

hScore.com

Informed Investing for All

Analyze Stocks Like A Pro

Texas Instruments Auditorium
University of Texas, Dallas

Presenters:

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Dec 8th, 2024

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Saket Kumar

Co-founder, hScore.com

17 years in Investments

- Co-Chief Investment Officer, NXG Investment Mgmt
- Analyst, Citadel Investment Group
- Investment Banker, Bear Sterns

Education

- BE, Indian Maritime University, Kolkata. Recipient of Presidents Gold Medal by the President of India.
- MBA, SMU Cox School of Business



Hari Kusumakar

Co-founder, hScore.com

14 years in Investments

- Director of Research & Portfolio Manager, NXG Investment Mgmt
- Analyst, Tiger Legatus Capital Mgmt (Tiger Seed)
- Analyst, BlueMountain Capital Mgmt
- Analyst, Moody's Investor Service

Education

- BTech, Indian Institute of Tech, Bombay
- MS, Ohio State University
- MBA, MIT Sloan School of Mgmt

Retail stock pickers usually underperform the market



- Top 100 stocks owned by Robinhood Accounts (Total Return 55% since Jan 2020)
- Nasdaq Composite (Total Return 110%)
- S&P 500 (Total Return 92%)

"Only when the tide goes out do you discover who's been swimming naked." – Warren Buffett

Agenda

- ❑ Drivers of Stock Price
 - ❑ Earnings Expectations
 - ❑ Valuation Multiple
- ❑ Accounting Basics
- ❑ Drivers of Earnings Expectations
- ❑ How Value Creation Machine Works
- ❑ Drivers of Valuation Multiple
- ❑ Putting it all together
 - ❑ Example: Hedge-fund quality stock analysis (if time permits)

Drivers of Stock Price

Stock Price = *Function (Valuation Multiple, Earnings Expectations)*

Drivers of Valuation Multiple

Money Flow

Investor Base

Peer Companies

Earnings Predictability

Growth Expectations

Balance Sheet

Regulatory Regime

Mgmt Team

Macro

Drivers of Earnings Expectations

Sales

→ Price

→ Volume

Costs

→ Fixed

→ Variable

Debt Service Cost

Tax Profile

Reinvestment Needs

How to determine the intrinsic value of a stock

Stock Price = *Function (Valuation Multiple, Earnings Expectations)*

Three most common methods to calculate a stock's intrinsic value:

Price to EPS Multiple x 2025 EPS

$$\frac{(EV \text{ to EBITDA Multiple} \times 2025 \text{ EBITDA}) + 2025 \text{ Cash} - 2025 \text{ Debt}}{2025 \text{ Share Count}}$$

$$\frac{(EV \text{ to Sales Multiple} \times 2025 \text{ Sales}) + 2025 \text{ Cash} - 2025 \text{ Debt}}{2025 \text{ Share Count}}$$

Agenda

- ❑ Drivers of Stock Price
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 - ❑ Valuation Multiple
- ❑ Accounting Basics ←
- ❑ Drivers of Earnings Expectations
- ❑ How Value Creation Machine Works
- ❑ Drivers of Valuation Multiple
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**Accounting is the
language of finance**

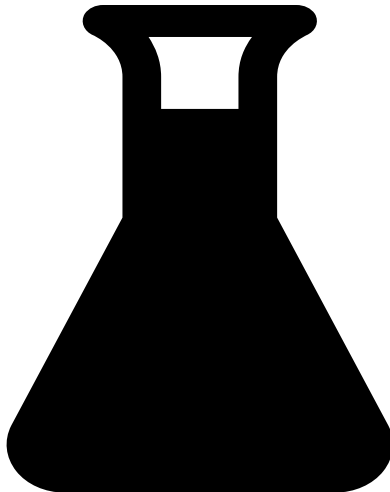
Accounting Basics



Income Statement (measures flow)

- Measure the flow of money during a period
- Usually for 3 months or for 1 year

Revenue	(What came in)
Costs	(What went out)
Profit	(What's Left)

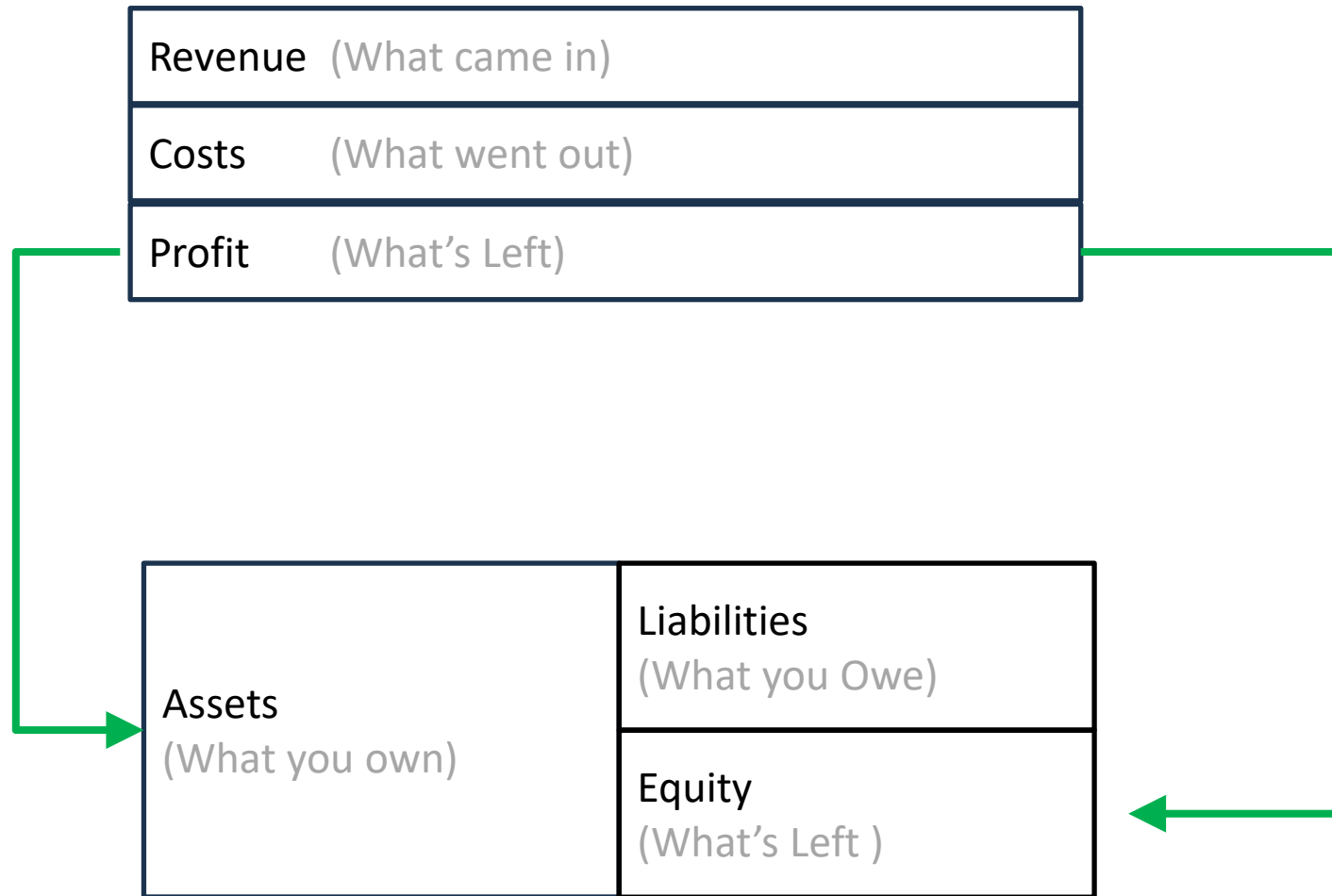


Balance Sheet (measures level)

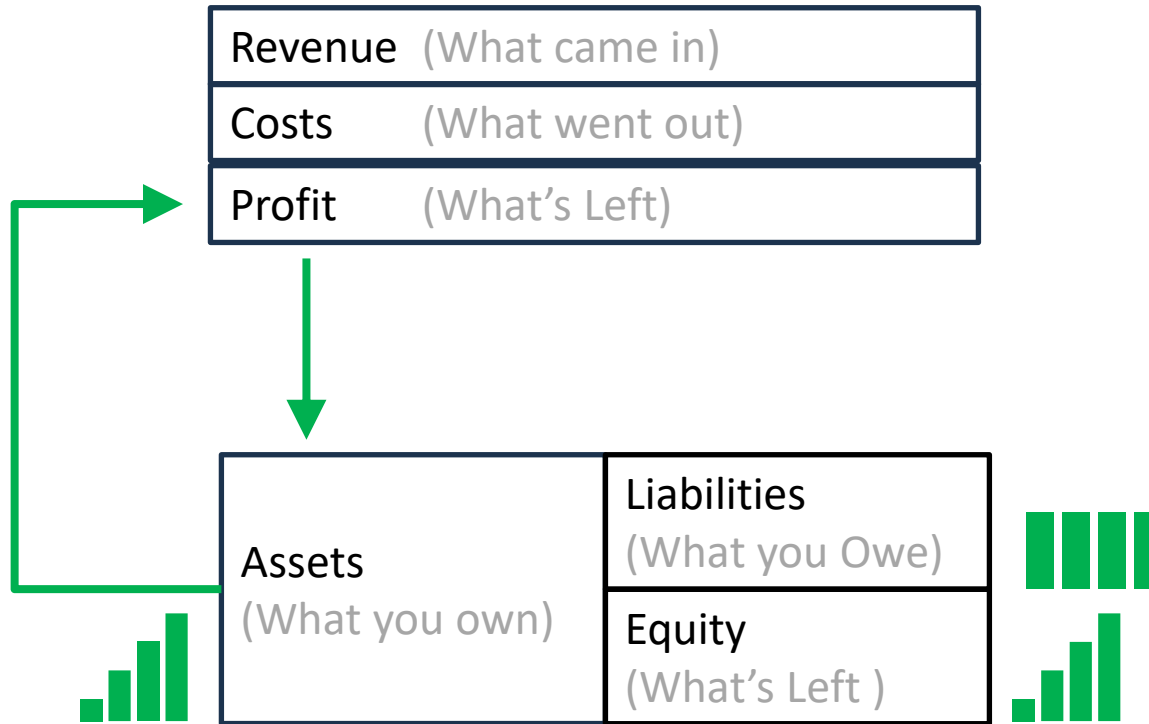
- Measures the level of money at any time based on all flows since the start of this company
- Usually at the end of 3 months or end of 1 year

Assets (What you own)	Liabilities (What you Owe)
	Equity (What's Left)

Link between Income Statement and Balance Sheet



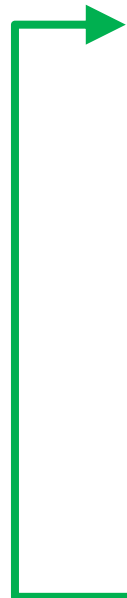
What do great management teams do?



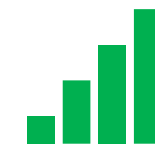
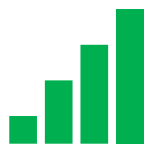
Great management teams reinvest profits into new projects that generate ROI exceeding the hurdle rate expected by shareholders. This drives profit growth, creating a virtuous cycle of value creation. When such high-return opportunities are unavailable, they return profits to investors through share buybacks or dividends.

How does the value creation machine work?

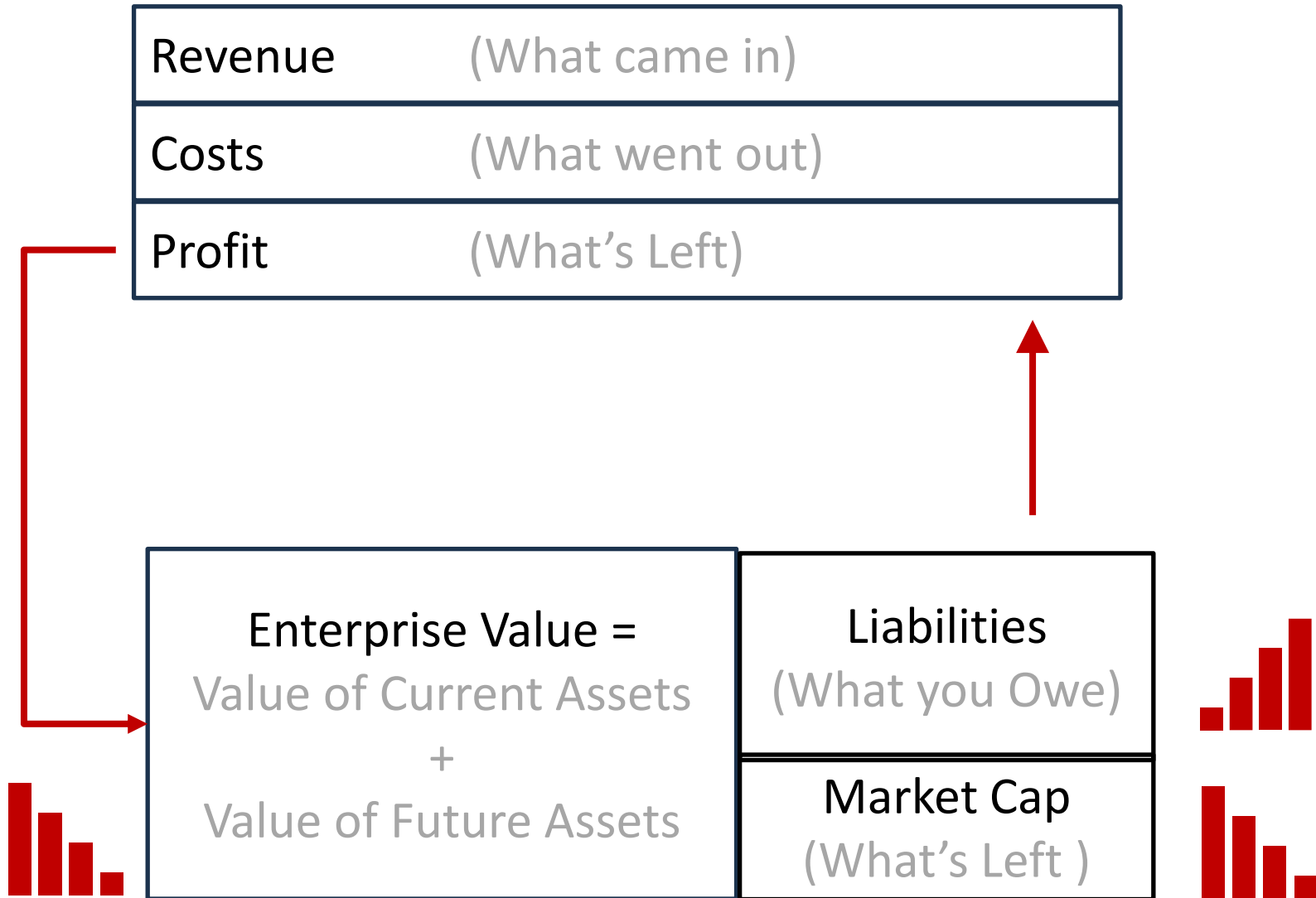
Revenue	(What came in)
Costs	(What went out)
Profit	(What's Left)



Enterprise Value = Value of Current Assets + Value of Future Assets	Liabilities (What you Owe)
	Market Cap (What's Left)



How does the value destruction machine work?



Income Statement (Example)

Income Statement (in \$millions, except per share data)			
	2021	2022	2023
Sales	120	134	148
COGS (Cost of Goods Sold)	-80	-86	-91
SG&A (Selling, General & Admin Cost)	-25	-26	-27
D&A (Depreciation & Amortization)	-5	-5	-5
EBIT (Earnings before Interest & Taxes)	10	17	25
Interest Expense	-2	-2	-2
Taxes	-2	-4	-6
Net Income	6	11	17
EPS (Earnings per share)	0.06	0.11	0.17
Shares Outstanding	100	100	100

Balance Sheet (Example)

Balance Sheet (in \$millions)			
	2021	2022	2023
Assets			
Cash	10	21	39
<u>Property, Plant & Equipment</u>	<u>500</u>	<u>500</u>	<u>500</u>
Total Assets	510	521	539
Liabilities			
Debt	50	50	50
Equity			
Retained Earnings	460	471	489
Total Liabilities and Equity	510	521	539

Key Performance Indicators (Example)

KPIs and Other Items			
	2021	2022	2023
Units Sold	0.50	0.54	0.57
Stock Price	9	12	18

Sales Drivers (for analytical use case)

(in millions, except per sh	2021	2022	2023		Formula
Drivers of Sales					
Price (\$/unit)	240	250	260		Sales / Units Sold
% Growth		4.4%	3.7%		
Units Sold	0.50	0.54	0.57		
% Growth		7.0%	6.5%		
Income Statement					
Sales	120	134	148		
% Growth		11.7%	10.4%		

Top half Income Statement (for analytical use case)

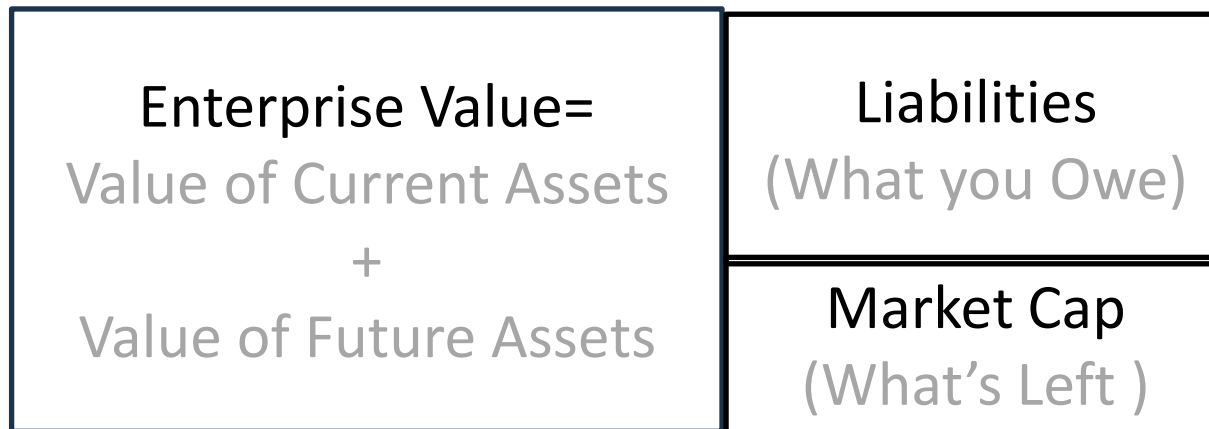
(in millions, except per sf	2021	2022	2023	Formula
Income Statement				
Sales	120	134	148	
% Growth		11.7%	10.4%	
COGS	-80	-86	-91	
Cost per unit	-160.0	-160.7	-159.7	COGS / Units Sold
% Growth		0.5%	-0.6%	
Gross Profit	40	48	57	Sales - COGS
% Growth		20.0%	18.8%	
Margin	33.3%	35.8%	38.5%	GP / Sales
Incremental Margin		57.1%	64.3%	<u>(GP current - previous)</u> (Sales current - previous)
SG&A Cost	-25	-26	-27	
% Growth		4.0%	3.8%	
EBITDA	15	22	30	GP - SG&A
% Growth		46.7%	36.4%	
Margin	12.5%	16.4%	20.3%	EBITDA / Sales
Incremental Margin		50.0%	57.1%	<u>(EBITDA current - previous)</u> (Sales current - previous)

Bottom half Income Statement (for analytical use case)

(in millions, except per sh	2021	2022	2023	Formula
EBITDA	15	22	30	GP - SG&A
% Growth		46.7%	36.4%	
Margin	12.5%	16.4%	20.3%	EBITDA / Sales
Incremental Margin		50.0%	57.1%	<u>(EBITDA current - previous)</u> (Sales current - previous)
D&A	(1.10)	(1.10)	(1.10)	
EBIT	14	21	29	EBITDA - D&A
Interest Expense	-2	-2	-2	
EBT	12	19	27	EBIT - Interest Expense
Tax Expense	-3	-5	-7	
% of EBT	-25%	-25%	-25%	Tax Expense / EBT
Net Income	9	14	20	EBT - Tax Expense
EPS (Earnings per share)	0.09	0.14	0.20	
% Growth		58.8%	42.3%	
Shares Outstanding	100	100	100	

Enterprise Value Calculation (for analytical use case)

Enterprise Value Calculation (in \$millions)				
	2021	2022	2023	Formula
Market Cap	200	295	384	Stock Price * # Shares
+ Debt	9	14	20	
- Cash	(12)	(19)	(27)	
= Enterprise Value (EV)	197	290	377	



Next step is to forecast earnings

- ❑ Latest Earnings Analysis
 - ❑ Read Earnings Transcript – Focus on forward looking metrics only
 - ❑ Earnings Presentation
 - ❑ Guidance
- ❑ Latest Filings
 - ❑ Read 10K/10Q Management Discussion and Analysis
- ❑ Latest Earnings Analysis of Peers
 - ❑ Same steps as before
- ❑ Past many years of earnings
 - ❑ What metrics matter
 - ❑ Find patterns – what moves the stocks post earnings
- ❑ Understand Business Model
- ❑ Do not check wall street estimates
- ❑ Between earnings releases, what other data points to track to update your forecast
- ❑ Any other relevant stuff (usually case by case)

Sales Forecast

				<----- Forecast ----->			
(in millions, except per sf	2021	2022	2023	2024	2025	2026	2027
Drivers of Sales							
Price (\$/unit)	240	250	260	269	278	287	295
% Growth		4.4%	3.7%	3.5%	3.4%	3.2%	3.0%
Units Sold	0.50	0.54	0.57	0.60	0.64	0.67	0.71
% Growth		7.0%	6.5%	6.0%	5.8%	5.5%	5.3%
Income Statement							
Sales	120	134	148	162	178	193	210
% Growth		11.7%	10.4%	9.7%	9.3%	8.9%	8.4%

Income Statement Forecast (Top Half)

				<----- Forecast ----->			
(in millions, except per sf	2021	2022	2023	2024	2025	2026	2027
Income Statement							
Sales	120	134	148	162	178	193	210
% Growth		11.7%	10.4%	9.7%	9.3%	8.9%	8.4%
COGS	-80	-86	-91	-97	-103	-109	-116
Cost per unit	(160)	(161)	(160)	(161)	(161)	(162)	(163)
% Growth		0.5%	-0.6%	0.5%	0.5%	0.5%	0.5%
Gross Profit	40	48	57	65	75	84	94
% Growth		20.0%	18.8%	14.8%	13.9%	12.8%	11.8%
Margin	33.3%	35.8%	38.5%	40.3%	42.0%	43.5%	44.9%
Incremental Margin		57.1%	64.3%	58.7%	59.9%	60.6%	61.2%
SG&A Cost	-25	-26	-27	-28	-29	-30	-30
% Growth		4.0%	3.8%	3.0%	3.0%	3.0%	3.0%
EBITDA	15	22	30	38	46	55	64
% Growth		46.7%	36.4%	25.4%	21.9%	18.9%	16.6%
Margin	12.5%	16.4%	20.3%	23.2%	25.8%	28.2%	30.4%
Incremental Margin		50.0%	57.1%	53.0%	54.4%	55.1%	55.7%

Income Statement Forecast (Bottom Half)

				<----- Forecast ----->			
(in millions, except per share)	2021	2022	2023	2024	2025	2026	2027
EBITDA	15	22	30	38	46	55	64
% Growth		46.7%	36.4%	25.4%	21.9%	18.9%	16.6%
Margin	12.5%	16.4%	20.3%	23.2%	25.8%	28.2%	30.4%
Incremental Margin		50.0%	57.1%	53.0%	54.4%	55.1%	55.7%
D&A	(1)	(1)	(1)	(1)	(1)	(1)	(1)
EBIT	14	21	29	37	45	53	63
Interest Expense	-2	-2	-2	-2	-2	-2	-2
EBT	12	19	27	35	43	51	61
Tax Expense	-3	-5	-7	-9	-11	-13	-15
% of EBT	-25%	-25%	-25%	-25%	-25%	-25%	-25%
Net Income	9	14	20	26	32	39	45
EPS (Earnings per share)	0.09	0.14	0.20	0.26	0.32	0.39	0.45
% Growth		58.8%	42.3%	3.0%	3.0%	3.0%	3.0%
Shares Outstanding	100	100	100	100	100	100	100

Balance Sheet Forecast

Balance Sheet (in \$millions)							
	2021	2022	2023	2024	2025	2026	2027
Assets							
Cash	10	24	44	70	102	141	186
PP&E	500	500	500	500	500	500	500
Total Assets	510	524	544	570	602	641	686
Liabilities							
Debt	50	50	50	50	50	50	50
Equity							
Retained Earnings	460	474	494	520	552	591	636
Total Liabilities & Equity	510	524	544	570	602	641	686

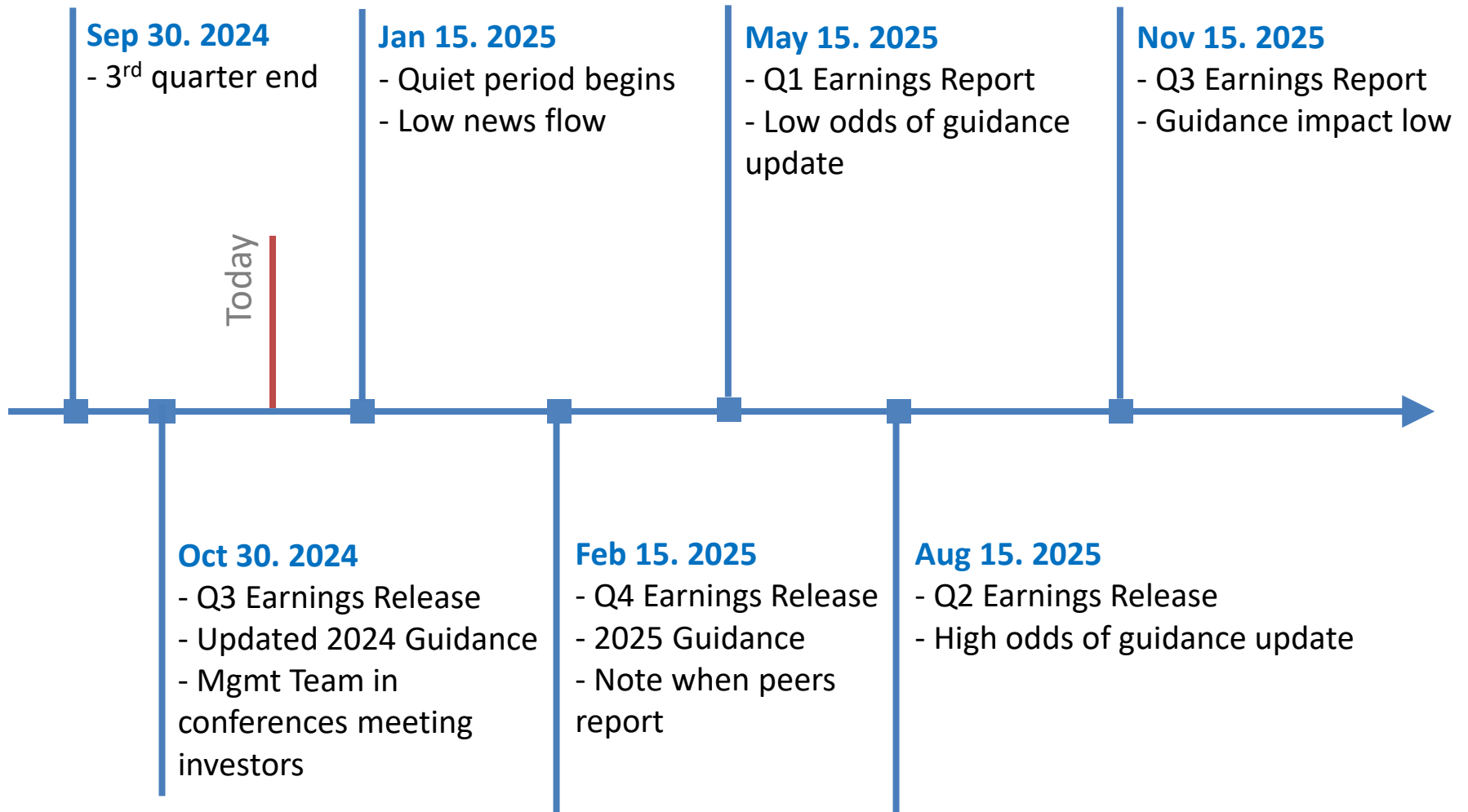
Stock Price Forecast

Target Stock Price							
	2021	2022	2023	2024	2025	2026	2027
EV / NTM EBITDA	9.0	9.7	10.0	11.1	11.8	11.9	
P/ NTM EPS	14	15	15	16	17	17	
Stock Price	2.00	2.95	3.84	5.18	6.56	7.72	
% Growth		48%	30%	35%	27%	18%	

Your view vs. the market's view priced into the stock price

	2021	2022	2023	2024	2025	2026	2027
Price (\$/unit)	240	250	260	269	278	287	295
Street Estimate				270	271	270	269
% Diff				-0.3%	2.6%	6.2%	9.7%
Units Sold	0.50	0.54	0.57	0.60	0.64	0.67	0.71
Street Estimate				0.60	0.64	0.69	0.72
% Diff				0.5%	0.6%	-1.6%	-1.5%
Sales	120	134	148	162	178	193	210
Street Estimate				162	172	185	194
% Diff				0.2%	3.2%	4.5%	8.0%
EBITDA	15	22	30	38	46	55	64
Street Estimate				38	42	46	51
% Diff				-1.0%	9.2%	18.6%	24.7%
EBITDA Margin	13%	16%	20%	23%	26%	28%	30%
Street Estimate				23%	24%	25%	26%
Diff				-0.3%	1.4%	3.4%	4.1%
EPS	0.09	0.14	0.20	0.26	0.32	0.39	0.45
Street Estimate				0.26	0.29	0.33	0.36
% Diff				-0.4%	10.6%	18.8%	26.1%

How to think about timing of catalysts?



Accounting Basics Wrap-up

- ❑ Income Statement (IS) = measures FLOW
- ❑ Balance Sheet (IS) = measures Level
- ❑ IS and BS are linked coz Flow influences Level
- ❑ Analyze IS by calculating growth, margin, and incremental margin for each line-item
- ❑ Forecast IS by making assumptions for each line item
- ❑ Forecast BS by making assumptions for each line item
- ❑ Using IS and BS forecast, calculate target stock price in the future
- ❑ Determine what's priced into the stock by analyzing wall street's estimates
- ❑ Identify you differentiated view versus street estimates
 - ❑ Diligence the heck out of your differentiated view
- ❑ Anticipate timing of catalysts by analyzing the earnings calendar. Time your position sizes accordingly

Agenda

- Drivers of Stock Price
 - Earnings Expectations
 - Valuation Multiple
- Accounting Basics
- Drivers of Earnings Expectations ←
- Drivers of Valuation Multiple
- Management Team Analysis
- Putting it all together
 - Real-life Case Study

Drivers of Stock Price

Stock Price = *Function (Valuation Multiple, Earnings Expectations)*

Drivers of Valuation Multiple

Money Flow

Investor Base

Peer Companies

Earnings Predictability

Growth Expectations

Balance Sheet

Regulatory Regime

Mgmt Team

Macro

Drivers of Earnings Expectations

Sales

→ Price

→ Volume

Costs

→ Fixed

→ Variable

Debt Service Cost

Tax Profile

Reinvestment Needs

Earnings Expectations Drivers: Pricing Power

Characteristics of companies with pricing power:

- ❑ Barriers to Entry
 - Patented drugs, Cell Towers, Gas Utilities
- ❑ High Switching Cost
 - AWS, Azure, Office 365, SAP
- ❑ Network effects
 - LinkedIn, Visa, Office 365, Mastercard
- ❑ Proprietary Eco-system
 - Apple
- ❑ Strong brand
 - Nike, Apple, Louis Vuitton

Earnings Expectations Drivers: Pricing Power

Characteristics of companies with NO pricing power:

- ❑ Lack of Barriers to Entry
 - Examples: Oil producers, Mining companies
- ❑ Commodity Product/Service
 - Examples: Airlines, Retail Banks, Mortgage Brokers, Realtors, Hotels
- ❑ Low Switching Cost
 - Examples: Campbell Soup, Grocery Stores
- ❑ Elastic Demand
 - Examples: Discount Retailers such as JC Penny, Walmart
- ❑ High fixed cost business with multiple players
 - Examples: Airlines, AT&T, Hotels, Cruises, Movie Theaters

Illustration: Pricing power is a big driver of earnings

(in millions)				Forecast with Pricing Growth			Forecast with Volume Growth		
	2021	2022	2023	2024	2025	2026	2024	2025	2026
Drivers of Sales									
Price (\$/unit)	240	250	260	268	276	284	260	260	260
% Growth		4.4%	3.7%	3.0%	3.0%	3.0%	0.0%	0.0%	0.0%
Units Sold	0.50	0.54	0.57	0.57	0.57	0.57	0.59	0.60	0.62
% Growth		7.0%	6.5%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%
Income Statement									
Sales	120	134	148	152	157	162	152	157	162
% Growth		11.7%	10.4%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
EBITDA	15	22	30	33	36	40	30	31	31
% Growth		46.7%	36.4%	10.6%	9.9%	9.3%	1.4%	1.4%	1.4%
Margin	12.5%	16.4%	20.3%	21.8%	23.2%	24.6%	20.0%	19.7%	19.3%
Incremental Margin		50.0%	57.1%	71.5%	71.8%	72.0%	9.7%	9.4%	9.0%

Earnings Driver: Costs

Costs related line items come in two flavors

Variable Cost

- If sales volume go up, this variable cost will go up. And vice-versa

Examples:

- Material cost in a manufacturing company
- Commissions paid by Uber

Fixed Cost

- If sales volume go up, this variable cost may not go up.
- Or may go up at a rate much lower than rate of sales growth

Examples:

- Cost of headquarters, payroll processing, technology infra, R&D, and legal

Uber: Analysis of Cost Profile

	Year Ended December 31,		
	2021	2022	2023
Revenue	\$ 17,455	\$ 31,877	\$ 37,281
Costs and expenses			
Cost of revenue, exclusive of depreciation and amortization shown separately below	9,351	19,659	22,457
Operations and support	1,877	2,413	2,689
Sales and marketing	4,789	4,756	4,356
Research and development	2,054	2,798	3,164
General and administrative	2,316	3,136	2,682
Depreciation and amortization	902	947	823
Total costs and expenses	21,289	33,709	36,171

Uber: Analysis of Cost Profile

(in millions)	2021	2022	2023	Comments
Revenue	17,455	31,877	37,281	
2Y Growth %			114%	
Cost of revenue	9,351	19,659	22,457	Variable
2Y Growth %			140%	
Operations and support	1,877	2,413	2,689	Somewhat Variable
2Y Growth %			43%	
Sales and marketing	4,789	4,756	4,356	Fixed
2Y Growth %			-9%	
Research and development	2,054	2,798	3,164	Somewhat Variable
2Y Growth %			54%	
General and administrative	2,316	3,136	2,682	Somewhat Fixed
2Y Growth %			16%	

Uber: Analysis of Cost Profile

Cost of Revenue

means variable

- ❑ Cost of revenue, primarily consists of costs incurred for certain Mobility and Delivery transactions where we are primarily responsible for Mobility and Delivery services and **pay Drivers and Couriers for services**, certain **insurance** costs related to our Mobility and Delivery offerings, costs incurred with Carriers for Uber Freight transportation services, **credit card processing fees**, bank fees, **data center and networking expenses**, **mobile device and service costs**, and amounts related to fare chargebacks and other credit card losses.
- ❑ We expect that cost of revenue, **will fluctuate on an absolute dollar basis for the foreseeable future in line with Trip volume changes on the platform.**

Operations and Support

means somewhat variable

- ❑ Operations and support expenses primarily consist of **compensation expenses**, including stock-based compensation, for employees that support operations in cities, including the general managers, Driver operations, platform user support representatives and community managers. Also included is the cost of customer support, **Driver background checks** and the allocation of certain corporate costs.
- ❑ We would expect operations and support expenses to **increase** on an absolute dollar basis for the foreseeable future as our business continues to grow and Trip volume increases, **but decrease as a percentage of revenue** as we become more efficient in supporting platform users.

Uber: Analysis of Cost Profile

Sales and Marketing

means fixed and controlled

- ❑ Sales and marketing expenses primarily consist of advertising costs, product marketing costs, discounts, loyalty programs, promotions, refunds, and credits provided to end-users who are not customers, compensation costs, including stock-based compensation to sales and marketing employees, and the allocation of certain corporate costs. We expense advertising and other promotional expenditures as incurred.
- ❑ We would expect sales and marketing expenses to vary from period to period as a percentage of revenue due to timing of marketing campaigns.

Research and Development

means somewhat variable

- ❑ Research and development expenses primarily consist of compensation costs, including stock-based compensation, for employees in engineering, design and product development. Expenses also include ongoing improvements to, and maintenance of, existing products and services, and allocation of certain corporate costs. We expense substantially all research and development expenses as incurred.
- ❑ We would expect research and development expenses to increase and vary from period to period as a percentage of revenue as we continue to invest in research and development activities relating to ongoing improvements to and maintenance of our platform offerings and other research and development programs.

Uber: Analysis of Cost Profile

General and Administrative

means somewhat fixed

- ❑ General and administrative expenses primarily consist of **compensation costs**, including stock-based compensation, **for executive management and administrative employees**, including **finance and accounting, human resources, policy and communications, legal, and certain impairment charges**, as well as allocation of certain corporate costs, occupancy, and general **corporate insurance costs**. General and administrative expenses also include certain **legal settlements**
- ❑ We would **expect general and administrative expenses to increase** on an absolute dollar basis for the foreseeable future as our business continues to grow and Trip volume increases, **but decrease as a percentage of revenue** as we achieve improved fixed cost leverage and efficiencies in our internal support functions.

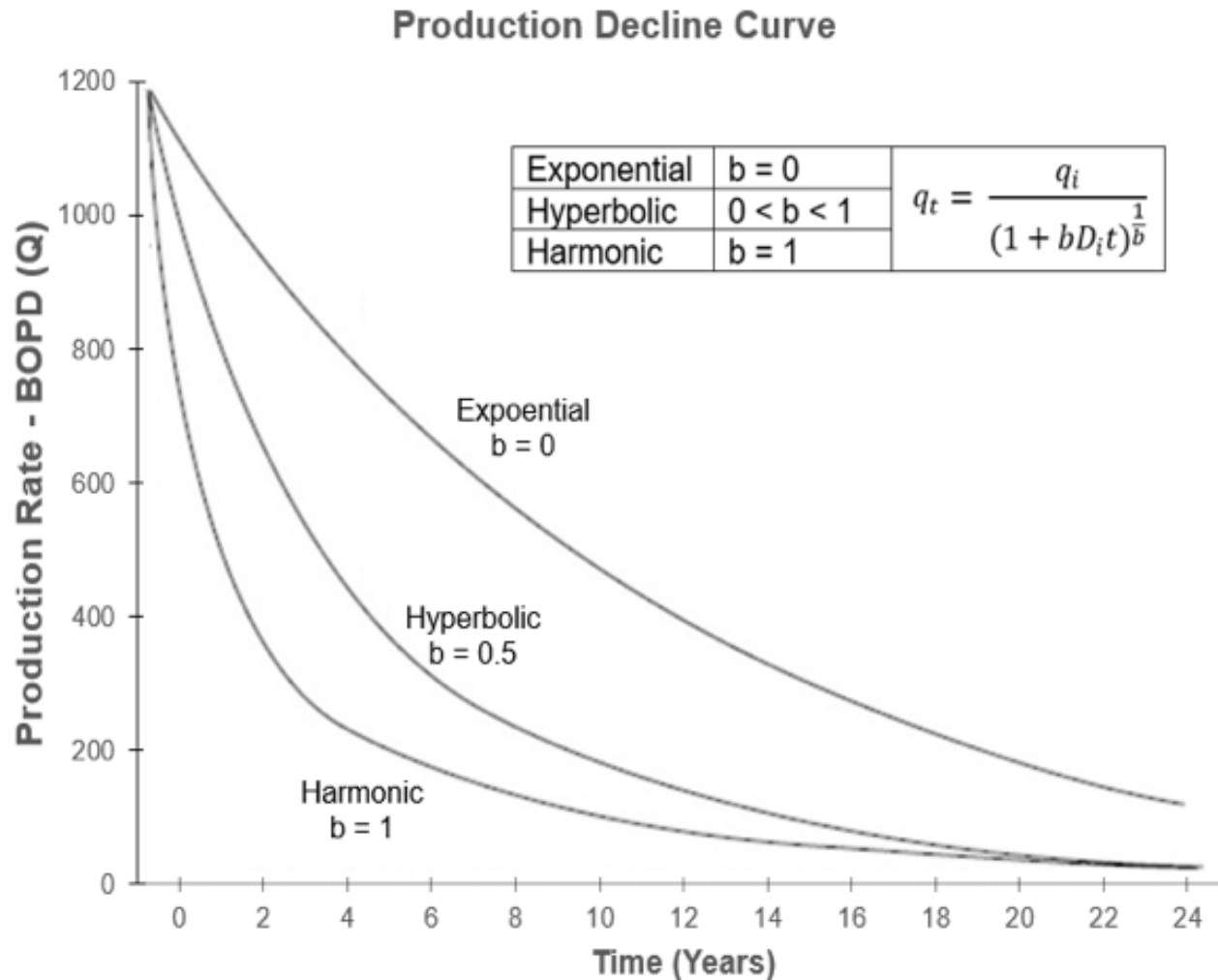
Earnings Driver: Reinvestment Needs

Companies with high reinvestment needs don't generate enough cash to grow


Example: EQT vs FICO

EQT Corp (EQT)						
in millions	2019	2020	2021	2022	2023	2024
EBITDA, Adj	1,483	1,080	2,332	3,533	3,026	3,423
Growth %		-27%	116%	51%	-14%	13%
Capex	(1,603)	(1,042)	(1,055)	(1,400)	(2,019)	(2,352)
Capex/ EBITDA	-108%	-96%	-45%	-40%	-67%	-69%
# of Shares	255	261	323	407	413	560
Growth %		2%	24%	26%	2%	35%
Fair Issac (FICO)						
	2019	2020	2021	2022	2023	2024
EBITDA, Adj	286	395	454	591	669	761
Growth %		38%	15%	30%	13%	14%
Capital Expenditures	-24	-22	-7.6	-6	-4.2	-25.6
Capex/ EBITDA	-8%	-6%	-2%	-1%	-1%	-3%
# of Shares	30	30	29	26	25	25
Growth %		-1%	-2%	-10%	-3%	-1%

Production from Oil/Gas wells naturally decline over time



Agenda

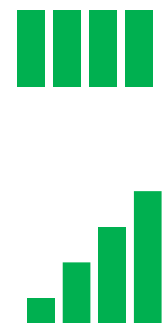
- ❑ Drivers of Stock Price
 - ❑ Earnings Expectations
 - ❑ Valuation Multiple
- ❑ Accounting Basics
- ❑ Drivers of Earnings Expectations
- ❑ How Value Creation Machine Works 
- ❑ Drivers of Valuation Multiple
- ❑ Putting it all together
 - ❑ Example: Hedge-fund quality stock analysis (if time permits)

How does the value creation machine work?

Revenue	(What came in)
Costs	(What went out)
Profit	(What's Left)



Enterprise Value= Value of Current Assets + Value of Future Assets	Liabilities (What you Owe)
	Market Cap (What's Left)



Traits of a good management team

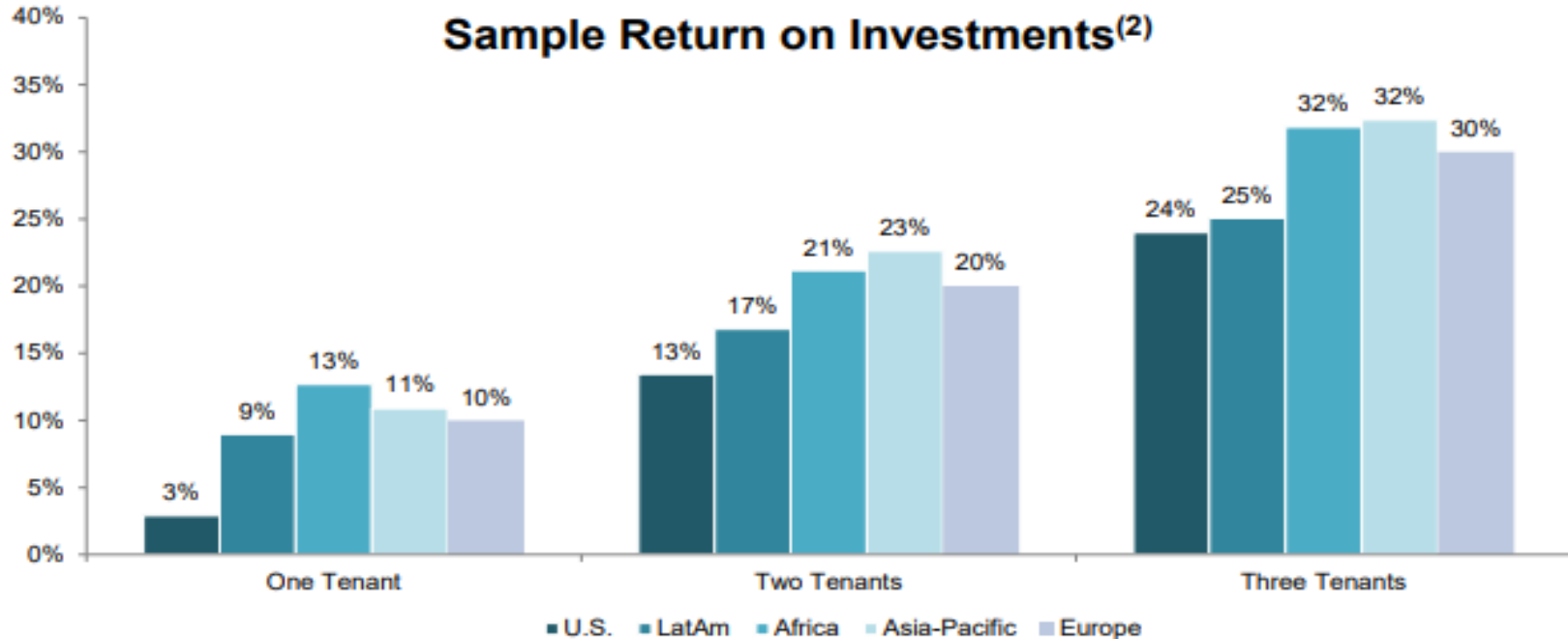
- ❑ **Allocate capital to the highest return uses of cash:**
 - ❑ Investment in Growth Projects (Ranking among all projects)
 - ❑ Acquire an asset through M&A
 - ❑ Buy back Shares
 - ❑ Dividend
 - ❑ Pay down Debt
- ❑ **Return cash to shareholders when high return opportunities don't exist**
- ❑ **Highly disciplined and focused on operational efficiency (part of the culture)**

- ❑ **Right Level of debt and liquidity**
- ❑ **Great disclosures for investors (Don't tell me, show me!)**
- ❑ **Excellent Corporate Governance**
 - ❑ Pay tied to value creation metrics
 - ❑ Long-Term compensation in stock

- ❑ **Limitations** - "When a bad industry meets a good management team, it's the reputation of the industry that remains intact" - **Warren Buffett**

Example: American Tower (AMT)

International New Tower Build ROI Typically Exceeds U.S. & Canada Returns⁽¹⁾



	U.S. & Canada	LatAm	Africa	Asia-Pacific	Europe
Typical Tower Construction Cost	\$450 - \$500K	\$70 - \$100K	\$90 - \$150K	\$20 - \$30K	\$130 - \$230K

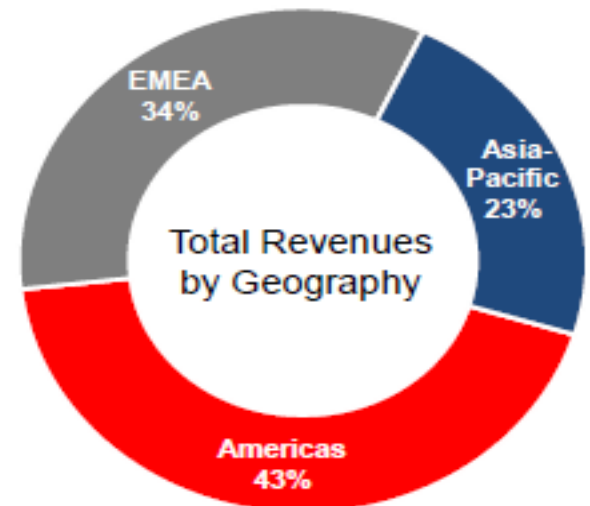
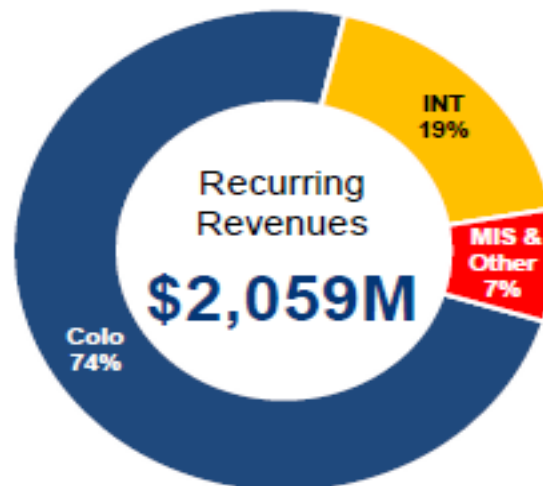
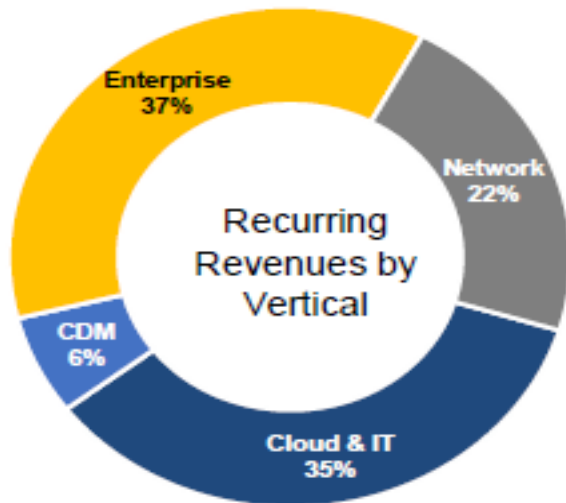
All 3 tower stocks have outperformed S&P 500 since 1999

Stock	Total Return	Annualized
SPY	559%	7.75%
CCI	762%	8.90%
AMT	1160%	10.55%
SBAC	2524%	13.80%

Equinix (EQIX): Business Description

- ❑ A data center is basically a provider of real estate (space for storage, power to operate, connectivity to move data) for IT workloads
- ❑ Underlying market is in secular growth at HSD due to migration to cloud and digitization of the economy

Q3 24 Revenues Mix



Stock has been a consistent winner for over two decades

	Total Return	Annualized
SPY	879%	11.05%
EQIX	20275%	27.67%

Example: Equinix (EQIX) is laser focused on ROIC

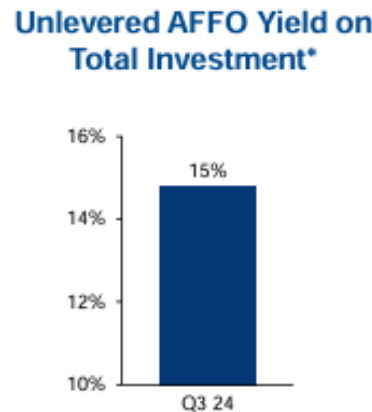
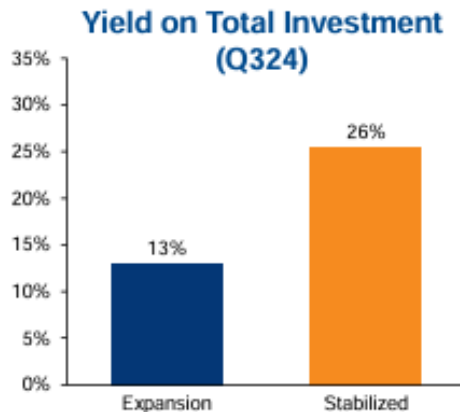
- Equinix has achieved attractive returns of ~30% on its prior developments
- Development economics remain appealing and support an active development pipeline

Build Economics: 2,000 cab example			
Component	Total \$	\$/Cab	% of Total
Core & Shell*	\$24M	\$12K	20%
Building Improvements*	\$60M	\$30K	50%
Equipment*	\$30M	\$15K	25%
Other*	\$6M	\$3K	5%
Total Investment	\$120M	\$60K	100%

*Estimated amounts based on current regional averages

Development yield:	
Yield Breakdown	Estimate
MRR per Cab*	\$2,309
Stabilized Margin	-67%
Target Utilization	90%

*Based on global Q3 24 MRR per cab

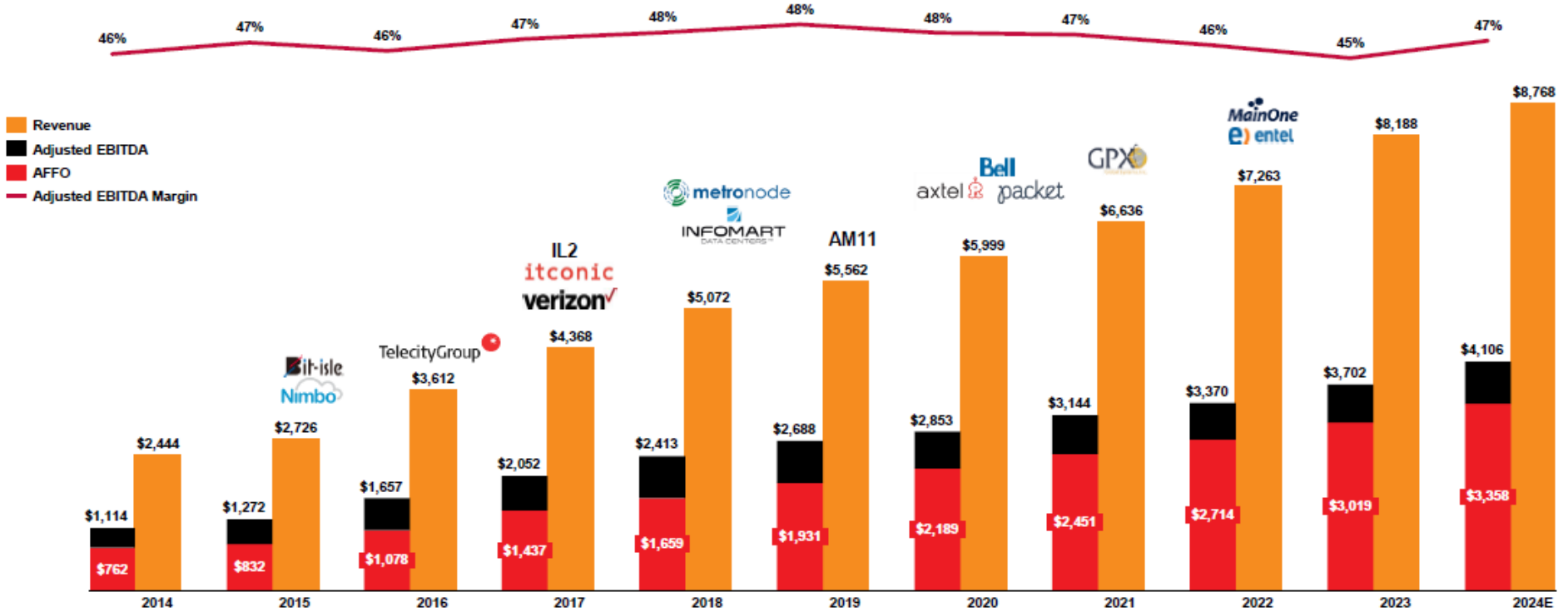


*Calculated as (Annualized 12-month average AFFO + Annualized Interest Expense / Gross PPE for Stabilized & Expansion properties)

Cab Inventory % of Total

Proven track record of growth and profitability⁽¹⁾

- 87th consecutive quarter of top-line revenue growth
- High recurring revenue business model: ~ 95% of revenue recurring and ~90% of bookings from existing customers



EQIX's disclosure make it easy to see operating performance

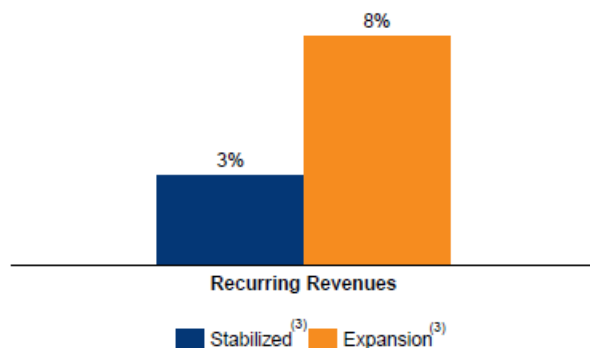
Attractive Stabilized IBX Growth ⁽¹⁾⁽²⁾

- Stabilized property results growing at an attractive rate
- Expansion properties demonstrate outsized growth as utilization increases

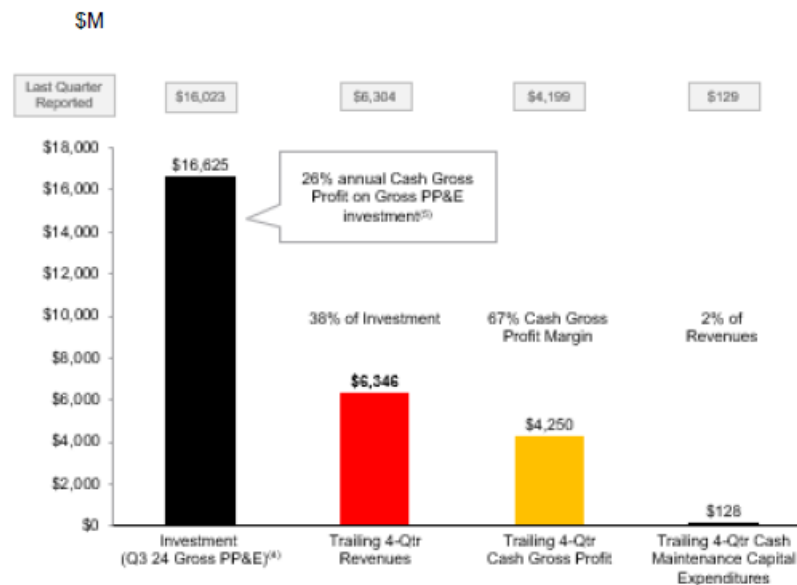
Stabilized revenue growth levers

- **Price increases:** Contractual price increases of 2 - 5%+ per year
- **Interconnection:** Additional interconnection as data consumption continues to grow
- **Power Density:** Customers increase power consumption from existing deployments

YoY Quarterly Same Property Growth (Q3 24) ⁽¹⁾



Stabilized IBX Profitability



Typical signs of a bad management team

- ❑ Pursuing Unprofitable Growth
 - ❑ Empire Building - Expanding organization for prestige
 - ❑ Acquiring companies for the sake of topline growth
- ❑ Taking Excessive Risk
 - ❑ Entering new business lines where no core-competency
- ❑ Bad corporate governance
 - ❑ Misaligned incentives
 - ❑ Bonus is not tied to ROIC
 - ❑ Large cash bonus payouts
 - ❑ Not enough stock ownership
 - ❑ CEO stuffs the board with his/her own guys
 - ❑ CEO is way more powerful than CFO, CEO's pay way more than CFO
 - ❑ Lots of related party transactions
 - ❑ Accounting disclosures not clear
 - ❑ Headquarters in expensive locations when there is no business need for it
 - ❑ Excessive corporate perks, private jets, etc

Example: GE bought massive amount of its shares during 2015-2017

- Instead, should have given special dividends to shareholders
- Shareholders can invest that money in other stocks that way
- Not the job of a company to manage my portfolio

Compensation metrics: What makes sense?

Usual metrics used

- ROIC – Awesome
- Sales - Bad
- EBITDA - OK
- EPS - Good
- Cashflow link - Good
- Stock Price - OK

Key Takeaway

- Combination is best along with stock bonus with vesting

Other


- CEO pay should not be much higher than CFO
- Insider Ownership is good
- Board independence - Set a good comp plan

Revenue	(What came in)
Costs	(What went out)
Profit	(What's Left)

A green arrow points from the 'Profit' row of the first table to the 'Enterprise Value =' row of the second table. Another green arrow points from the 'Profit' row to the 'Market Cap' row of the second table.

Enterprise Value = Value of Current Assets + Value of Future Assets	Liabilities (What you Owe)
	Market Cap (What's Left)

Agenda

- ❑ Drivers of Stock Price
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- ❑ Drivers of Valuation Multiple 
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Drivers of Stock Price

Stock Price = *Function (Valuation Multiple, Earnings Expectations)*

Drivers of Valuation Multiple

Money Flow

Investor Base

Peer Companies

Earnings Predictability

Growth Expectations

Balance Sheet

Regulatory Regime

Mgmt Team

Macro

Drivers of Earnings Expectations

Sales

→ Price

→ Volume

Costs

→ Fixed

→ Variable

Debt Service Cost

Tax Profile

Reinvestment Needs

Valuation Multiple Types (sorted by use frequency)

Valuation Multiple	When to Use
Price / Earnings per share	<ul style="list-style-type: none"> Profit Generation is established. Debt isn't very high
Enterprise Value / EBITDA	<ul style="list-style-type: none"> Economic depreciation is different than real depreciation e.g. Real Estate, Oil/Gas Pipelines Debt levels across industry is very different
Price / Free Cash Flow per share	<ul style="list-style-type: none"> Cash taxes much different than GAAP taxes Cash cows actively buying back shares
Enterprise Value / Sales	<ul style="list-style-type: none"> Unprofitable companies in growth phase Cost structure can be changed after acquisition
Price / Book value per share	<ul style="list-style-type: none"> Asset base industries e.g. Banks, Asset Managers
Price / Adjusted Fund from Operations per share	<ul style="list-style-type: none"> Maintenance Capex < Accounting Depreciation e.g REITS with newer assets
Enterprise Value / EBITDAR	<ul style="list-style-type: none"> Own-vs-Rent variation across industry. e.g. Retail Stores
Enterprise Value / Gross Profit	<ul style="list-style-type: none"> Revenue reporting across industry is different e.g. Distribution companies
Sum of Parts	<ul style="list-style-type: none"> Companies with multiple business lines Possibility of splitting up

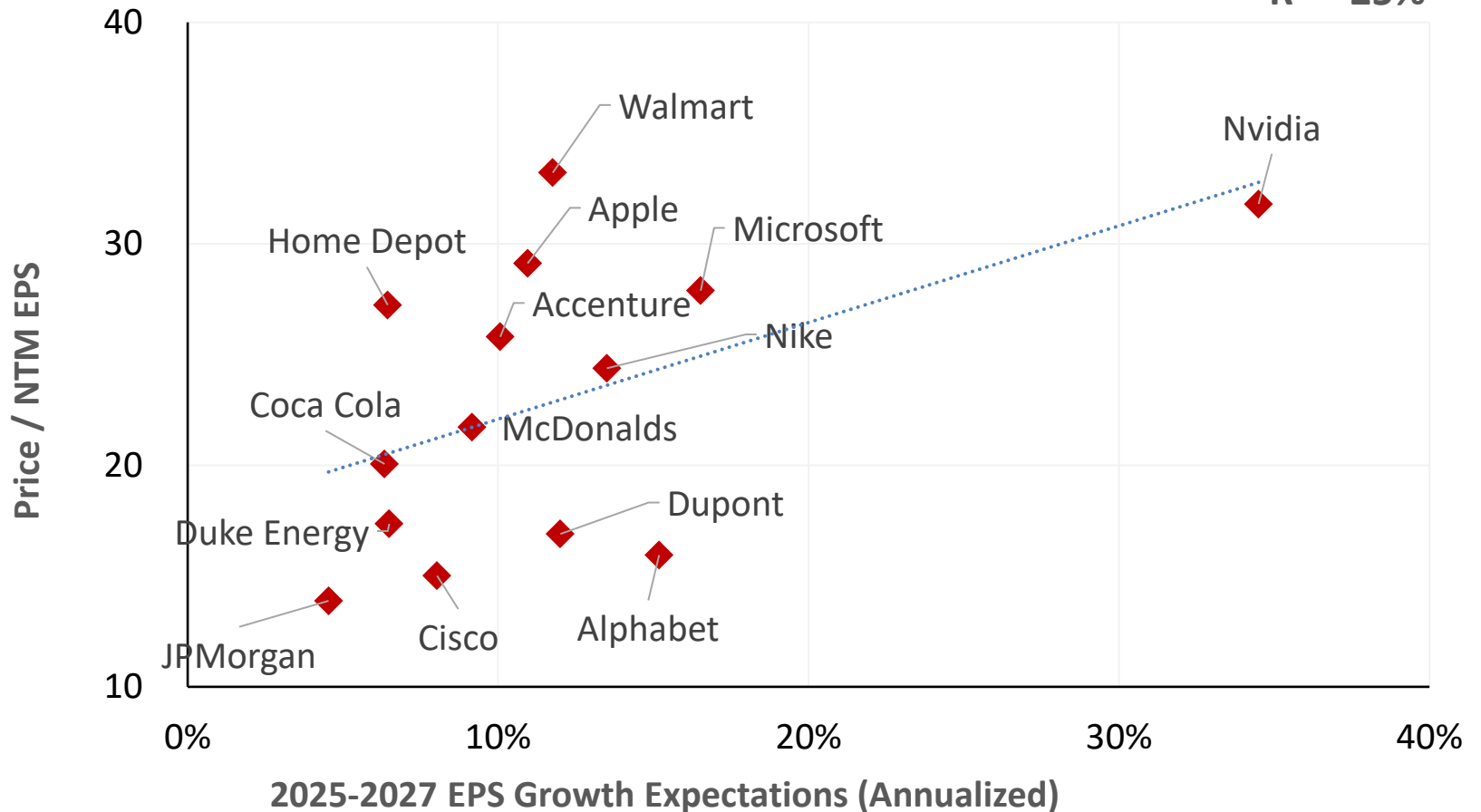
When analyzing earnings stability/predictability analyze...

- ❑ Cyclical vs. Secular
 - ❑ Cyclical
 - ❑ Hotel industry is tied to unemployment cycle
 - ❑ Energy and Mining tied to commodity prices
 - ❑ Export oriented countries tied to Exchange Rate cycle
 - ❑ Digitization, Cloud, AI, Clean Energy are secular trends
- ❑ Long versus Short Runway of Growth
 - ❑ Shipping through the middle east
 - ❑ Fingerprint cards
- ❑ Business Maturity e.g. Pharma companies, Cell Towers in India
- ❑ Business Cycle e.g. Shipping
- ❑ Innovation Cycle e.g. Smartphones
- ❑ Technological Obsolescence e.g. Blackberry

Valuation Multiple Driver: Earnings Growth Expectations

Correlation exists between Price/NTM EPS & growth of Earnings Expectations

$R^2 = 25\%$



Key things to look for when analyzing balance sheet

Debt Structure

- Debt across org structures and parent guarantees
- Maturity Profile of the Debt
- Interest Rate of the Debt esp. fixed vs variable
- Covenants within the debt

Off-balance Sheet Debt

- Underfunded Pension and Healthcare Plans e.g. Boeing has \$5.4
 - Will worsen as interest rate rates go down
- Debt within equity method JVs or Special Purpose Entities e.g. Midstream Energy Companies
- Uncertain Tax Positions e.g. KO paid \$6B this year. Dispute from 2007-2009
- Deferred Tax Liabilities e.g. Accelerated depreciations and industry specific incentives
- Preferred Stock
- Unsettled Lawsuits
- Regulatory Fines e.g. RIG fined \$1.4B, SBMO paid \$780M across Netherlands, USA, Brazil
- Inventory Financing or Factoring Receivables
- Hedges e.g. Oil and gas companies
- Structured Derivatives – e.g. VPPs in E&Ps
- Restricted Cash
- Asset Retirement Obligation e.g. Oil and gas companies, Mining companies

Balance Sheet Analysis Continued..

Comparison Metrics

- Net Debt / EBITDA
- EBITDA / Interest Expense
- Net Debt / Enterprise Value
- Debt / Book Value of Equity
- Debt / Assets
- Debt / CFO

Alternative Liquidity

- Revolver availability
- Borrowing Base Terms
- Asset sales potential
- Unencumbered Assets

Does the company have the right level of debt?

- Too much debt leads to bankruptcy risk if sales decline
- Too little debt decreases the value of the company coz of tax leakage. Makes you an M&A target
- Factors behind this decision
 - Earnings Stability
 - e.g Utilities of high debt, Engineering & Construction have low debt
 - Pace of Innovation and industry maturity
 - Technology companies have low debt
 - Debt among peers
 - Type of Assets (tangible vs intangible)
 - Regulations
 - Interest Rates
 - Level of alternative liquidity

Case Study:

Permanent resetting of valuation multiples in and industry due to:

- Industry consolidation
- Pricing power resurgence
- Operational efficiency
- Management quality

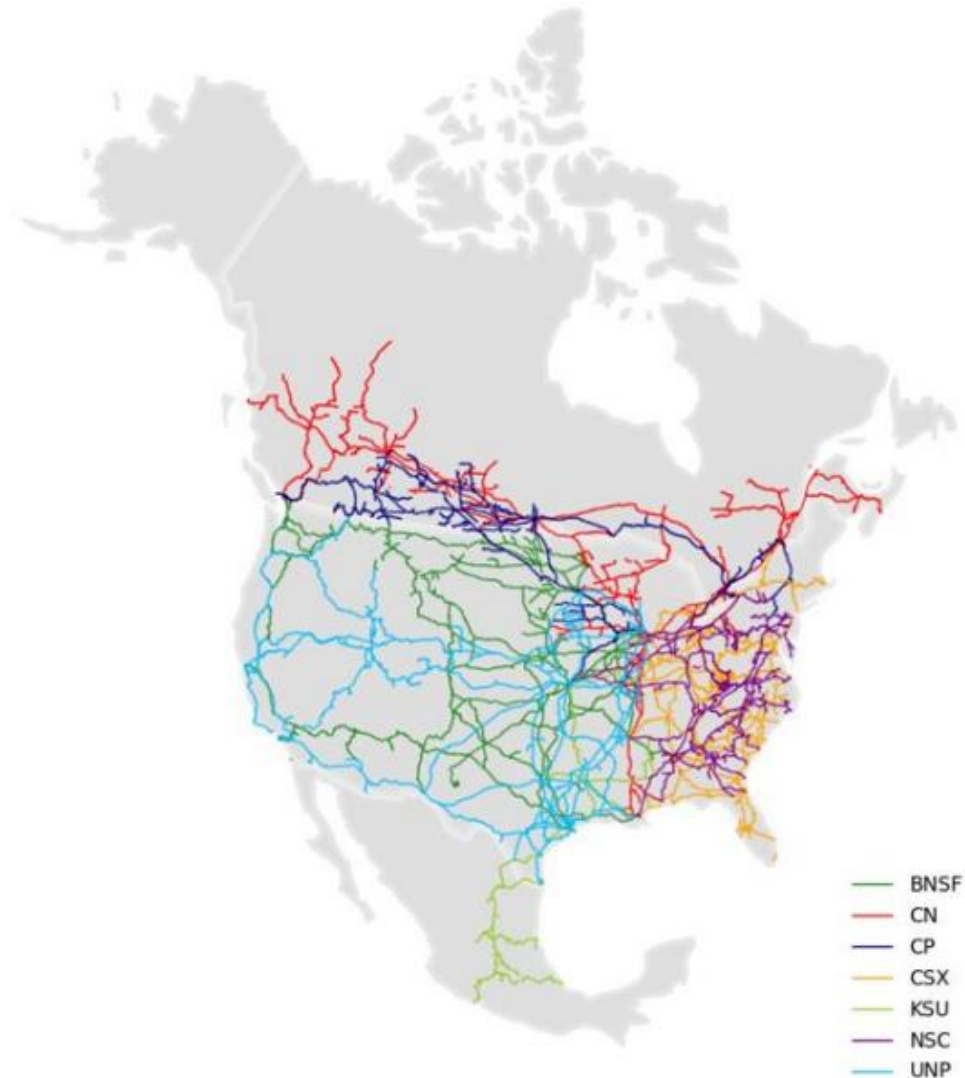
North America Freight Railroads: Key Players

Industry : US Freight Railroads

❑ US Class 1 Railroad Industry

Overview :

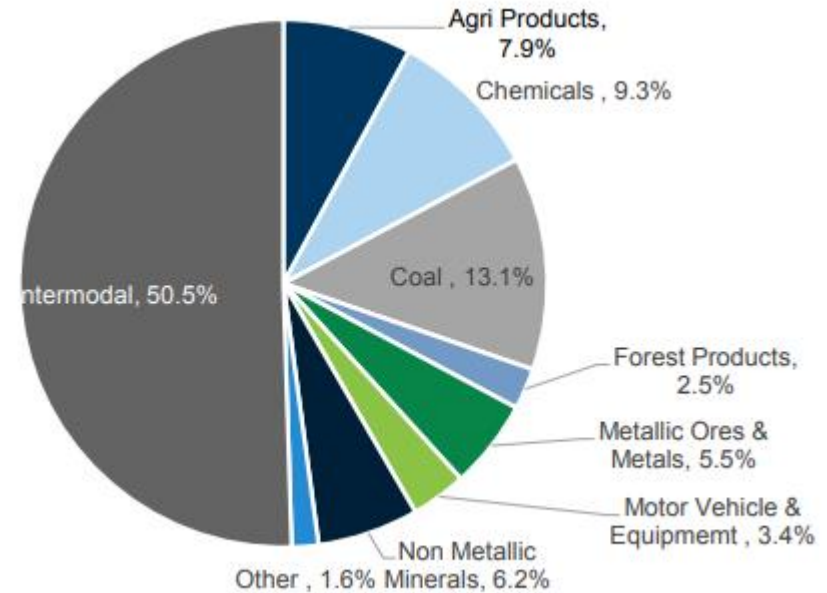
- Union Pacific (UNP)
- Burlington Northern (A Warren Buffett Company)
- CSX Corporation (CSX)
- Norfolk Southern Corporation (NSC)
- Canadian National Railway (CNI)
- Canadian Pacific Kansas City Limited (CP)



North America Freight Railroads: Business Drivers

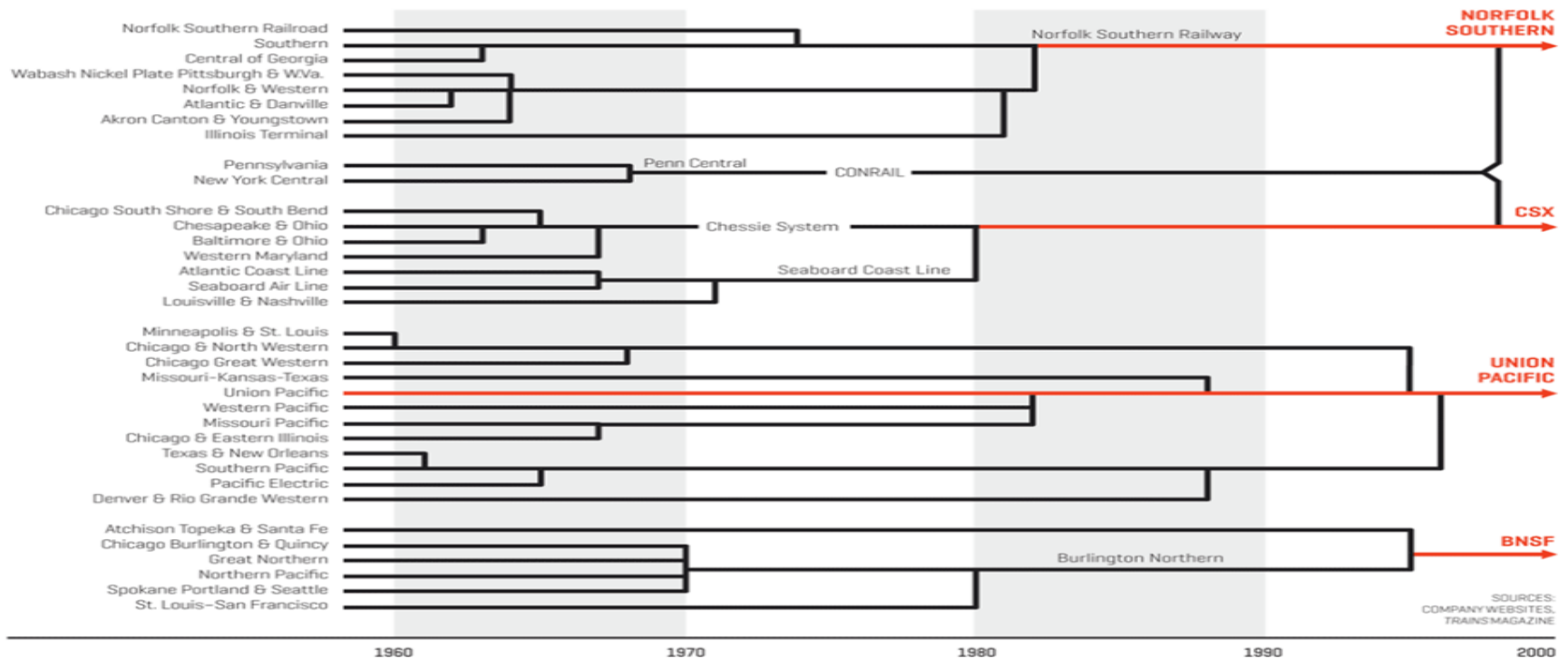
□ Model Drivers:

- Revenue:
 - Core Pricing
 - Carloads (Volume)
- Mix
- Operating Expenses
 - Salaries & Wages (33% of Expenses)
 - Fuel (20% of Expenses)
 - Purchased Services (17% of Expenses)
 - Depreciation (15% of Expenses)
 - Rent (6% of Expenses)
- Service Metrics
 - Average Speed
 - Average Dwell Time
 - Railcars online



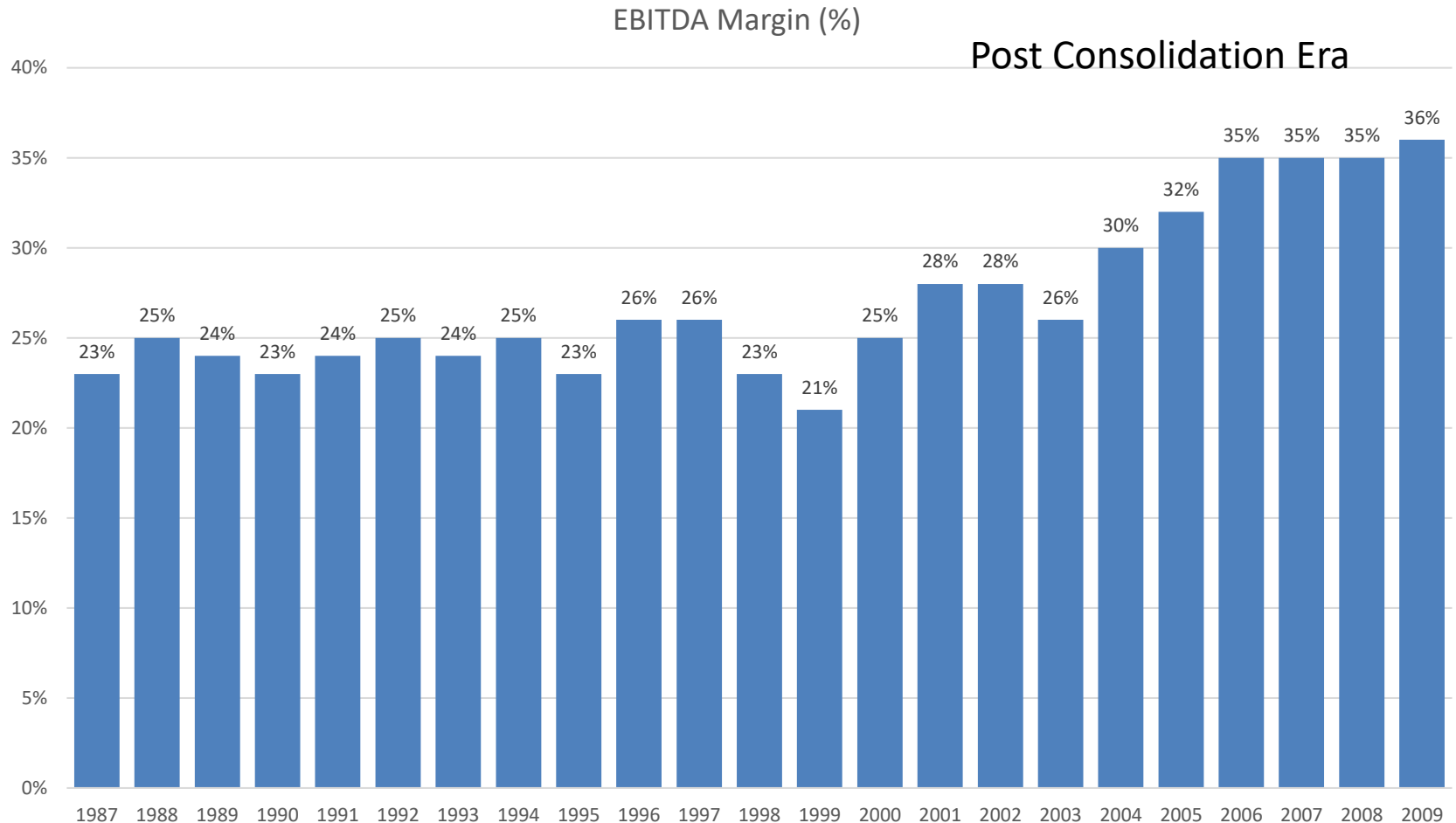
North America Freight Railroads: Structural Inflection Points

- ❑ Baltimore and Ohio Railroad (B&O) goes public in 1827 and raises over \$4mm in just 12 days
- ❑ By 2001, consolidation over 3 decades leads to the 6 major North American Class 1 Railroads
 - Creates regional duopolies leading to pricing and market share discipline
 - Legacy pricing contracts (poorly priced) gets replaced by inflation plus pricing models
- ❑ On November 3rd , 2009, Warren Buffett offers to buy BNSF for \$34B at 18X forward PE
 - ❑ Buffett's biggest ever acquisition then



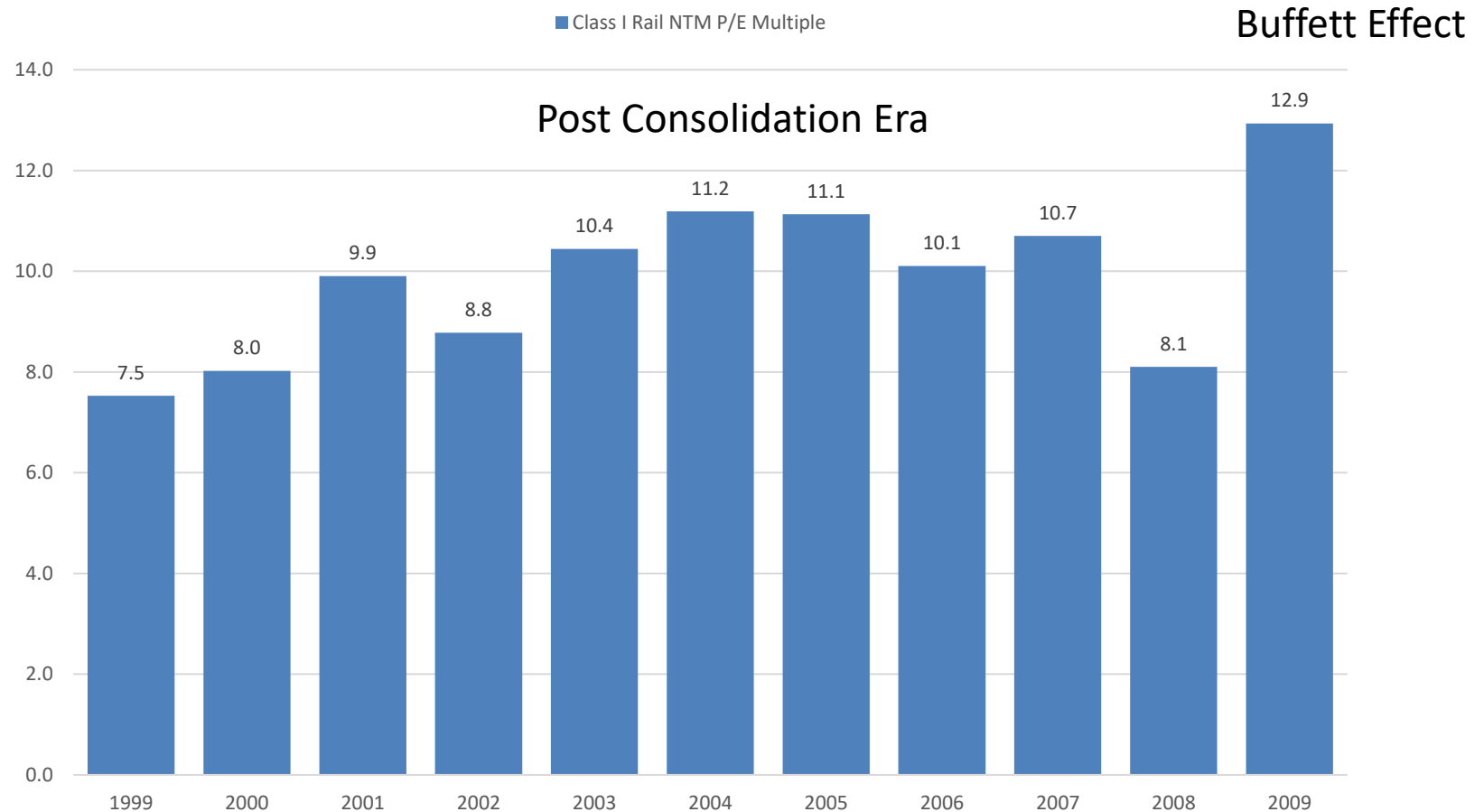
North America Freight Railroads: The Pricing Renaissance

❑ Market discipline and repricing lead to strong EBITDA margin recovery



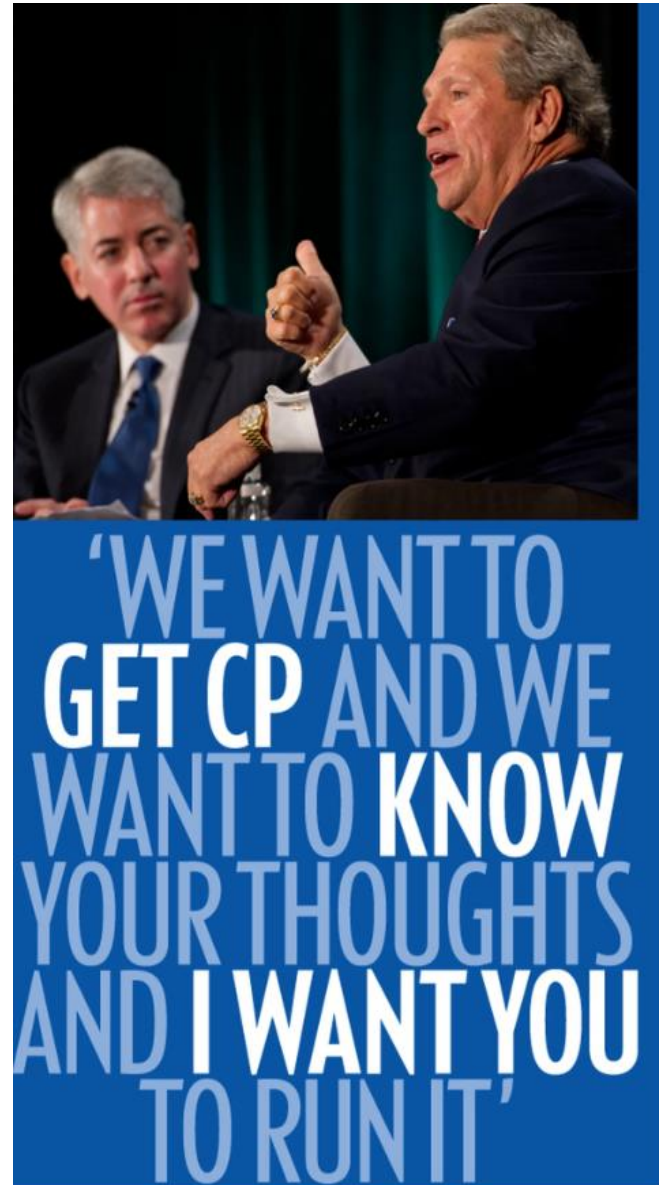
North America Freight Railroads: The Pricing Renaissance

- ❑ Markets repriced the sector with multiple expansion
 - Sector went from trading at 7-8x P/E to 10-12x P/E



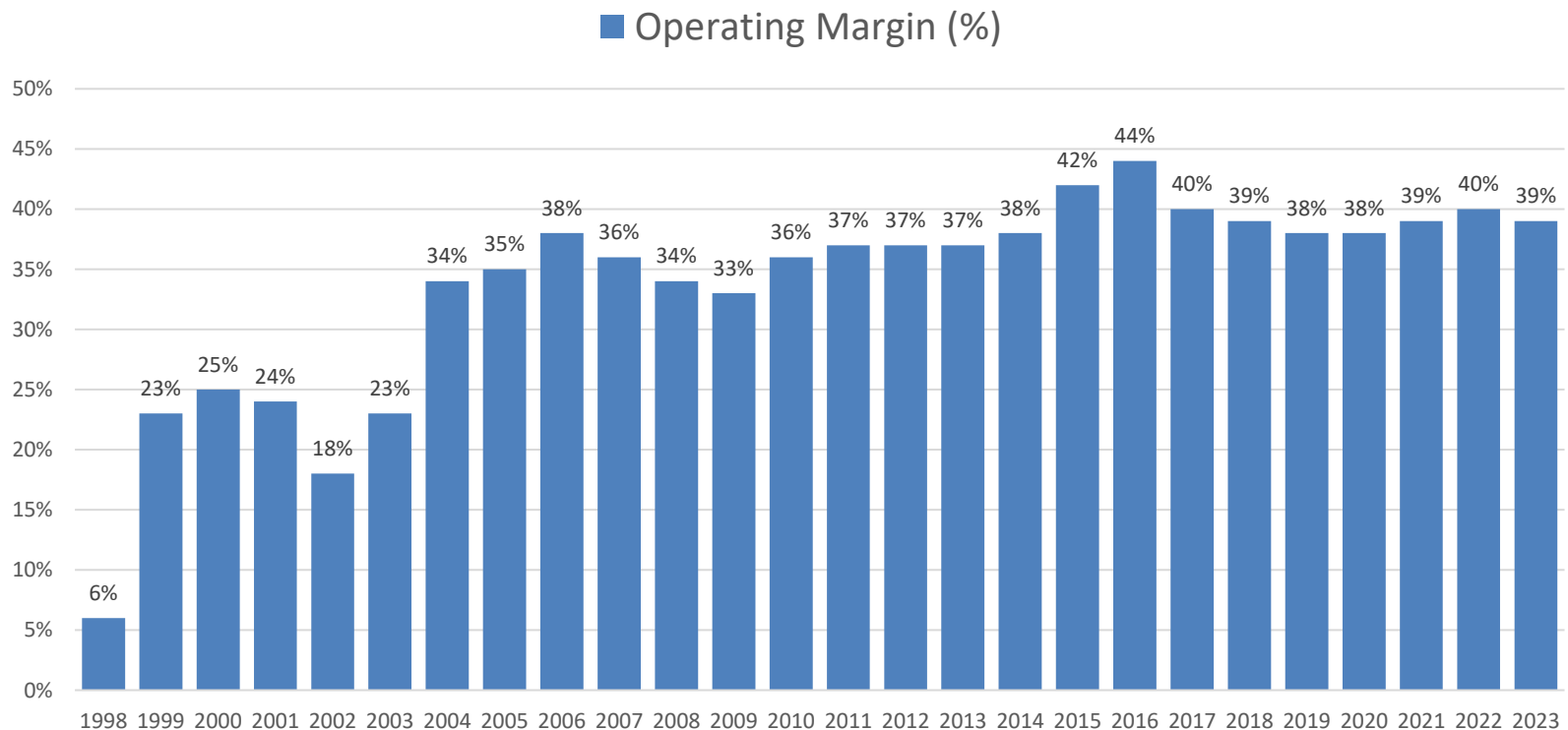
North America Freight Railroads: Structural Inflection Point 2.0

- ❑ On October 31st, 2011, Pershing Square Capital Management, run by activist Bill Ackman, reports a 12% stake in Canadian Pacific
 - Paul Hilal, spends 1000 hours in 9 weeks, 7 days a week on CP during summer of 2011
 - Hires Hunter Harrison, who had retired as CEO of CNI in 2009, as a consultant
 - Bill Ackman convinces Hunter Harrison to join CP as the CEO
 - Pushes for management change and operational turnaround, what is today known as Precision Scheduled Railroading (PSR)



Late Hunter Harrison

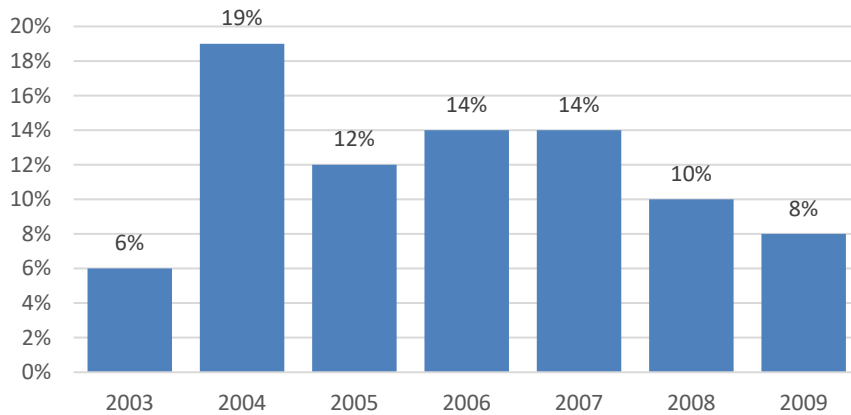
- ❑ Began his railroad career in 1964 as a carman-oiler for the St. Louis-San Francisco Railway
- ❑ Appointed at the COO of CNI in 1998
- ❑ Appointed as CEO of CNI in 2003 and served as the CEO till he retired in 2009
- ❑ Known as the best operator in the business
- ❑ Implemented PSR at CNI



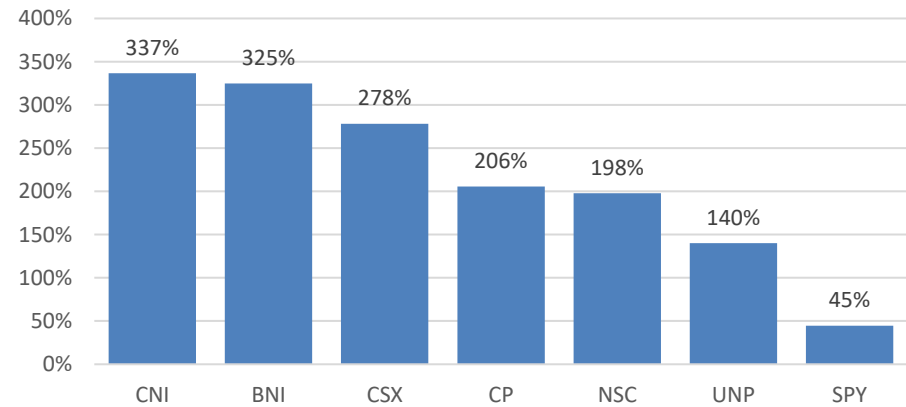
Late Hunter Harrison

- ❑ CNI had the best operating margins in the industry by a wide margin
- ❑ CNI was the best performing stock during his term

CNI excess margins vs industry



Total Stock Return 2003 - 2009

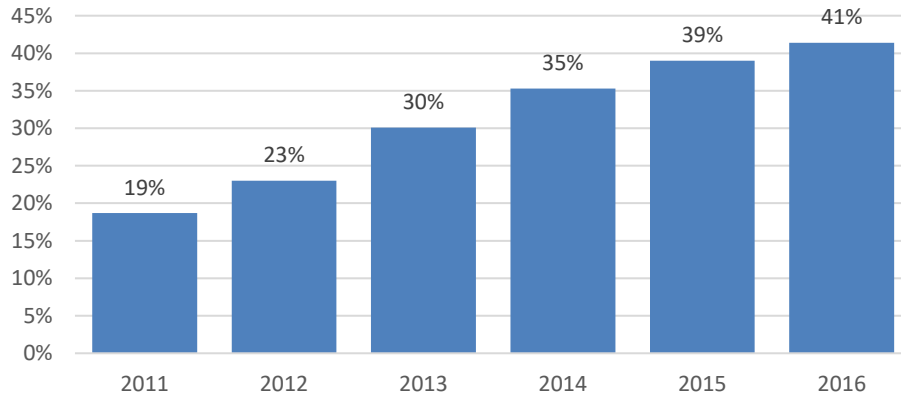


Precision Scheduled Railroading (PSR) Basics

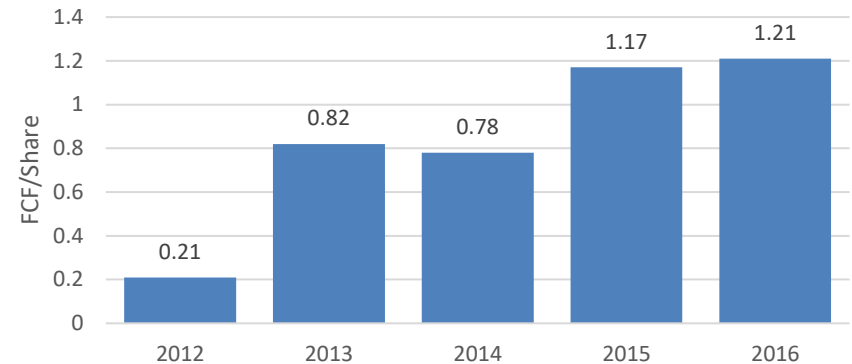
- ❑ Focusses on increasing operating margins by improving asset utilization/efficiency
 - Shift focus from moving trains to moving cars on a schedule
 - Minimize car dwell and increase velocity
 - Reduce redundant terminals/hump yards
 - Eliminate locomotives and reduce cars online
 - Balance train movements
- ❑ Directly impacts the costs
 - Labor expense goes down as PSR mandates longer trains and hence less switching
 - Lower Fuel Expense due to better scheduling (simpler network)
 - Lower purchased services
- ❑ Improves service that should eventually lead to modal shift from trucks to rails

PSR/Hunter effect at CP

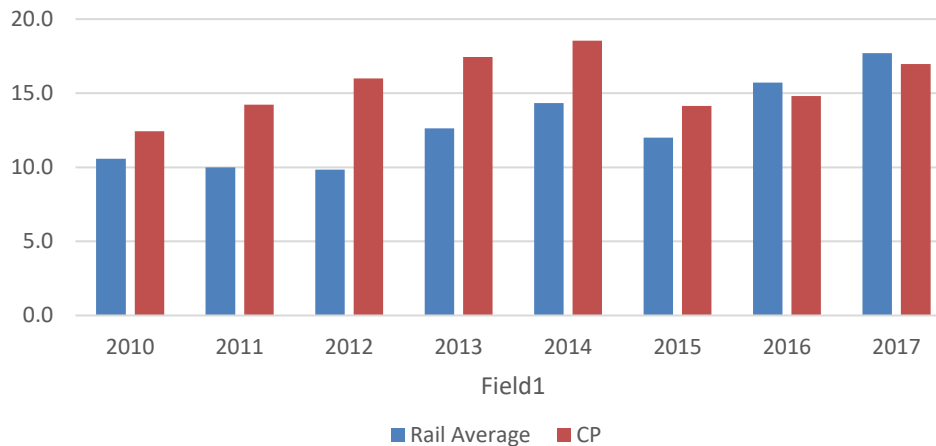
CP Operating Margin Performance during Hunter



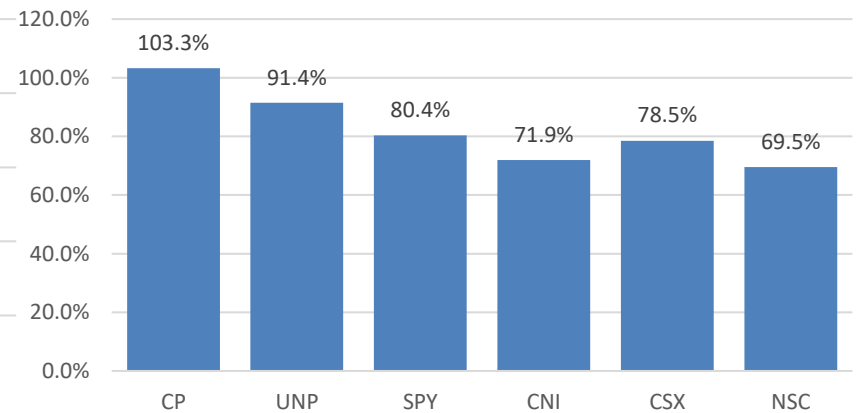
CP Free Cash Flow Per Share during PSR/Hunter



P/E Multiples during PSR at CP

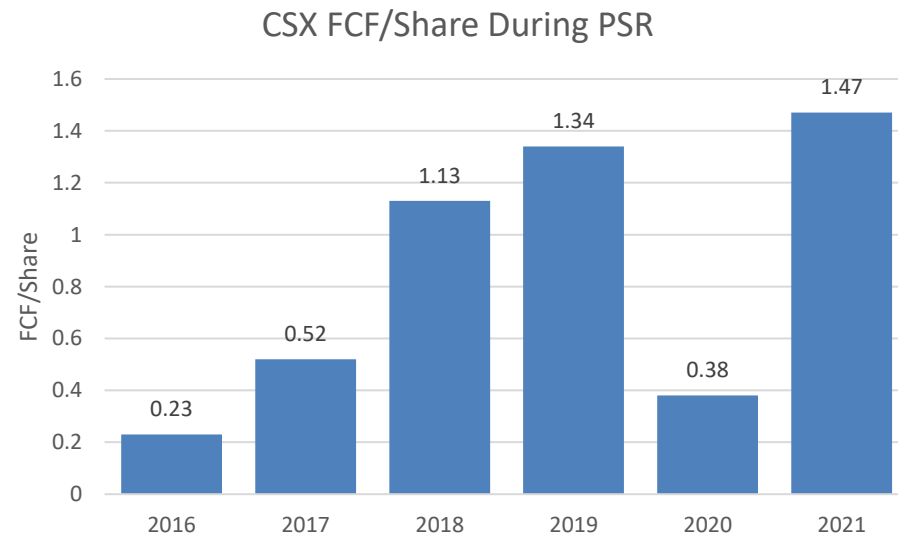
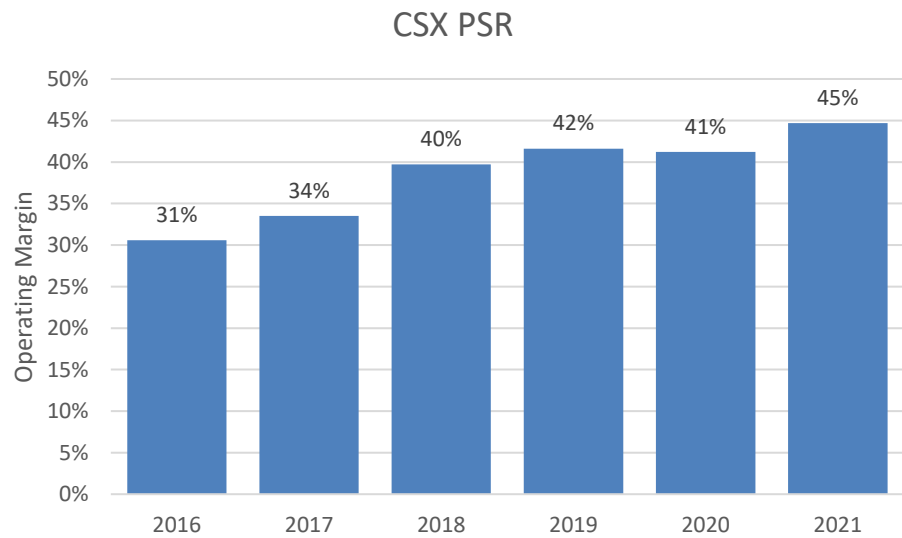


Total Stock Price Return During Hunter at CP



North America Freight Railroads: Structural Inflection Point 3.0

- ❑ In late 2016, Paul Hilal, from Pershing Square, launches a 1.2B fund to take an activist stake in CSX
- ❑ Hunter Harrison joins Hilal in 2017 as the CEO of CSX to rinse and repeat what he had done at CP and CNI
- ❑ NSC and UNP launch their own PSR initiatives

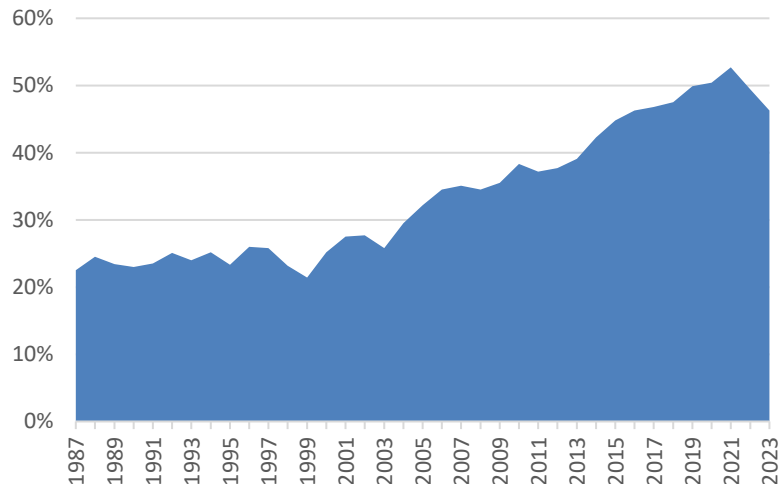


North America Freight Railroads: Fundamentals driven Re-Rating Case Study

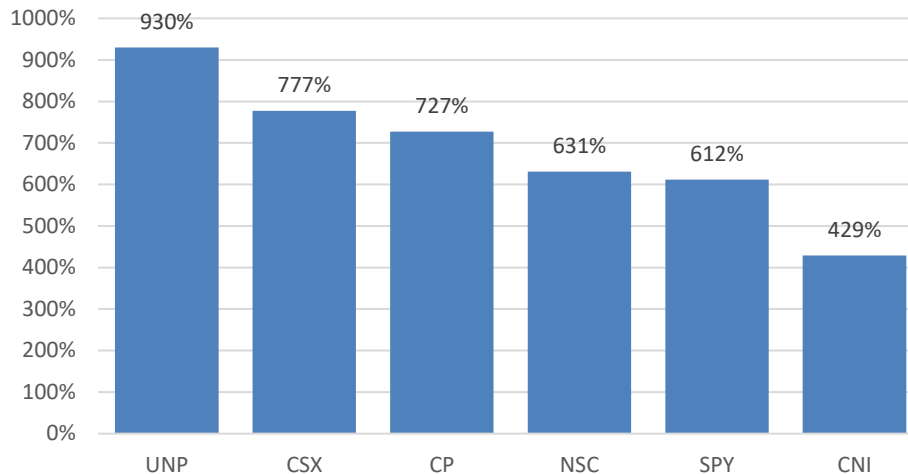
- ❑ Valuations respond to sustainable change in operating metrics that matter for earnings
 - Pricing power since 2003
 - Operational turnaround (operating margin improvement) in the last decade
 - Free Cash Flow Generation
- ❑ Management teams with proven track records do add value and impact valuations
 - Late Hunter Harrison created the PSR model
 - Rest of the industry has adopted

North America Freight Railroads: Fundamentals driven Re-Rating Case Study

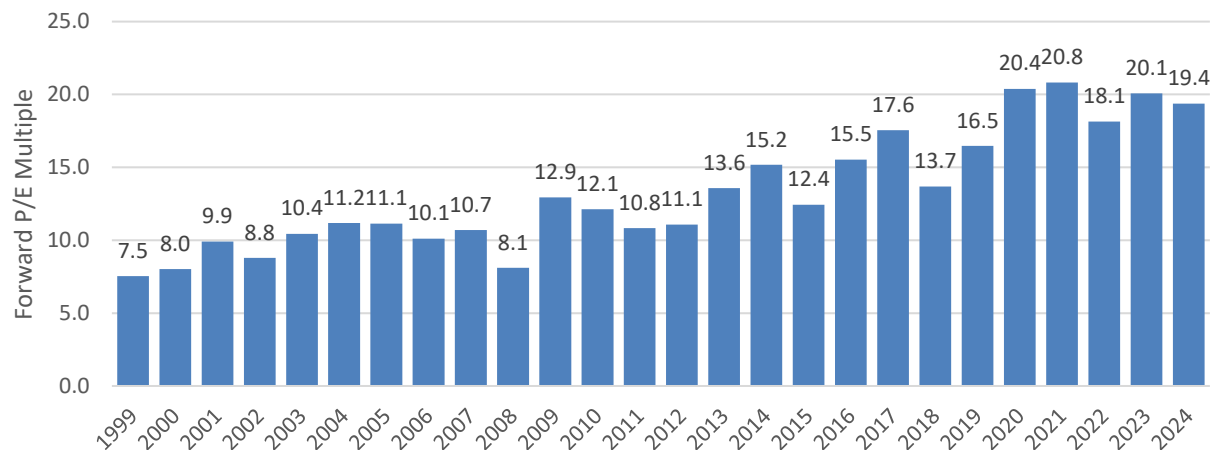
Industry EBITDA Margin (%)



Total Return : 2010 - Present



Railroad Valuation



Agenda

- ❑ Drivers of Stock Price
 - ❑ Earnings Expectations
 - ❑ Valuation Multiple
- ❑ Accounting Basics
- ❑ Drivers of Earnings Expectations
- ❑ How Value Creation Machine Works
- ❑ Drivers of Valuation Multiple
- ❑ Putting it all together ←
- ❑ Example: Hedge-fund quality stock analysis (if time permits)

Recap of stock price drivers

Stock Price = *Function (Valuation Multiple, Earnings Expectations)*

Drivers of Valuation Multiple

Money Flow
Investor Base
Peer Companies
Earnings Predictability
Growth Expectations
Balance Sheet
Regulatory Regime
Mgmt Team
Macro

Drivers of Earnings Expectations

Sales
 → Price
 → Volume
Costs
 → Fixed
 → Variable
Debt Service Cost
Tax Profile
Reinvestment Needs

Drivers of Portfolio Performance

- ❑ Fundamental Analysis of Stocks
 - ❑ This is what you were introduced to today
- ❑ Stock Personality
 - ❑ Balance of Return, Safety and Income potential
- ❑ Idea Generation
 - ❑ Idea Velocity
- ❑ Portfolio Management
 - ❑ Correct balance of Return, Safety and Income potential
- ❑ Analytical Ability
 - ❑ Ability to interpret numbers without bias
- ❑ Time Management
 - ❑ Focus you time on issues that matter
- ❑ Psychological Balance
 - ❑ Stay humble. Always seek other the opposite case of your analysis
 - ❑ "Be fearful when others are greedy and greedy when others are fearful"

End of Presentation