

KIP Capital Management, Ltd.

Quick-Take Thesis

Qorvo, Inc. (QRVO)

November 30th, 2020

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KIP Investment Process





Qorvo, Inc. (QRVO)

Industry: Semiconductors & Semiconductor Equipment

Sub-Industry: Semiconductors

Note: Founded in 2015, Merger of TriQuint & RF Micro Devices

The company specializes in radio frequency filters, power amplifiers, and front-end modules used in many of the world's most advanced smartphones.

As of Nov 20th, 2020

Market Cap: \$16.8 bn | **Enterprise Value:** \$17.5 bn

P/E: 38.8X | **P/B:** 2.5X | **Sales (2020-TFQ3):** \$3.5bn

The background of the slide is a photograph of a stone castle tower, likely a round tower, reflected in a body of water. The image is dimmed with a dark blue overlay. In the center, there is a white rectangular box with a teal border. Inside this box, the text "Is it an Outstanding Business?" is written in a dark blue, sans-serif font.

**Is it an Outstanding
Business?**

KIP Investment Process

Is it an Outstanding Business?

Business

Is it understandable?

Total Shareholder Return Analysis

Price-Implied Expectations

Performance History
Has it created economic value?

Moat Analysis
What has caused it to create value?
How long can it continue to do so?

Is it an Outstanding Investment?

Decision
Buy?
Sell?
Hold?

QRVO industry

Supplies RF components to makers of smartphones and other electronics



Intense Competition

With 5G, RF demand is set to rise

RF content per phone has grown exponentially in recent years

QRVO business

Most of the revenue is from mobile products | 33% Apple, Inc.

Phone product cycles are painfully short. 🙄

Qorvo makes RF chips for wireless
infra and military. 👍

New Entrants Porter Insight

Qorvo is among few RF firms with the scale to supply millions of RF products per year - hard for new entrants to replicate.



Buyer Power Porter Insight

There is intense competition in RF chips | Customer base consists of a few tech titans | Could put pricing pressure on Qorvo and others like it.



Buyer Power Porter Insight

Handset makers split their business between RF makers

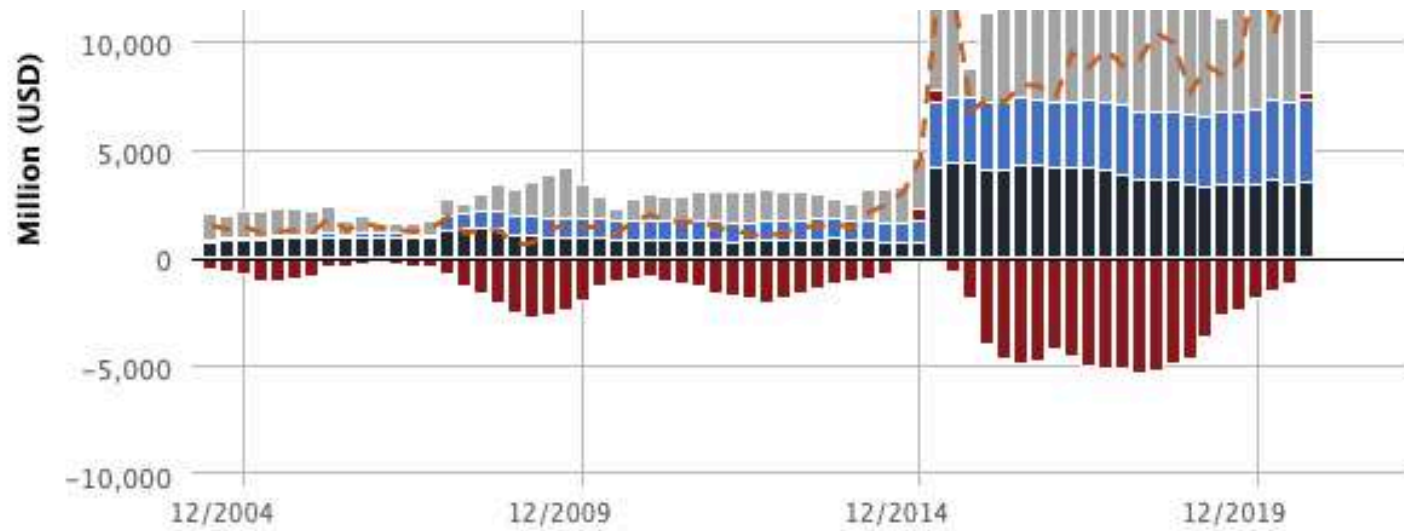


Good prospects in 5G
for military. 👍

QRVO business

Despite a similar business model to SWKS,

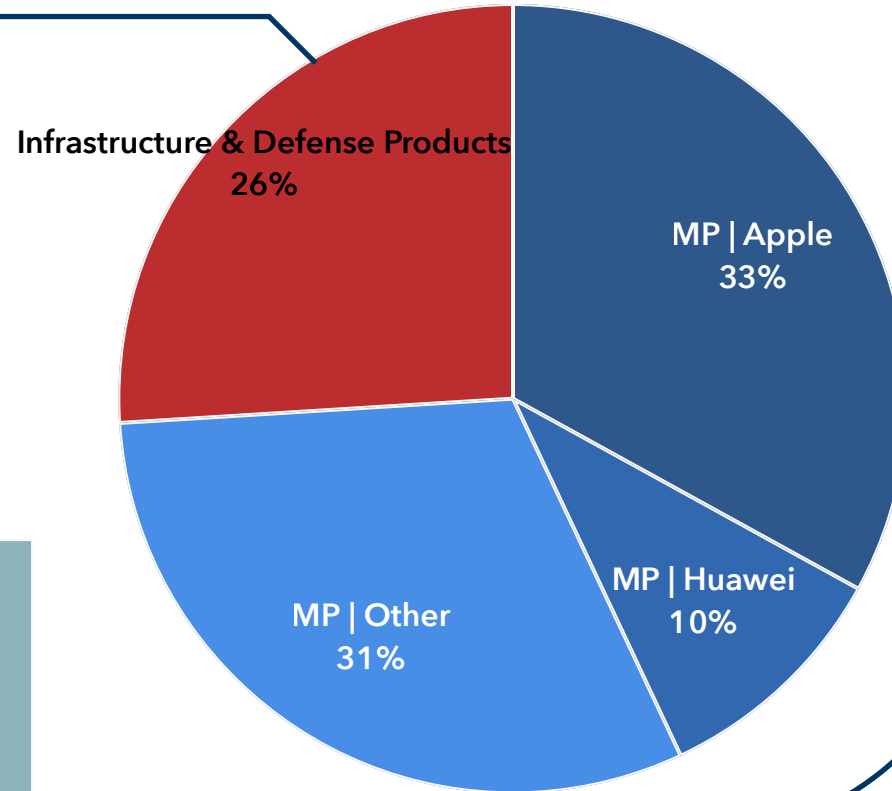
QRVO has a poor ROIC record.



Business Segments & Revenue Breakdown

IDP is a global supplier of RF, system-on-a-chip and power management solutions for wireless infrastructure, defense, smart home, automotive and other IoT applications.

2020-TFQ3 Total Revenue: \$3.5 bn

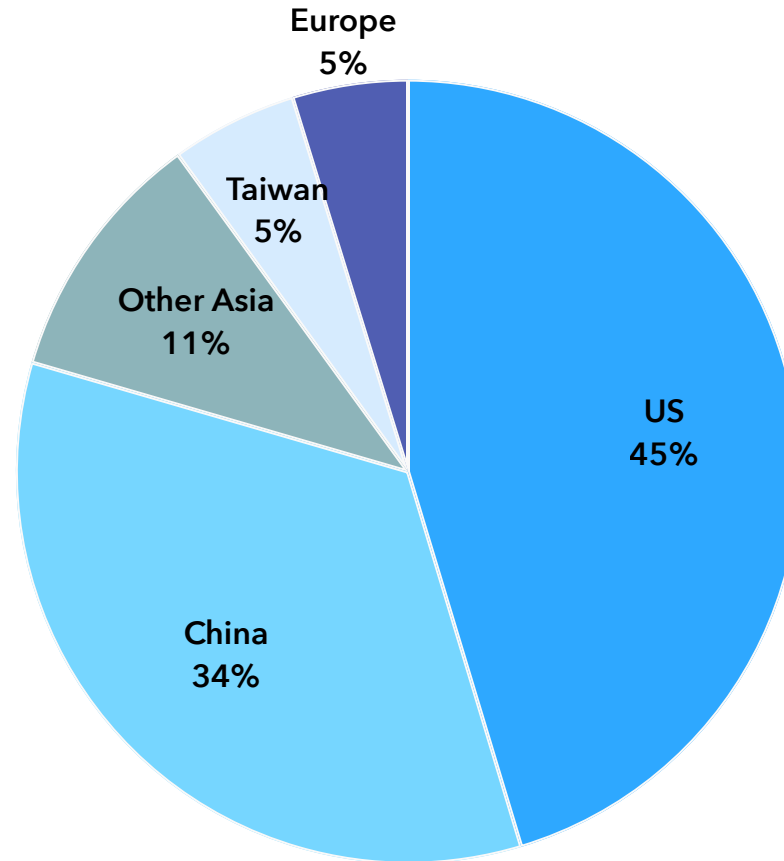


Apple and Huawei abandoning QRVO is not a risk. RF chips are critical to the phones.

But pricing power is a problem.

Mobile Products is a global supplier of cellular, UWB and Wi-Fi solutions for a variety of high-volume markets, including smartphones, wearables, laptops, tablets and IoT applications.

Segment Revenue by Geography



KIP Investment Process

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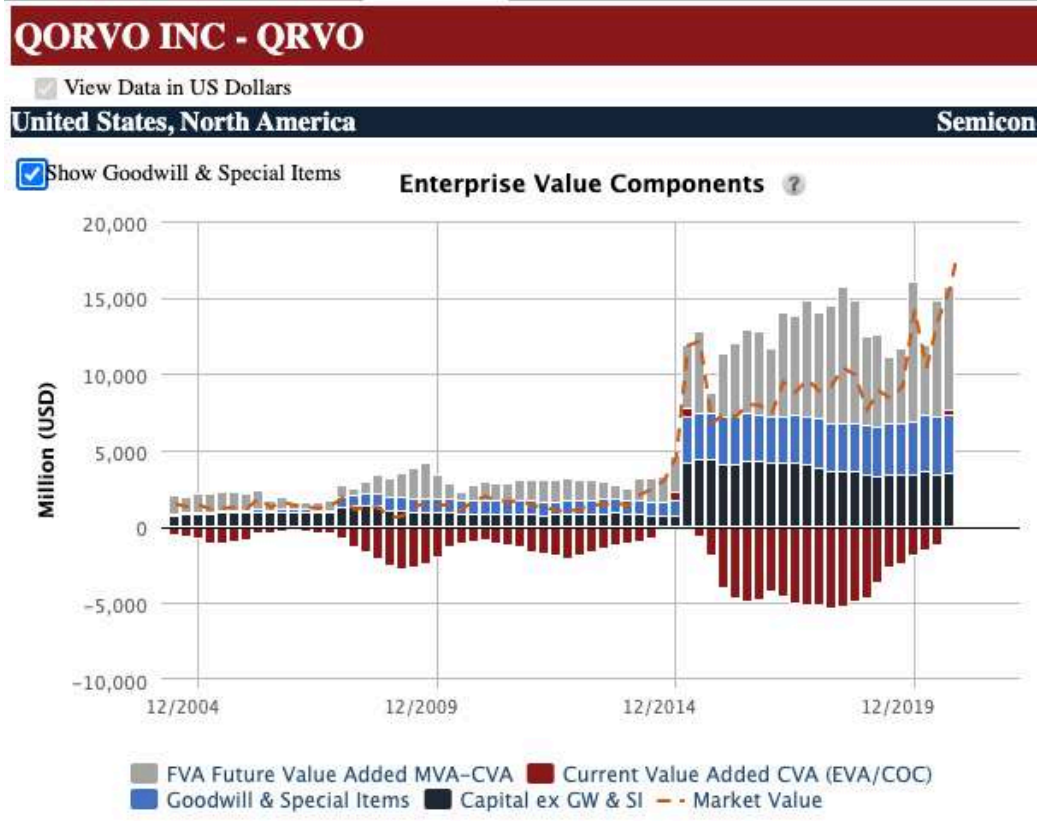
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Economic-Value Destroyer



ROIC
Avg 4%

WACC
8%

Invested Capital
\$7.04 bn

Market Cap (as of 20/11/20)
\$16.8 bn

Enterprise Value
\$17.5 bn

Insight: Poor past EVA outcome. Improving over the last 6 quarters.

Growth History

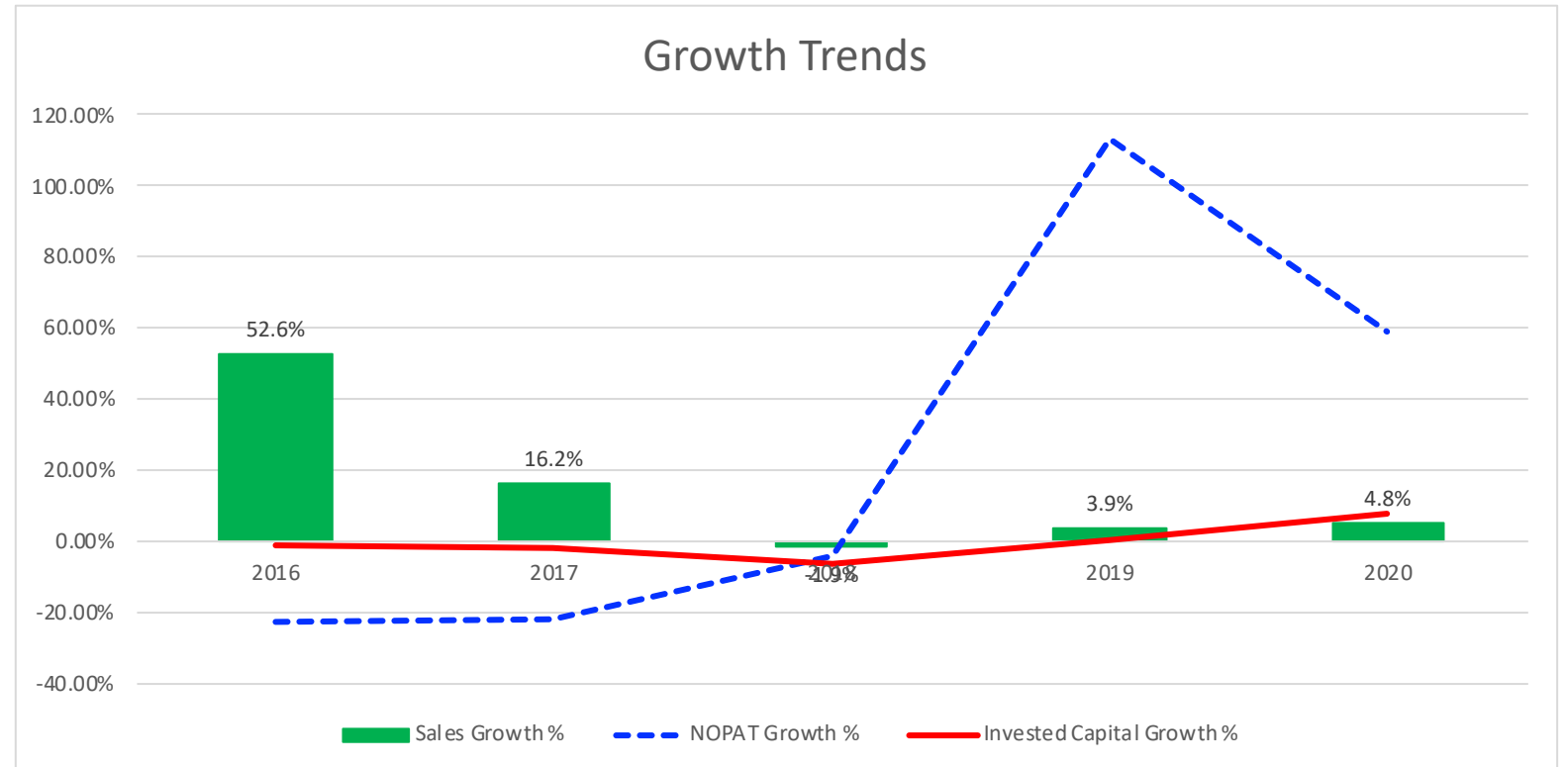
Value creating growth typically results when:

$$\Delta \text{NOPAT} > \Delta \text{Sales} > \Delta \text{Capital}$$

$$\Delta \text{NOPAT} \gg \Delta \text{Capital}$$

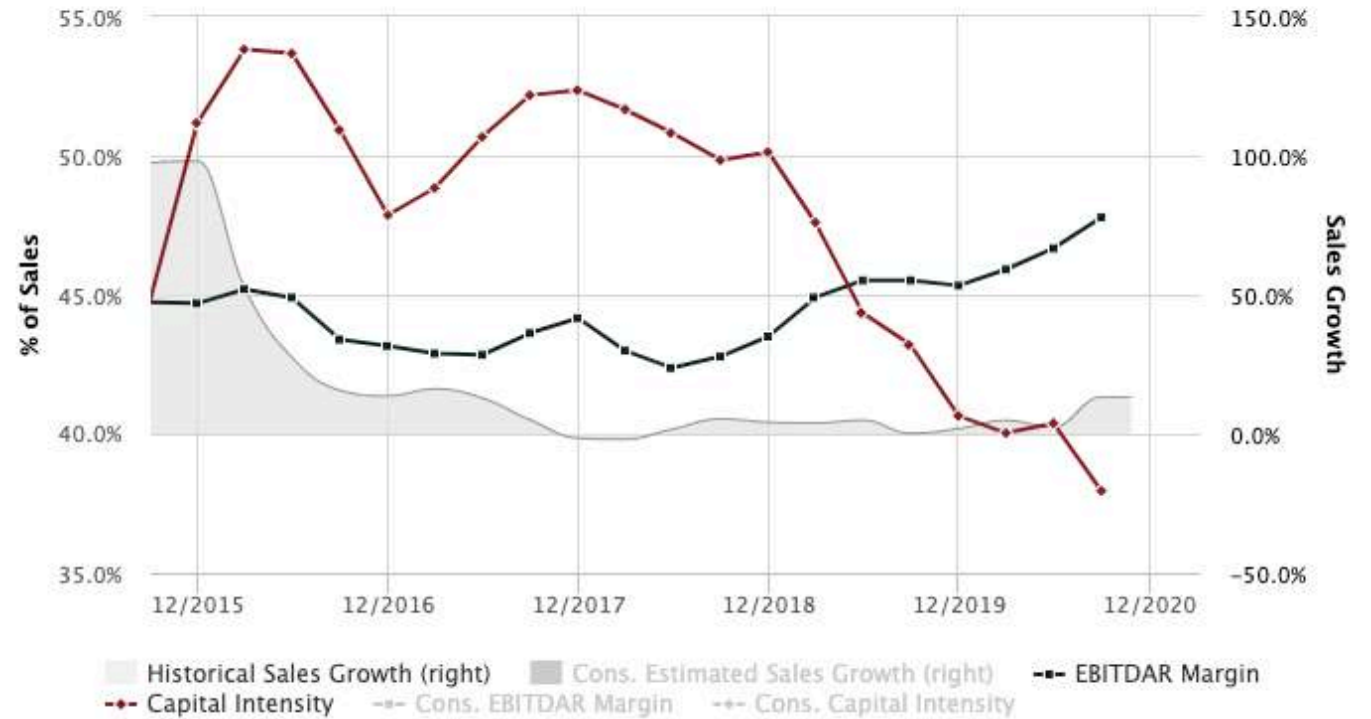
Insight: NOPAT growth has exceeded both Sales and Capital growth in the last 2 years. A good sign. 👍

Note: GAAP numbers highly distorted.



Profitability History

EVA Drivers



ROIC = NOPAT% \uparrow / Capital Intensity% \downarrow

Higher ROIC is driven by either higher NOPAT margins **or** lower Capital Intensity **or both.**

Insight: Profitability improving while Capital Intensity falling. Growing ROIC.

Economic Profit (EVA) Positive

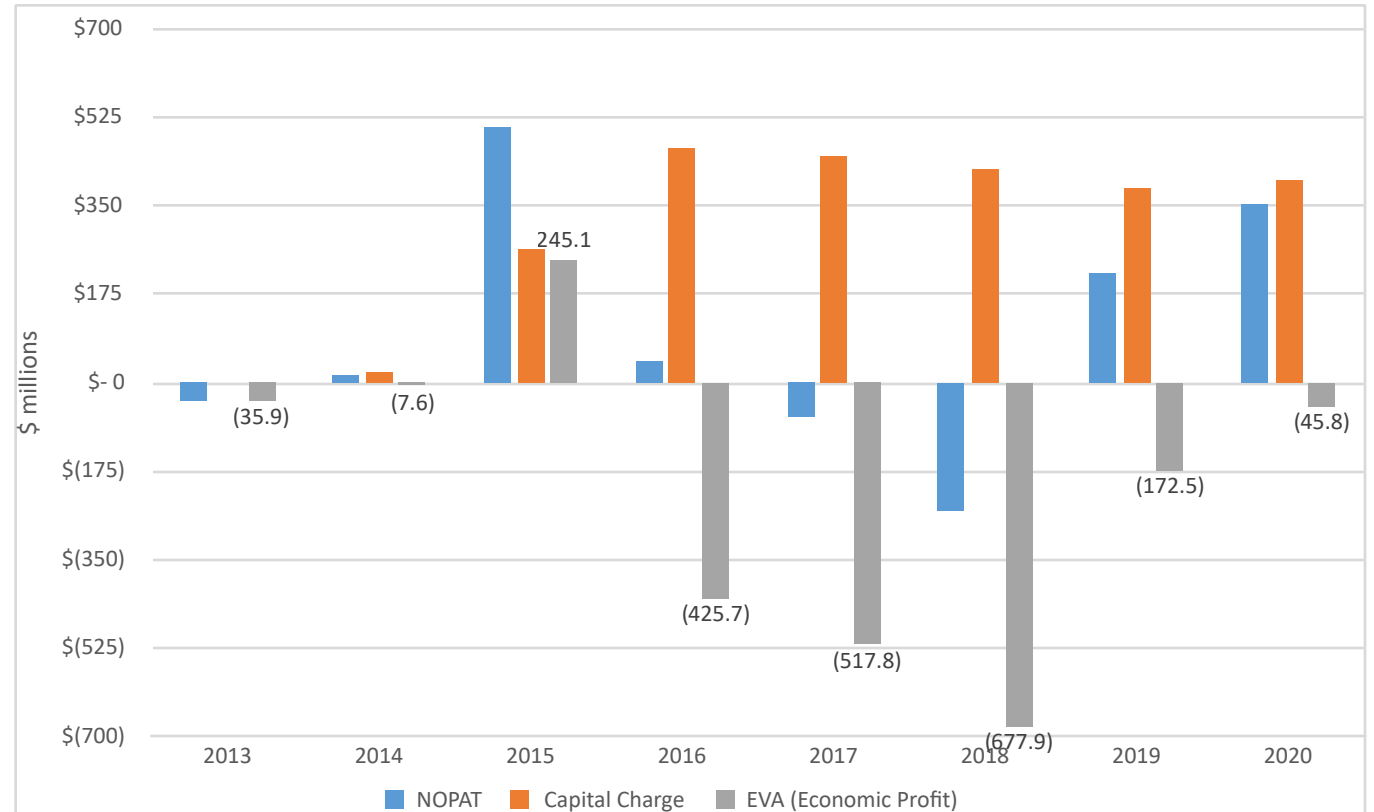
$EVA (\$mm) = NOPAT - \text{Capital Charge}$.

Higher EVA always translates to higher value creation which is driven by:

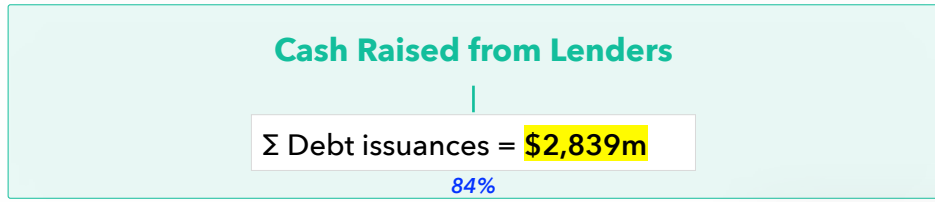
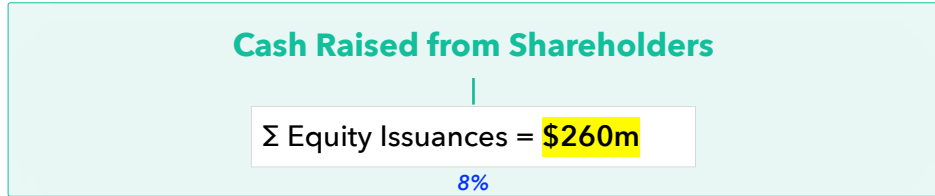
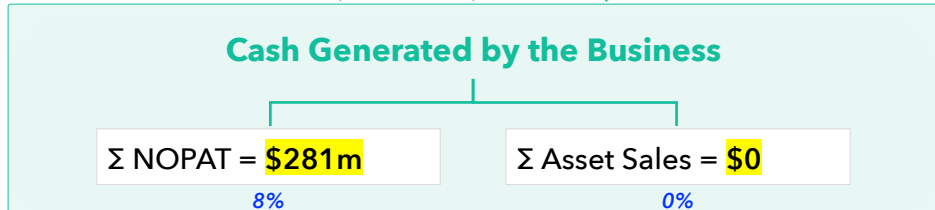
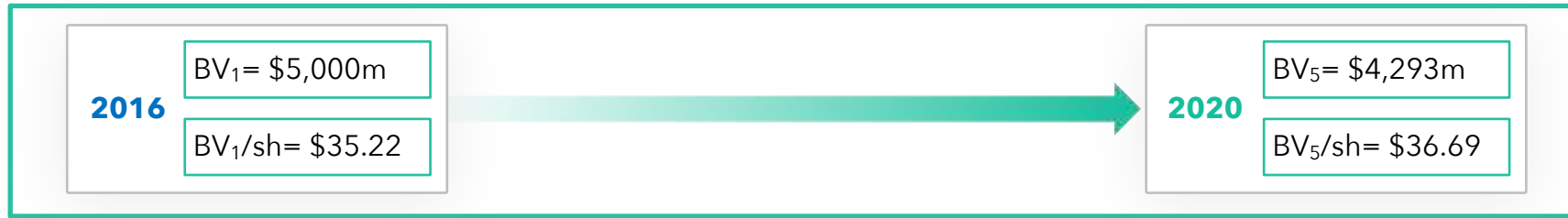
1. Growing NOPATS
2. Lower Capital Charge

Observation:

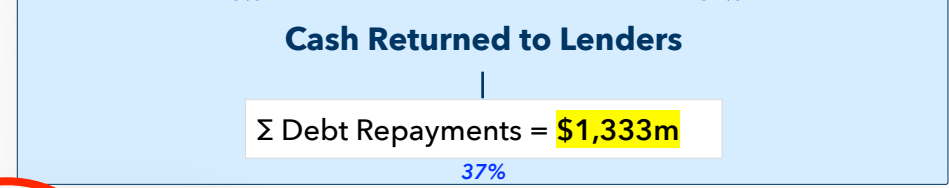
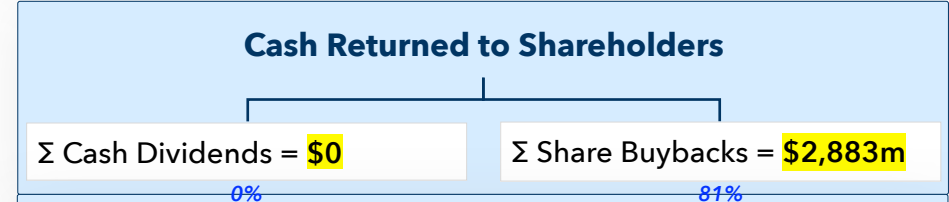
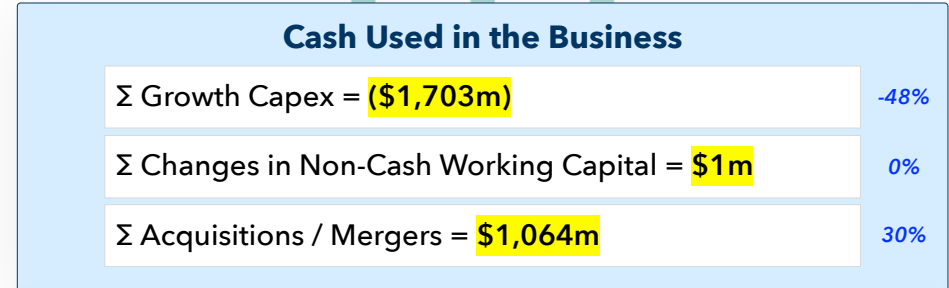
1. EVA was negative from 2015 to 2019, but decreasing since 2018. Has turned positive in 2020-TFQ2.
2. NOPATs have been irregular due to varying operating and tax costs.
3. Capital charge has trended downward, due to a shrinking WACC and flat-line Capital.



Judging Capital Allocation - 5 years



Sources of Capital: \$3,381m



Uses of Capital: \$3,578m

Value Created ($\Delta BV + \text{Cash Returned}$) = **0.38X BV_1**
 Per-Share basis = **0.04X BV_1 per sh**

Capital Allocation

Insights:

Over the past 4-years:

1. Generated a total \$281m in after-tax Earnings. Rising.
2. a total \$2.6bn was used for (net) Buy-backs. Almost all of it using debt.
3. BV and BV/sh. has remained unchanged.
4. Business is R&D heavy. A total of \$2.3b was re-invested in R&D.
5. Debt-heavy \$2.8bn.

A Deep-Dive would reveal:

- Past Spending Patterns - comparing First-5 years to Last-Five years to spot shifts in sourcing and spending.
- Analysis on Return on Incremental Investment (ROIIC) trend over time.

KIP Investment Process

Is it an Outstanding Business?

Moat Analysis

What has caused it to create value? How long can it continue to do so?

Requires a Deep-Dive

Total Shareholder Return Analysis

Performance History
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Is it an Outstanding Investment?

Decision
Buy?
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Comparing Competitors

Name	Ticker	Common Market Cap	Sales	NOPAT Margin%	Capital	Capital Intensity%	ROIC%	WACC %	EVA Spread EVA/Capital (ROC-COC) 3-yr Avg	FGR%	Country	GICS Sub-Industry
BROADCOM INC	AVGO	\$155,820	\$23,197	20.1%	\$65,954	282%	7.1%	7.1%	1.7%	66%	United States	Semiconductors
QUALCOMM INC	QCOM	\$165,160	\$21,731	19.3%	\$27,717	132%	14.6%	7.1%	4.3%	65%	United States	Semiconductors
MURATA MANUFACTURING CO LTD	6981 JP	\$53,914	\$14,142	13.2%	\$17,026	115%	11.5%	6.8%	4.1%	45%	Japan	Electronic Components
ANALOG DEVICES	ADI	\$50,055	\$5,520	25.6%	\$20,344	371%	6.9%	7.4%	0.7%	66%	United States	Semiconductors
QORVO INC	QRVO	\$16,914	\$3,505	15.6%	\$7,261	202%	7.7%	7.6%	-3.1%	57%	United States	Semiconductors
SKYWORKS SOLUTIONS INC	SWKS	\$23,267	\$3,356	23.9%	\$4,621	131%	18.2%	7.9%	15.1%	53%	United States	Semiconductors

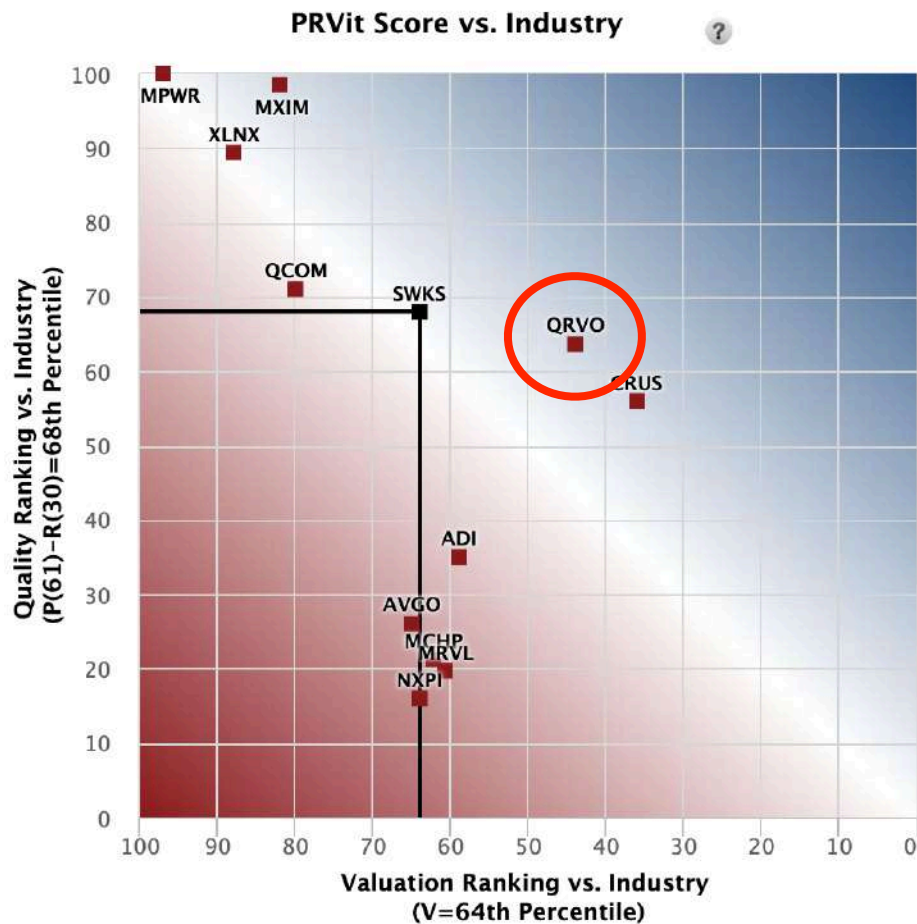
Insights:

Notice the similarities in profitability of Qorvo and Broadcom.

Skyworks has a strategy that is somehow superior. It has a higher ROIC, lower Cap Intensity.

Worth unpacking.

Competitive Analysis



Insight: Mediocre quality business, relatively Overvalued

KIP Investment Process

Is it an Outstanding Business?

Management
Are they shareholder-friendly?

Requires a Deep-Dive

Total Shareholder Return Analysis

Decision
Buy?
Sell?
Hold?

A stone castle tower is reflected in a body of water. The scene is overlaid with a dark blue gradient. A teal-bordered white box is centered on the right side of the image, containing the text "Is it an Outstanding Investment?".

**Is it an Outstanding
Investment?**

KIP Investment Process

Is it an Outstanding Business?

Moat Analysis
What has caused the company to create value?
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Price-Implied Expectations of Value Drivers

(QRVO)

Last Traded Price @	\$147.39		
Market-Implied CAP (MICAP)	24.0	years	
Price-Implied Growth Projections			MICAP
		Factor X	CAGR
Sales Growth		28.63X	15.00%
NOPAT Growth		11.16X	10.57%
ROIC			6.0%
			Last 5-ys
			13.62%
			28.15%
			0.7%

Observations:

- Current Price of \$147.4 **implies:**
 - Sales and NOPAT will grow **29x** and **11x** respectively, over the next **24** years.
 - Sales will grow to **\$92.7** bn from current \$3.2 bn. NOPAT will grow to \$3.9 bn from current \$350m.
- **Interesting to discuss what the market might be implying here.**

Insight: Lots of EVA baked in today. Possible sell.

KIP Investment Process

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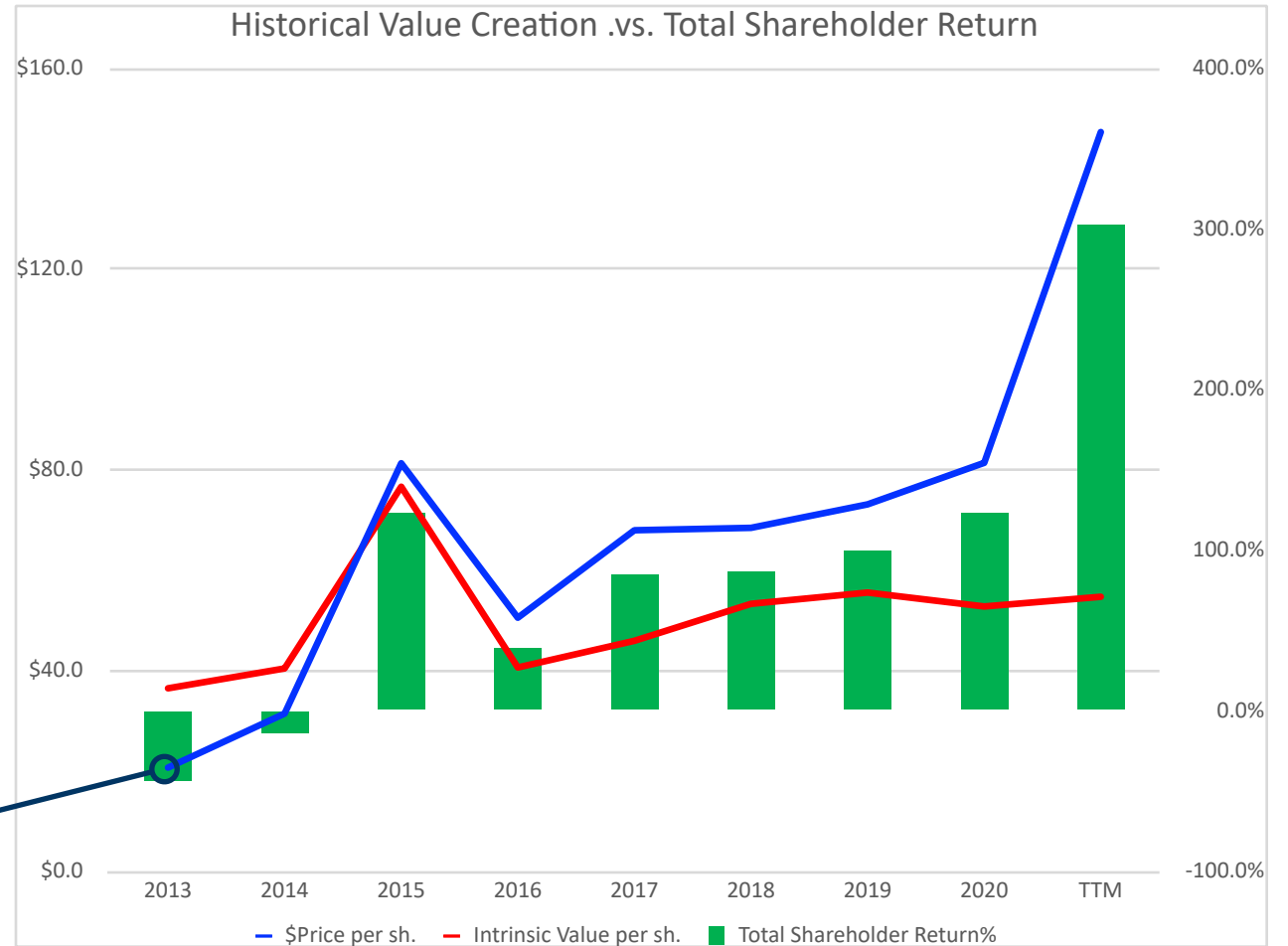
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Historical Value Creation vs Total Shareholder Return

(QRVO)	CAGR%
	Last 10-yrs
Intrinsic Value per sh.	5.19%
Shareholder CAGR%	19.02%
Total Shareholder Return	4.03X

Insight: Recent jump in price is evidence of fast rising expectations.

\$20.8



Shareholder-Return Implied Expectations

Sensitivity Analysis : EPS Growth CAGR%

Buy-Price Hold Duration:	\$147.39 per share 5 years	EPS CAGR% Median P/E	Past Trends	
			5-yr	10-yr
			5.88%	
			36.0X	

Price Gain CAGR%	P/E Ratio Forecast				
	24.3X	27.0X	30.0X	33.0X	36.3X
12.2%	23.2%	20.6%	18.1%	15.8%	13.7%
13.5%	24.6%	22.0%	19.5%	17.2%	15.0%
15.0%	26.3%	23.7%	21.1%	18.8%	16.5%
16.5%	27.9%	25.3%	22.7%	20.3%	18.1%
18.2%	29.7%	27.0%	24.4%	22.0%	19.7%

Choose an Investor Return% and P/E Multiple → to impute EPS Growth Rate%

Insights:

1. A desired Investor CAGR% Return of 15%, at a Forecast-P/E of 30.0X in year-5, implies an EPS Growth Rate% of **21.1% CAGR%**.
2. A desired Investor CAGR% Return range of 12% to 18% implies a Forecast-EPS Growth range of 18.1% to 24.4%. (@PE:30.0X)
3. Compare the Forecast-EPS Growth range of 18% to 24% with the past-EPS Growth performance range of 5.88% in the last 5-years.

EPS Growth Implied Expectations

Sensitivity Analysis : Investor Return% CAGR

Buy-Price	\$147.39	per share	Past Trends		
			5-yr	10-yr	
Hold Duration:	5	years	EPS CAGR%	5.88%	
			Median P/E	36.0X	

EPS CAGR Forecast	P/E Ratio Forecast				
	24.3X	27.0X	30.0X	33.0X	36.3X
8.1%	-0.7%	1.3%	3.4%	5.3%	7.3%
9.0%	0.1%	2.1%	4.2%	6.2%	8.2%
10.0%	1.0%	3.1%	5.2%	7.1%	9.1%
11.0%	1.9%	4.0%	6.1%	8.1%	10.1%
12.1%	2.8%	5.0%	7.1%	9.1%	11.2%

Forecast a EPS Growth CAGR% and P/E Multiple → to impute Investor Return%.

Insights:

1. A Forecast-EPS CAGR of 10.0%, at a Forecast-P/E of 30.0X in year-5, implies an Investor CAGR% Return of **5.2% CAGR%**.
2. A Forecast-EPS CAGR% range of 8.1% to 12.1% implies an Investor CAGR% Return range of 3.4% to 7.1% (@PE:30.0X).
3. Compare the Forecast-EPS Growth range of 8.1% to 12.1% with the past-EPS Growth performance range of 5.88% in the last 5-years.

EPS Growth Implied Expectations

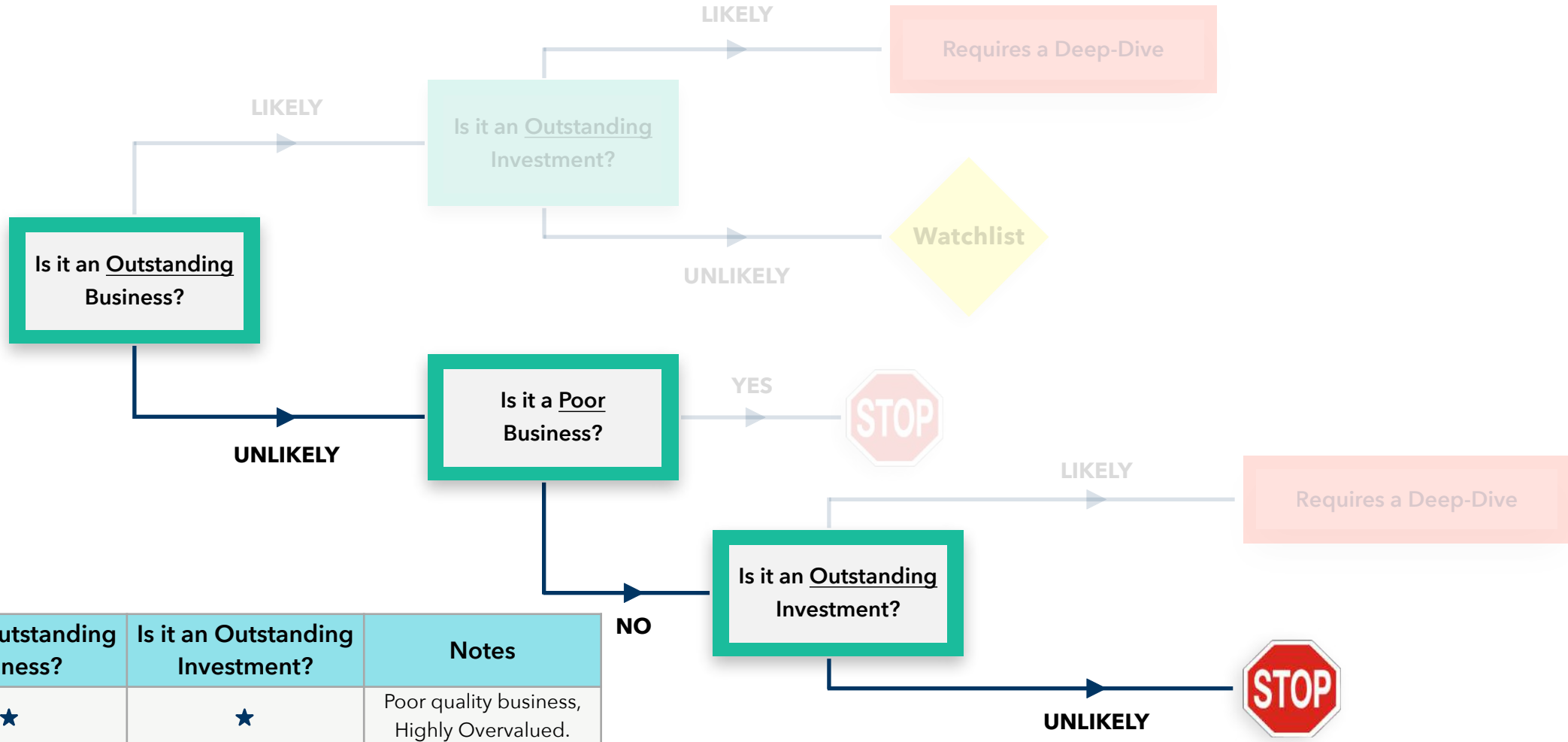
As of Dec 21st, 2020

Price: \$162.66 | **Market Cap:** \$18.6 bn | **Enterprise Value:** \$19.2 bn

P/E GAAP: 42.9X | **P/B:** 4.2X | **EV/EBIT:** 30.58X

Sales (2020-TFQ2): \$3.5bn

Conclusion



Is it an Outstanding Business?	Is it an Outstanding Investment?	Notes
★	★	Poor quality business, Highly Overvalued.

Deep-Dive - Further Areas of Investigation

▸ **Dig Deeper:**

- Deeper industry analysis. Deeper understanding of Porter's Five Forces (**Source: "Semi-Conductor Deep Dive" by Dr. Robert Castellano**).
- Work through the **"Measuring the Moat"** checklist.
- Deeper Competitive Analysis. How are their business models are different, how do they compete, etc.

▸ **Field research:**

- Speak with customers, understand their perspective on the product/service, and its pricing.
- Texus interviews of Former Execs, Employees, Competitors, Customers.

▸ **Management incentives:**


- Read CEO letters to shareholders, Earnings Call Transcripts.
- Deeper analysis of recent acquisitions (if any). Judge the quality of the acquisitions and explore reasons behind why those decisions were made.
- Contact management. Ask them questions that remain unanswered. eg: What are their thoughts on competitive strategy for the company, and how do they look at competition?
- How is management incentivized and paid? What is their background/experience? Are they shareholder friendly?

Q&A

Contact Information & Disclosures

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