

An underwater photograph of several dolphins swimming in clear, sunlit blue water. The dolphins are captured in various positions, some swimming towards the camera and others away. Sunlight rays penetrate the water from the top, creating a bright, shimmering effect. The overall mood is serene and natural.

LONG EQUITY

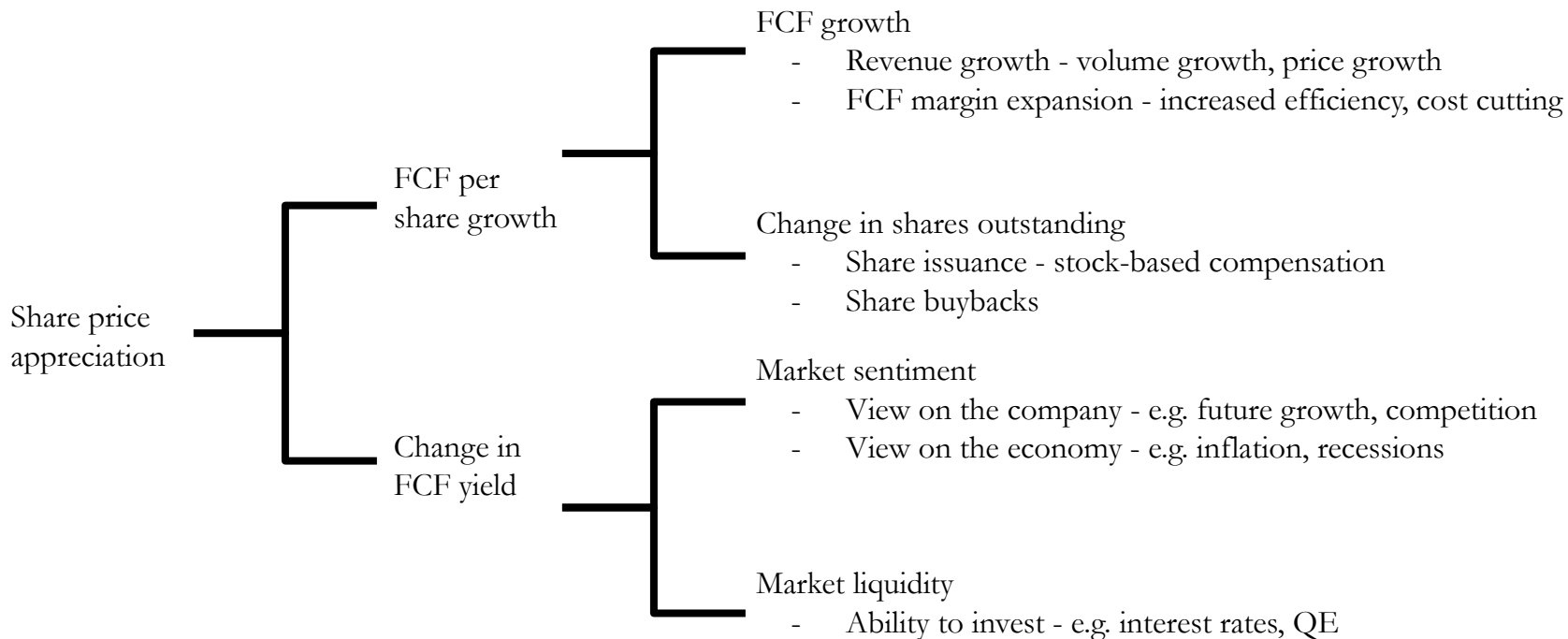
Investor
Mental Models

Long Equity Fund

2024

- Model models allow complex data to be quickly and accurately turned into actionable insights.
 - They provide a thought process for filtering the signal from the noise and for separating out what's important from what's not important.
 - Presented here are a range of 1-page mental models for deciphering a range of concepts encountered in the world of investing.
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What influences share prices?



What drives share price growth?

Operating leverage, cash conversion, share buy-backs and multiple expansion can all work together to boost revenue growth into even higher share price growth.

This example is from the credit score company Fair Isaac. Notice how their growth rates increase as you move from revenue to share price.

Fair Isaac (FICO)	Revenue	Gross Profit	Op. Profit	Net Income	FCF	FCF/Share	Share Price
2013	743	514	165	90	112	3.09	52
2014	789	540	166	95	162	4.66	58
2015	839	568	156	87	122	3.73	82
2016	881	616	170	109	188	5.83	129
2017	935	647	187	133	206	6.38	135
2018	1,000	687	175	126	192	6.15	234
2019	1,160	823	254	192	236	7.8	315
2020	1,295	933	341	236	343	11.46	443
2021	1,317	984	413	392	416	14.23	434
2022	1,377	1,075	542	374	503	19.11	440
CAGR:	7%	9%	14%	17%	18%	22%	27%

Faster net income growth than revenue growth requires **operating leverage**, signalling that the company is becoming increasingly efficient.

Faster FCF growth than net income growth requires good **cash conversion**, suggesting it can efficiently manage working capital.

Faster FCF per share growth than FCF growth requires **share buybacks**.

Faster share price growth than FCF per share growth requires **multiple expansion**, as it was fairly valued by the market.

Four Essential Investing Ratios

Company A and Company B both make **\$1bn** in free cash flow (FCF). Comparing a company's FCF to its invested capital, revenue, historic FCF and market capitalisation reveals four important investing ratios.

	Company A	Company B
FCF Return on capital (Quality) <i>How efficient the company is at investing its capital at high returns</i>	FCF = \$1bn Invested capital = \$4bn FCF ROC = \$1bn / \$4bn = <u>25%</u>	FCF = \$1bn Invested capital = \$20bn FCF ROC = \$1bn / \$20bn = <u>5%</u>
FCF Margin (Quality) <i>How efficient the company is at adding value to the supply chain</i>	FCF = \$1bn Revenue = \$2bn FCF Margin = \$1bn / \$2bn = <u>50%</u>	FCF = \$1bn Revenue = \$10bn FCF Margin = \$1bn / \$10bn = <u>10%</u>
FCF Growth Rate (Growth) <i>How efficient the company is at growing its free cash flow over time</i>	FCF = \$1bn FCF 5 years ago = \$0.25bn FCF Growth Rate = \$1bn / \$0.25bn = <u>4x</u>	FCF = \$1bn FCF 5 years ago = \$0.5bn FCF Growth Rate = \$1bn / \$0.5bn = <u>2x</u>
FCF Yield (Valuation) <i>How attractively the market values the company's free cash flow</i>	FCF = \$1bn Market capitalisation = \$20bn FCF Yield = \$1bn / \$20bn = <u>5%</u>	FCF = \$1bn Market capitalisation = \$50bn FCF Yield = \$1bn / \$50bn = <u>2%</u>

Despite generate the same FCF, Company A is a more efficient capital allocator (ROC), has more negotiating power and pricing power (margins), has a faster growth (growth rate) and is more attractively valued (FCF yield) than Company B.

In corporate finance there are three rules for maximising value:

1. Buy **high return** assets
2. Finance assets with **low cost** debt
3. Only return capital to investors if there are no suitable investments

These principles should guide both how managers run their businesses and how investors find and manage investments.

Maximise the highest possible return by investing in the highest returning assets.

Understanding share price returns

The three hypothetical companies below demonstrates what drives share price performance. Each company has seen its share price grow 6x over the last decade from \$100 to \$600. However each company achieved their share price growth through different routes: Company A through growing its earnings, Company B through growing its valuation, and Company C through a mixture of both. In reality Company C reflects most multibaggers.

<u>Company A</u>		<u>Company B</u>		<u>Company C</u>	
Earnings growth:	6x	Earnings growth:	1x	Earnings growth:	2x
Valuation growth:	1x	Valuation growth:	6x	Valuation growth:	3x
Share price growth:	6x	Share price growth:	6x	Share price growth:	6x

This example demonstrates the important fact that any share price change can be understood by the change in earnings and the change in valuation:

$$\text{Share Price Growth} = \text{Earnings Growth} \times \text{Valuation (P/E) Growth}$$

Not all earnings are equal

Here is a reverse rank of the different types of earnings



5. **Negative** earnings

Expenses > Revenue

4. **Low ROI** earnings

Use billions to make millions

3. **Cyclical** earnings

Airlines, banks, oil, etc.

2. **Leveraged** earnings

Capital intensive, e.g. banks

1. **High ROI, low cyclical, unleveraged** earnings

Value investments by comparing their FCF yields to the investable universe of companies with high ROCs, competitive advantages, low cyclical and low debt.

Compounding capital

Observation: A 20% return on capital should look like this:

\$100 → \$120 → \$144 → \$173 → \$207

However, very few companies are able to achieve a high return on capital over a long time period for several reasons.

A consistently high ROC requires:

1. **Durability** - companies need to maintain profitability even during economic downturns. Many companies can't do this due to significant exposure to economic cycles, e.g. commodity prices and interest rates.
2. **Reinvestment opportunities** - companies need opportunities to reinvest their profits at high returns. Many companies lack opportunities to reinvest and instead pay out excess profits as dividends.
3. **Pricing power** - companies need to be able to raise their prices without losing sales. Many companies can't do this due to heavy competition meaning they need to compete on prices.

**High returns on capital + Durable earnings + Reinvestment opportunities + Pricing power
= High long-term growth**

Importance of ROC and growth

High growth

Low ROC + High growth ❌

Capital allocation: The combination of low ROC and high growth suggests the company requires increasing amounts of debt to finance its growth (as its low ROC means reinvestment is limited). This will lead to a weak balance sheet over the long-term.

Payout: Company may pay a dividend, but probably shouldn't so it can finance any reinvestment.

High ROC + High growth ✅

Capital allocation: The combination of high ROC and high growth suggests the company is an efficient capital allocator that can finance its growth through reinvestment, rather than new debt.

Payout: Company likely to have a low (or zero) payout ratio to allow for high rates of reinvestment.

Low ROC

High ROC

Low ROC + Low growth ❌

Capital allocation: The combination of low ROC and low growth suggests either a lack of reinvestment opportunities or poor capital allocation. Lack of profitability also means earnings unlikely to be sufficient for reinvestment (e.g. greater reliance on debt).

Payout: Company likely to have a moderate payout due to lack of reinvestment opportunities

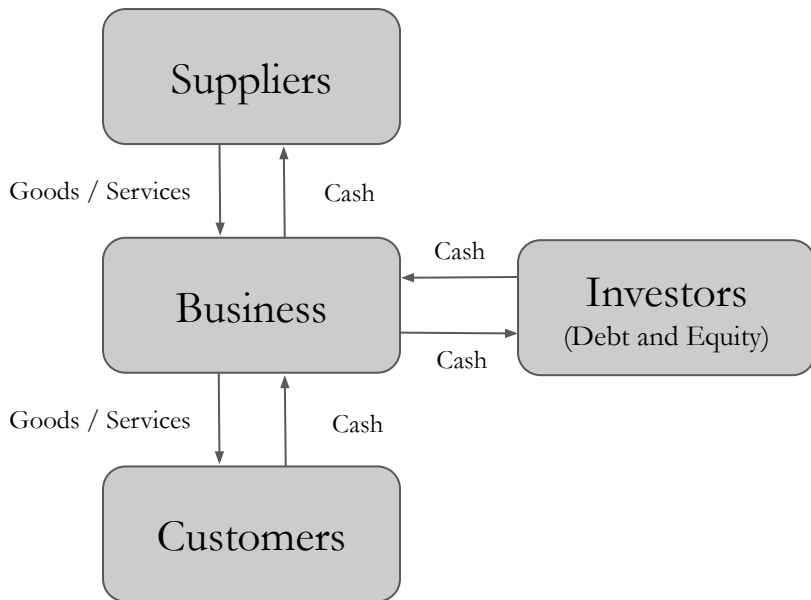
High ROC + Low growth ❌

Capital allocation: The combination of high ROC and low growth suggests that the company lacks reinvestment opportunities. Excess cash likely to be paid out as a dividend and share buybacks.

Payout: Company likely to have a high payout ratio and high dividend, due to their high profitability and low reinvestment.

Low growth

Supply chain and investor relations



A company is best understood by its relationship with its investors and supply-chain (suppliers and customers).

Businesses borrow money from investors, exchange it with their suppliers for goods and services, provide goods and services to their customers in exchange for money and return money to their investors.

The higher the return on capital (ROC) the more efficient the business's relationship is with its investors. A ROC of 20% means that for every \$100 of invested capital the business returns \$20.

The higher the gross margin the more efficient the business's relationship with its suppliers and customers. A gross margin of 60% means the business makes something for \$40 and sells it for \$100.

The Semiconductor Ecosystem

Semiconductor Design Software

Provides software to designers

Cadence
Synopsys



Semiconductor Designers

Designs only (fabless)

AMD
NVIDIA
Broadcom
Qualcomm

Semiconductor Manufacturing Equipment

Provides equipment to manufacturers

Applied Materials
ASML
Lam Research
KLA



Semiconductor Manufacturers

Manufactures only (pure-play foundries)

TSMC
GlobalFoundries

Designs and manufactures (IDM)

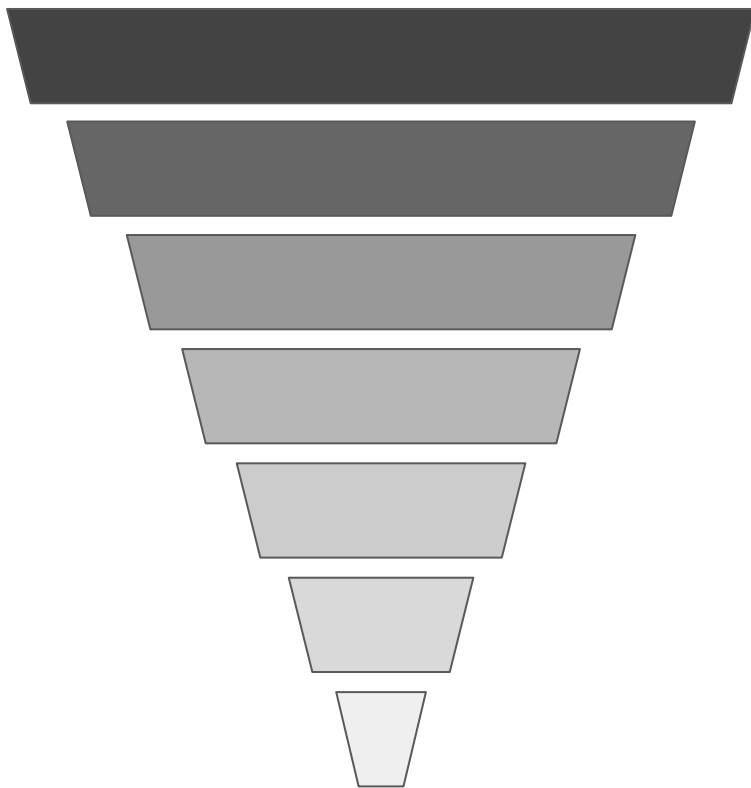
Intel
Samsung
Micron
Texas Instruments



Semiconductor Consumers

Drivers of semiconductor demand:

- computers
- electronic devices
- cloud computing and data centres
- wireless infrastructure
- vehicles
- industrial electronics



We start with over 1,500 investable companies worldwide

We then examine their financials to look for consistently high:

- Free cash flow (FCF) per share growth rate
- FCF return on capital
- FCF margin

We then examine their business and supply chain to look for:

- Pricing power
- Barriers to entry
- Operating leverage
- Monopolies / duopolies
- Diversified, recurring and resilient revenues

This reduces our investable universe to around 30-40 companies.

We invest in the best 10-20 investment opportunities (factoring in valuation) and then invest for the long-term.