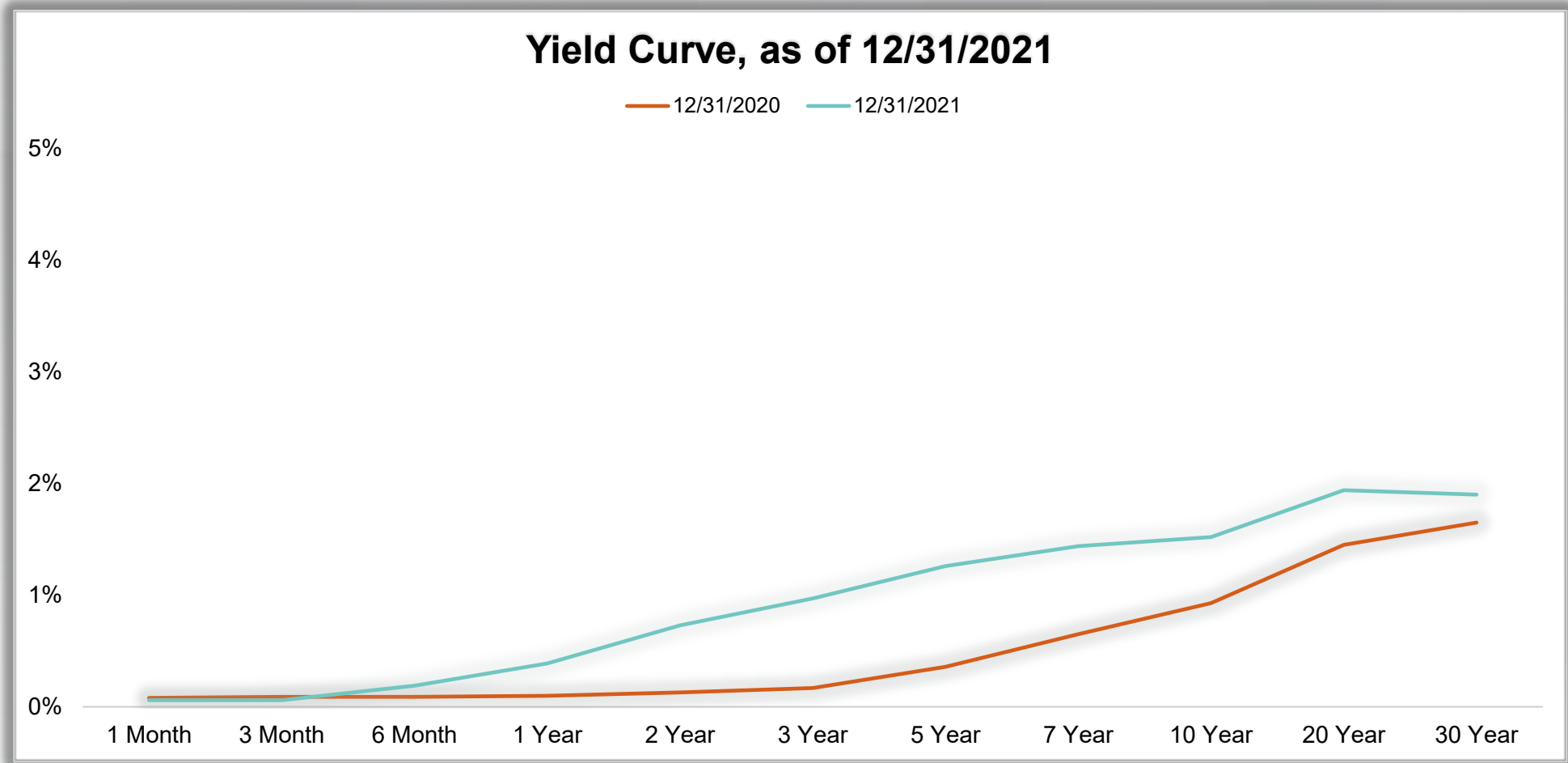
Discount	
Face Value	\$100
Coupon	4.5%
Term	5 years
Number of Payments	10
Yield	6.0%
Value	\$96.57

Premium	
Face Value	\$100
Coupon	4.5%
Term	5 years
Number of Payments	10
Yield	3.0%
Value	\$103.59

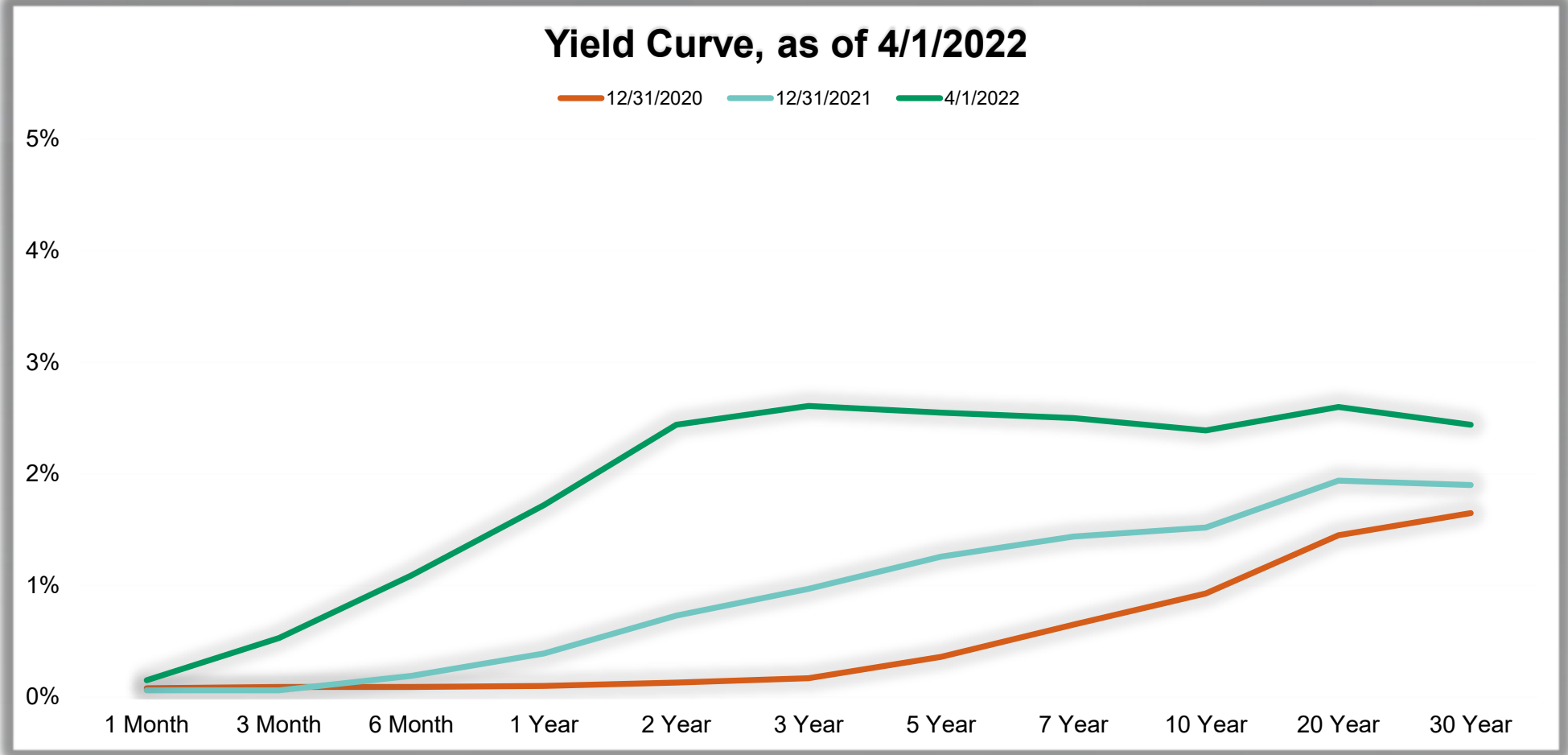
Progression of the Treasury Yield Curve



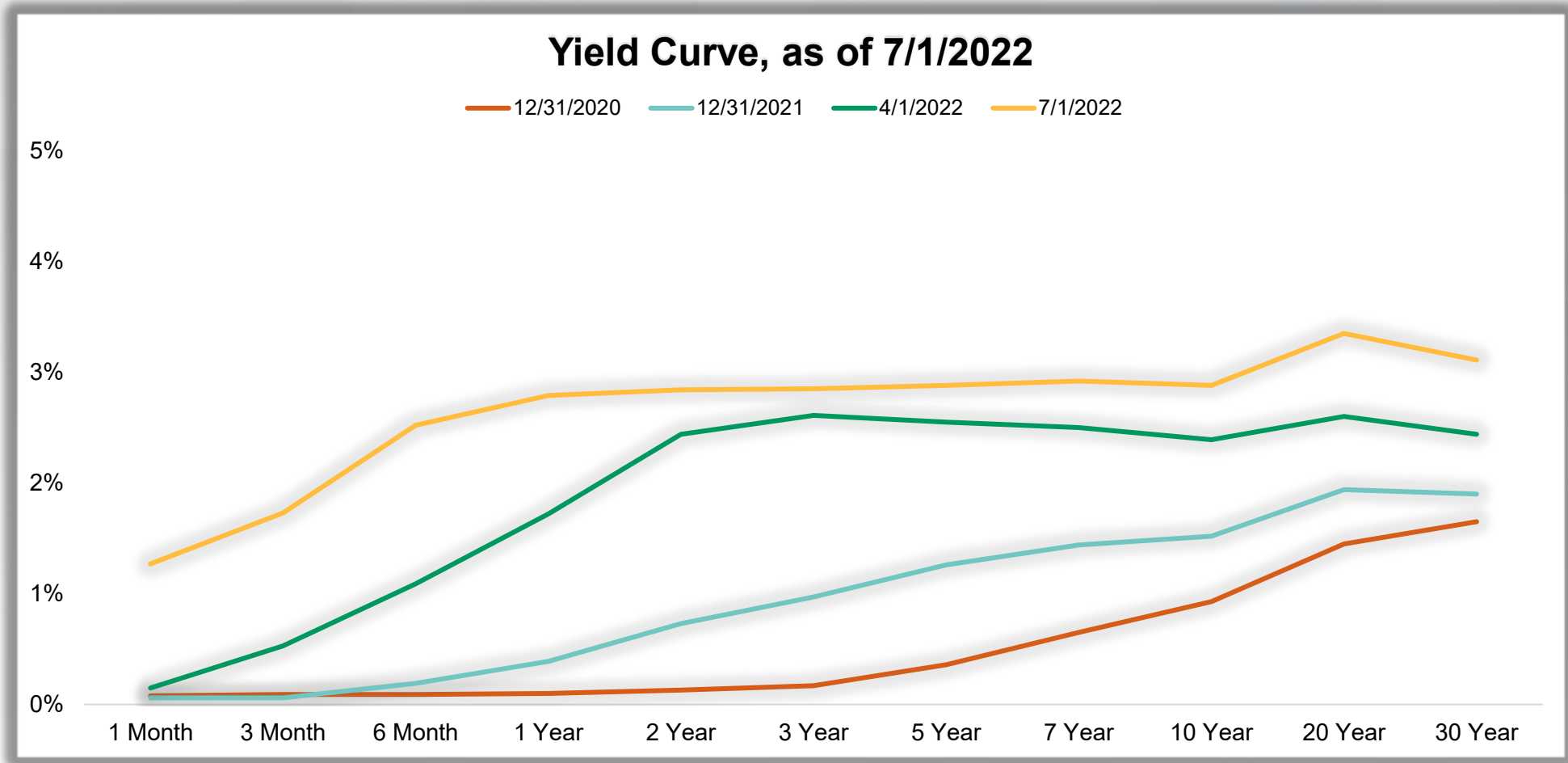
Progression of the Treasury Yield Curve



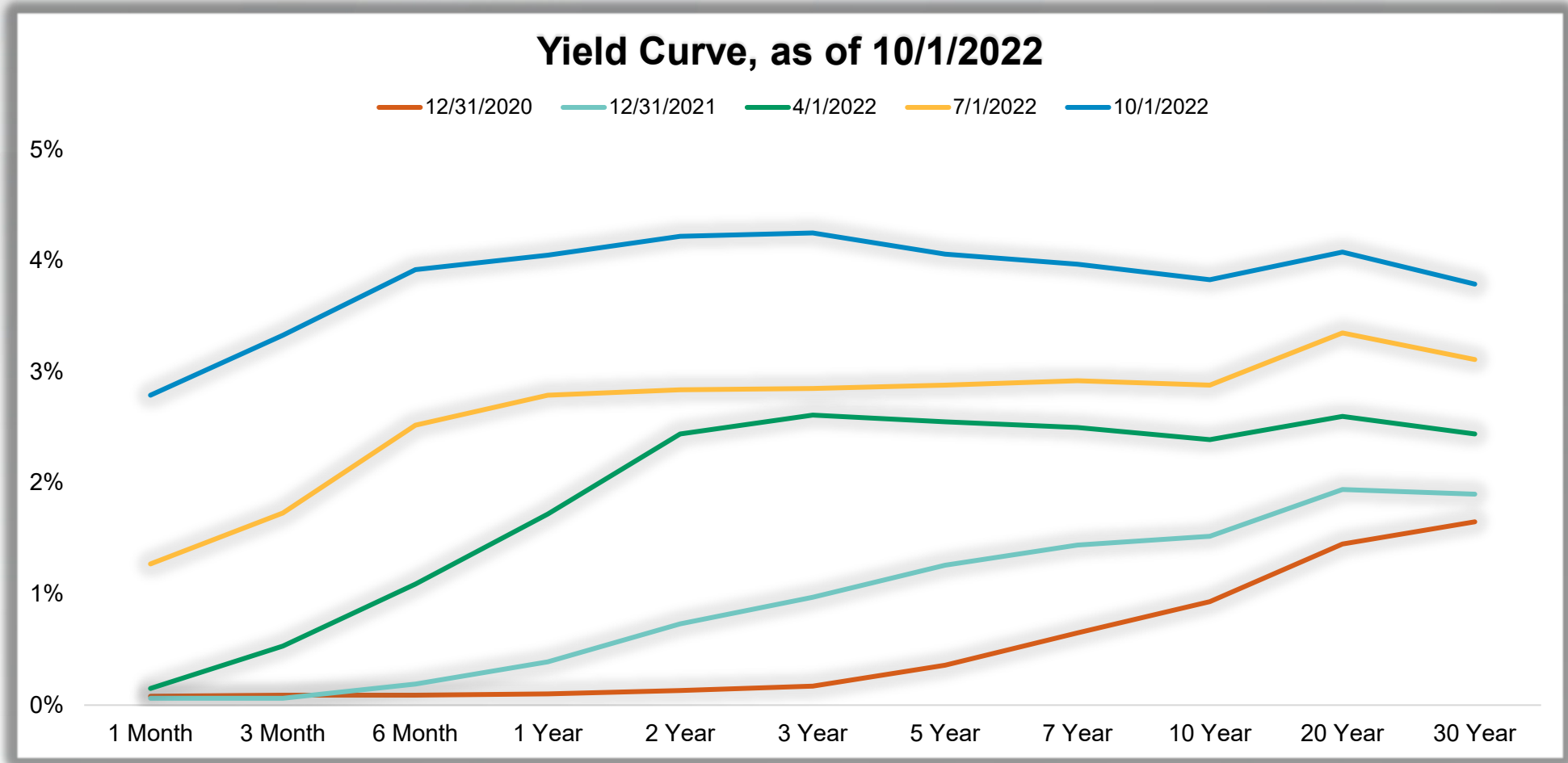
Progression of the Treasury Yield Curve



Progression of the Treasury Yield Curve



Progression of the Treasury Yield Curve

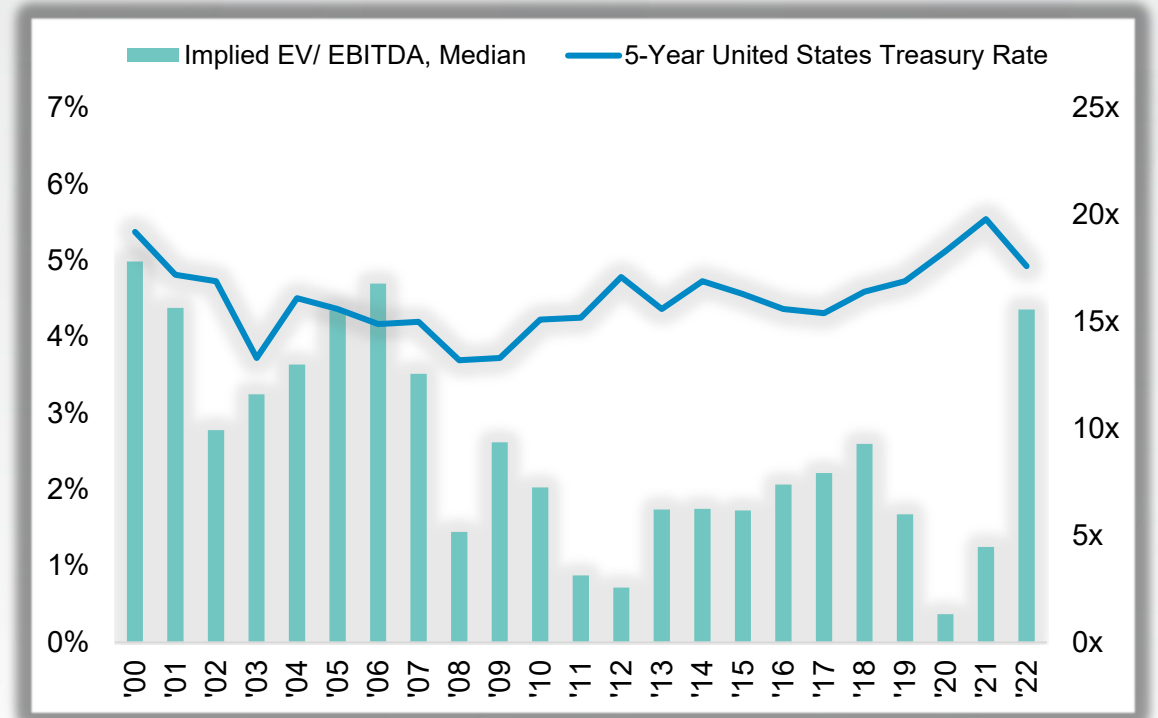
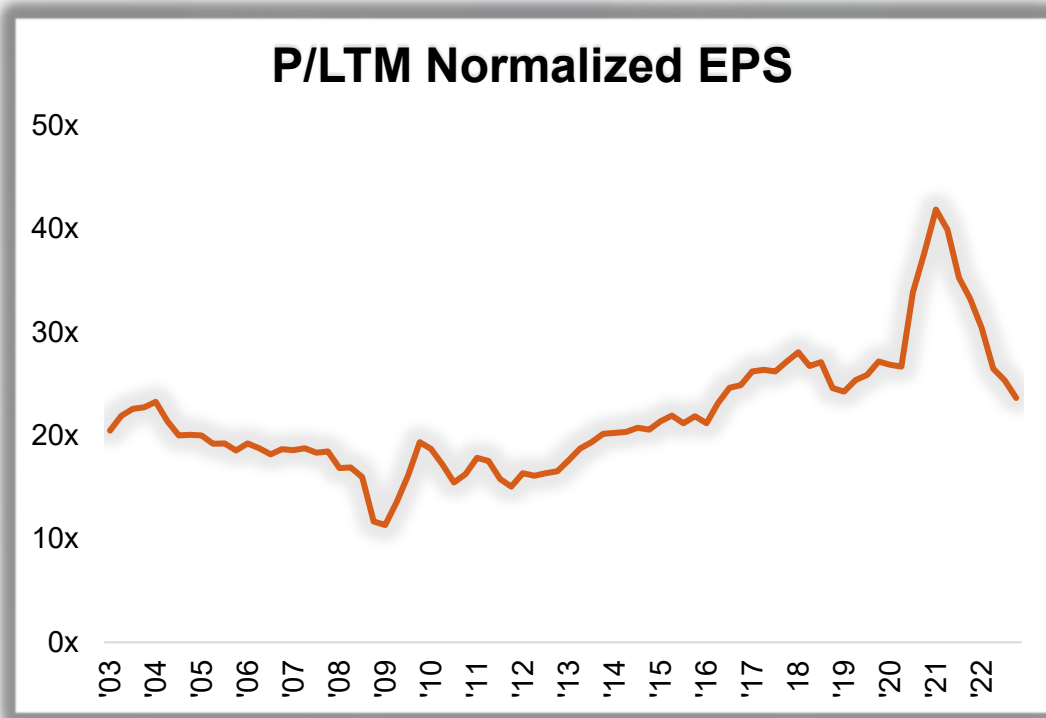


Valuation

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Multiples and M&A Multiples



“Any Company” Projection

	1	2	3	4	5	Terminal
Revenue	\$500	\$525	\$551	\$579	\$608	\$626
EBIT	\$125	\$131	\$138	\$145	\$152	\$156
Tax	\$(32)	\$(34)	\$(36)	\$(38)	\$(40)	\$(41)
After-Tax CF	\$93	\$97	\$102	\$107	\$112	\$115
Adjustments	\$(35)	\$(37)	\$(39)	\$(41)	\$(43)	\$(14)
After-Tax CF	\$58	\$60	\$63	\$66	\$69	\$101

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Income Approach

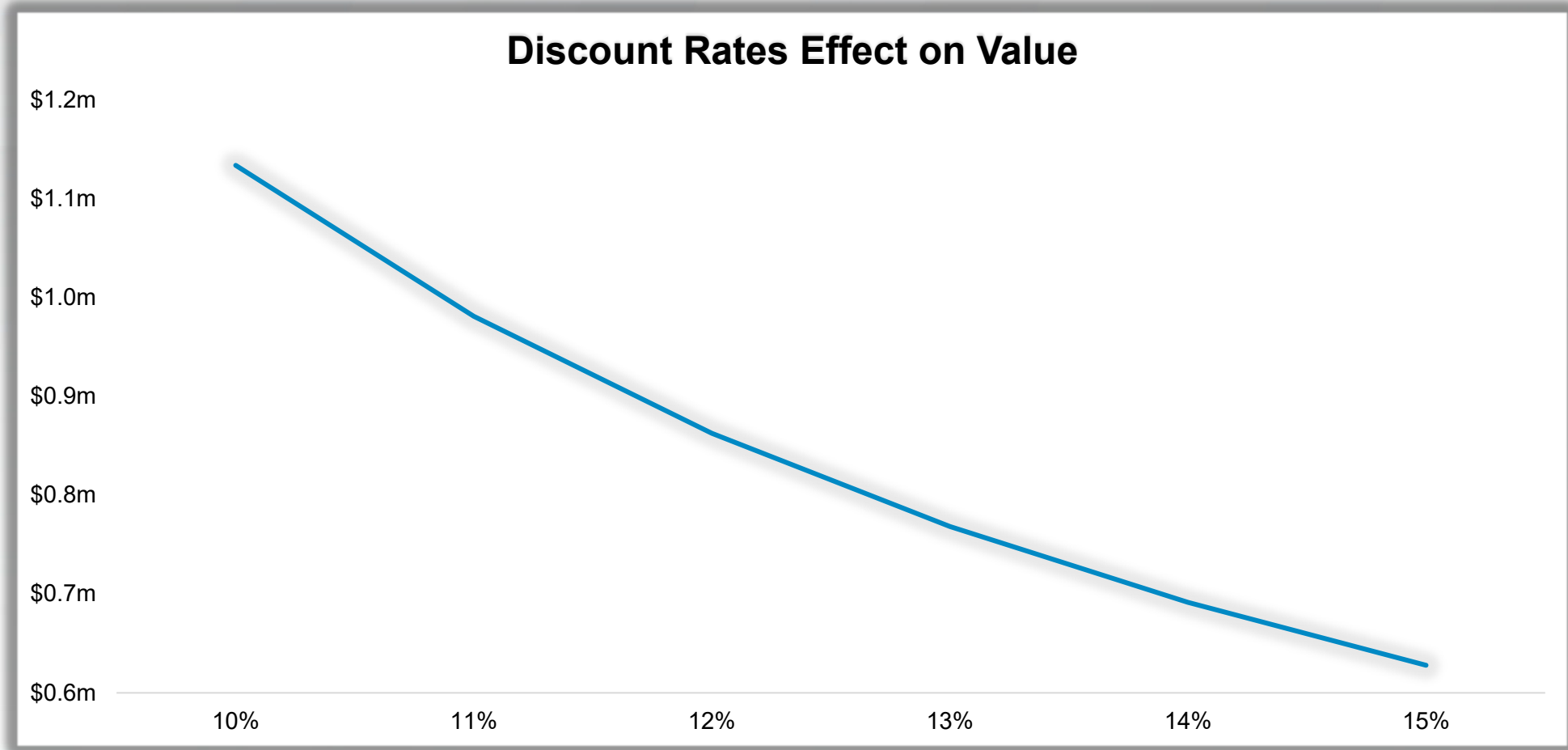
Pre-Fed Interest Rate Hike Discount Rate: 12%

	1	2	3	4	5	Terminal
After-Tax CF	\$58	\$60	\$63	\$66	\$69	\$1,122
PV Factor	0.89	0.80	0.71	0.64	0.57	0.57
PV Cash Flow	\$52	\$48	\$45	\$42	\$39	\$637
Present Value	\$862					

Post-Fed Interest Rate Hike Discount Rate: 15%

	1	2	3	4	5	Terminal
After-Tax CF	\$58	\$60	\$63	\$66	\$69	\$842
PV Factor	0.87	0.76	0.66	0.57	0.50	0.50
PV Cash Flow	\$50	\$46	\$41	\$38	\$34	\$418
Present Value	\$628					

Discount Rates Effect on Value



Inverse Multiples

Cash Flow	\$100	\$100	\$100
Value	\$1,000	\$833	\$625
Discount Rate	10%	12%	16%
P/CF	10x	8x	6x

Distress

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What Is Distress?

Distress at the corporate level means cash is getting scarce

- Financial distress – debt load does not fit with the current capital structure
- Operational distress – problem with operational costs &/or revenue

Symptoms of Distress

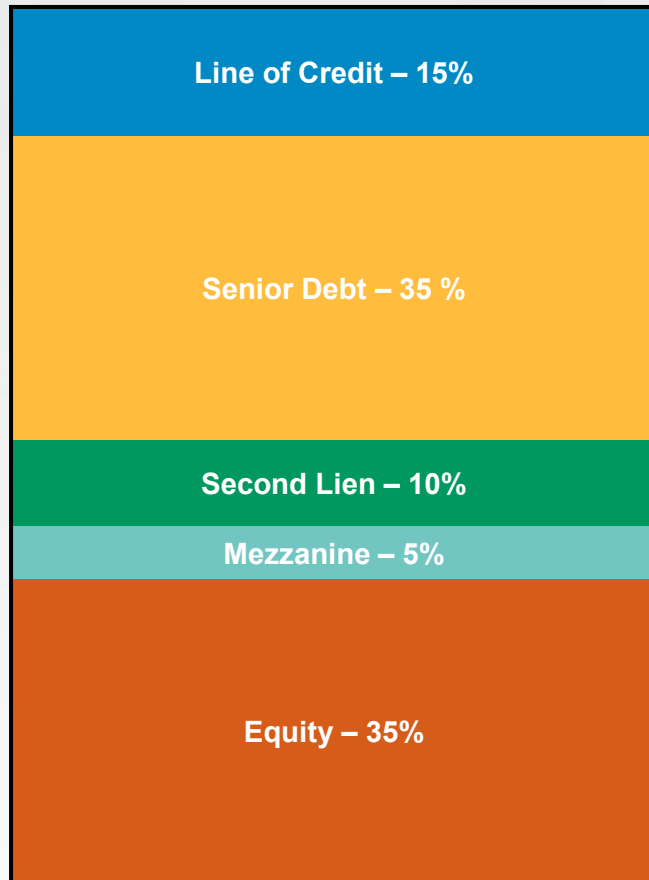
- Working capital changes
- Over-advances on the line of credit
- Bank covenant violations

Financial Distress

- Enterprise Value = Debt + Equity
- Cash flow is not sufficient to service debt/fixed obligations
- Current capital structure does not fit with valuation

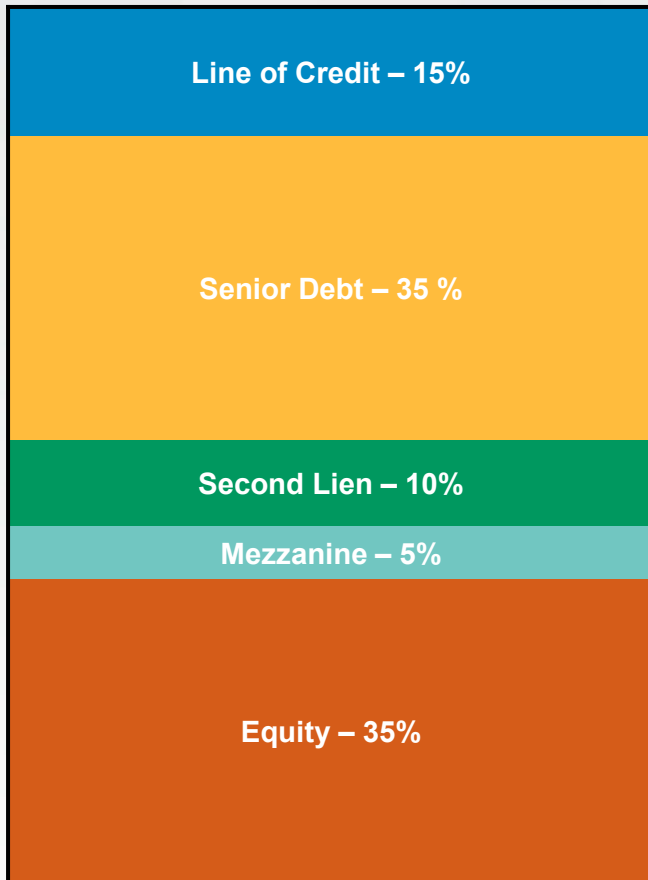
Financial Distress

Enterprise Value = \$150 million

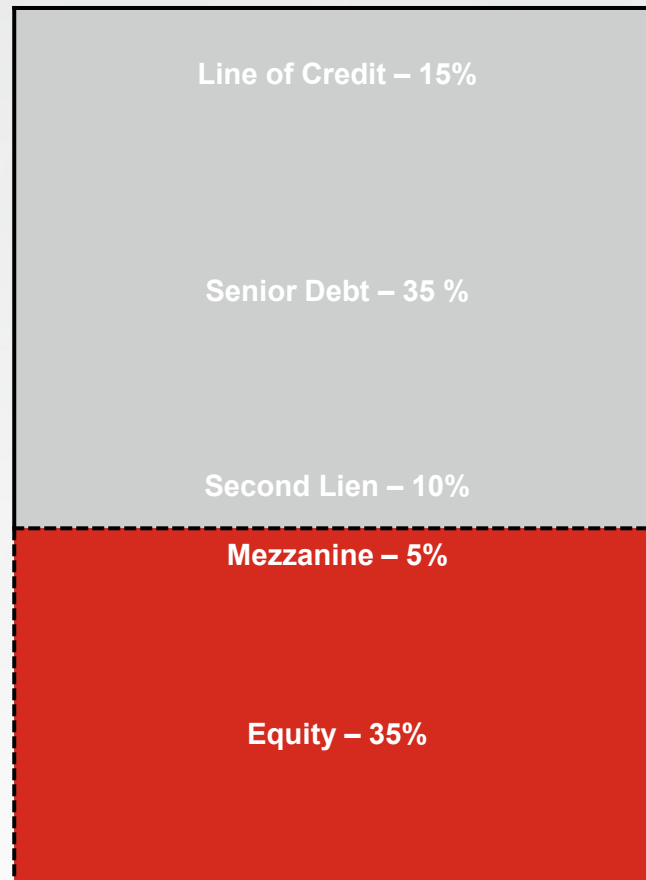


Financial Distress

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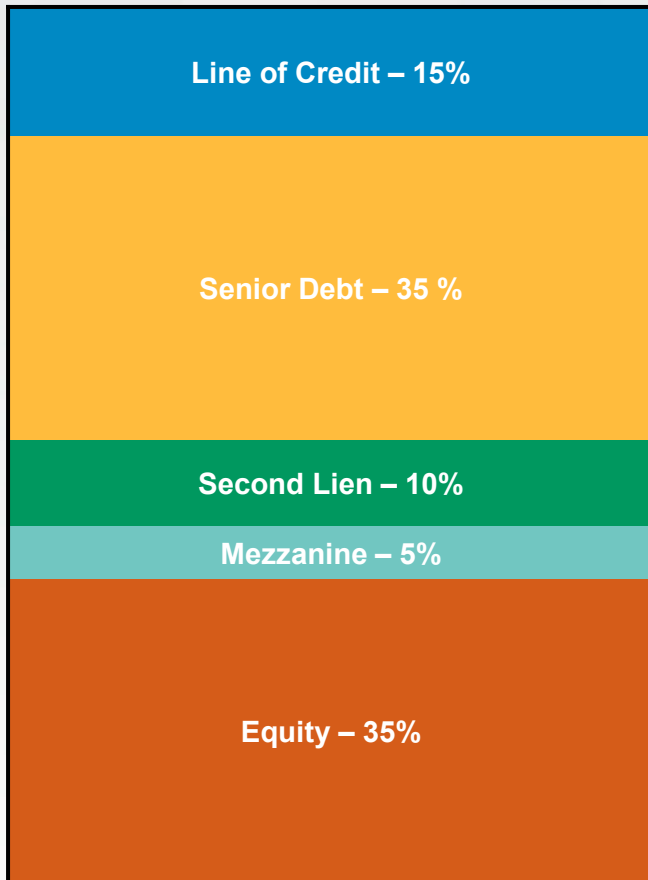


Enterprise Value = \$110 million

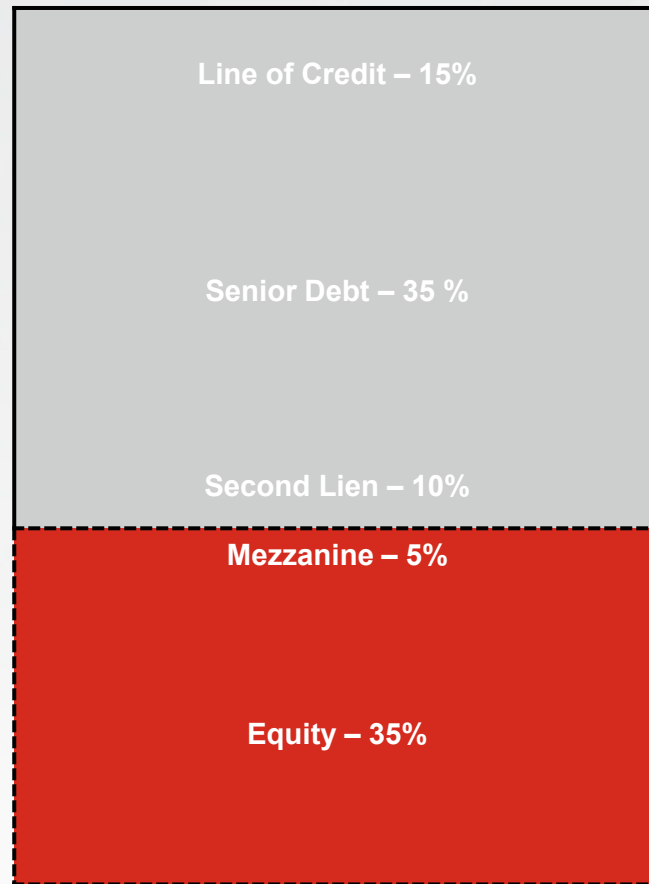


Financial Distress

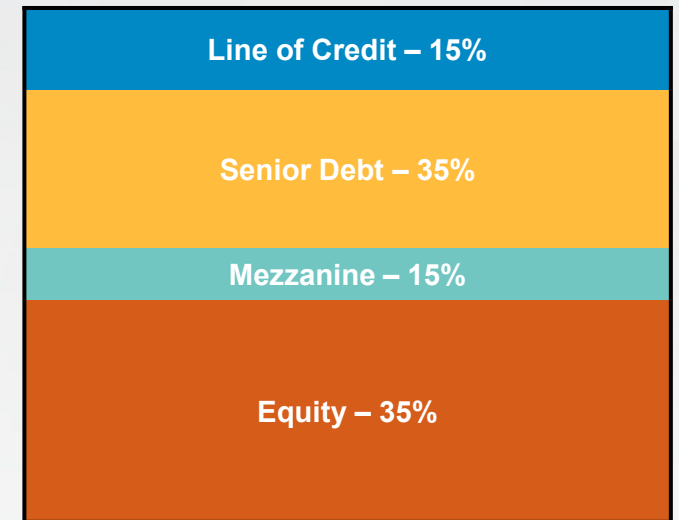
Enterprise Value = \$150 million



Enterprise Value = \$110 million



Enterprise Value = \$110 million



Operational Distress

- Cash flow is not sufficient to service debt/fixed obligations
- Decrease in demand
- Supply chain issues
 - Lack of raw materials
 - Cost of raw materials
 - Cost of other inputs, *e.g.*, transportation
- Leverage compounds operational distress

Conclusion

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Conclusion

- There are technical ties between valuation & interest rates
- Complexity beyond the technical ties opens up bigger discussion points
- Interest rates are an important piece of the valuation puzzle, yet only the tip of the iceberg
 - Understanding hard costs of distress versus normal business operations
 - Understanding soft costs of distress

About FORVIS Valuation Services

Financial Reporting

- Impairment—ASC 350 & 360-10
- Investment Fund Level 3 Assets—ASC 820

Tax Planning & Reporting

- Estate, gift, & income tax

Transactions & Planning

- Mergers, acquisitions, & divestitures
- Succession planning

Financial Modeling

- Model validation
- Return on investment

Dispute Consulting & Expert Testimony

- Economic damages
- Divorce

Your FORVIS Contacts

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530+
Partners & Principals



5,500+
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70
Markets



28
States + UK
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—Tom Watson, CEO

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