# LONG EQUITY

# Investor
# Mental Models

## Long Equity Fund

## 2024

# Introduction to mental models

- 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.

# What drives 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.

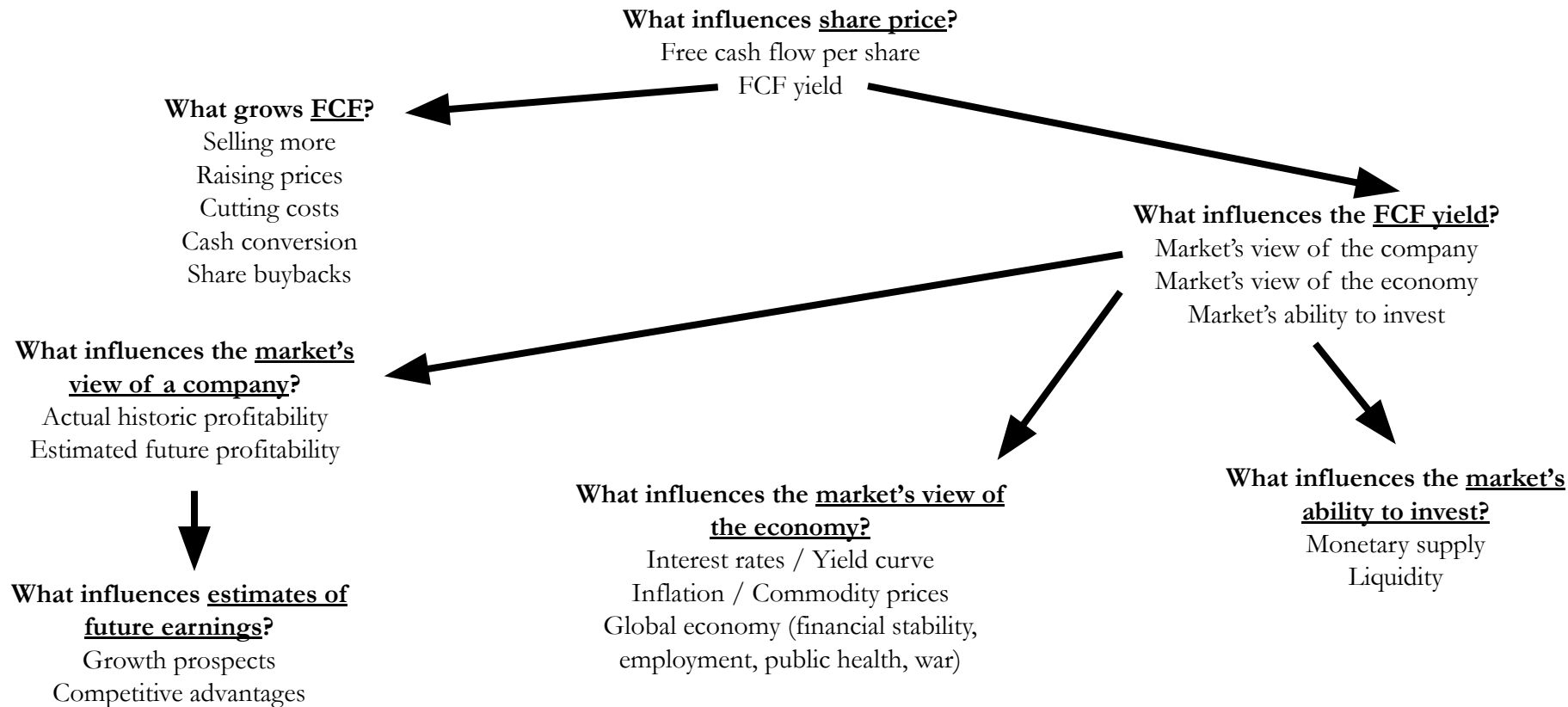| Fair Isaac (FICO) | Revenue | Gross Profit | Op. Profit | Net Income | FCF | FCF/Share | Share Price |
|---|---|---|---|---|---|---|---|
| **2013** | 743 | 514 | 165 | 90 | 112 | 3.09 | 52 |
| **2014** | 789 | 540 | 166 | 95 | 162 | 4.66 | 58 |
| **2015** | 839 | 568 | 156 | 87 | 122 | 3.73 | 82 |
| **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.

# What influences share price?

**What influences <u>share price</u>?**
Free cash flow per share
FCF yield

**What grows <u>FCF</u>?**
Selling more
Raising prices
Cutting costs
Cash conversion
Share buybacks

**What influences the <u>FCF yield</u>?**
Market's view of the company
Market's view of the economy
Market's ability to invest

**What influences the <u>market's view of a company</u>?**
Actual historic profitability
Estimated future profitability

**What influences the <u>market's view of the economy?</u>**
Interest rates / Yield curve
Inflation / Commodity prices
Global economy (financial stability, employment, public health, war)

**What influences the <u>market's ability to invest?</u>**
Monetary supply
Liquidity

**What influences <u>estimates of future earnings</u>?**
Growth prospects
Competitive advantages

# 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.

| Company A | | Company B | | Company C | |
|---|---|---|---|---|---|
| **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:

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

# 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 earnings and market capitalisation reveals four important investing ratios.

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

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

# 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 cyclicality, unleveraged** earnings

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

# Corporate finance's 3 principles

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.

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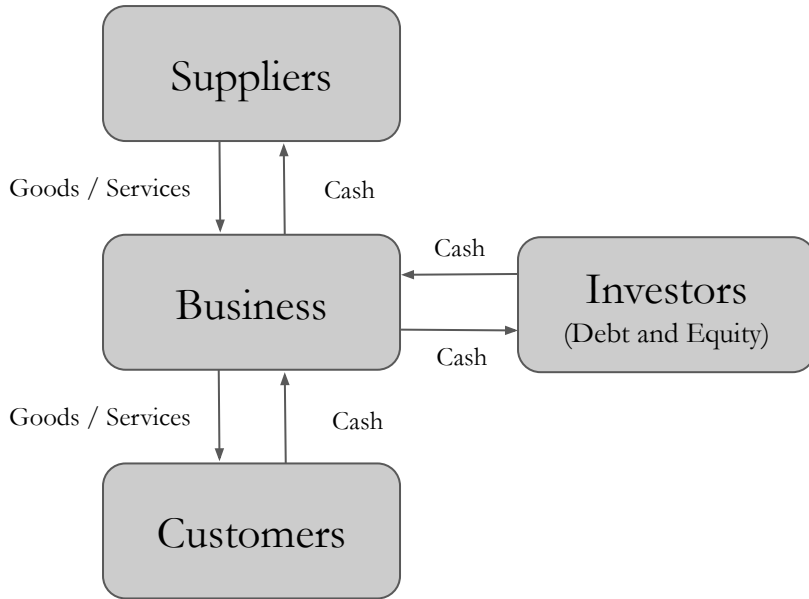
A company is best understood by its relationship with its investors and supply-chain (suppliers and customers).

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. <u>A ROC of 20% means that for every $100 of invested capital the business returns $20.</u>

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

# The Semiconductor Ecosystem

**Semiconductor Design Software**

*Provides software to designers*
Cadence
Synopsys

**Semiconductor Manufacturing Equipment**

*Provides equipment to manufacturers*
Applied Materials
ASML
Lam Research
KLA

**Semiconductor Designers**

*Designs only (fabless)*
AMD
NVIDIA
Broadcom
Qualcomm

**Semiconductor Manufacturers**

*Manufactures only (pure-play foundries)*
TSMC
GlobalFoundries
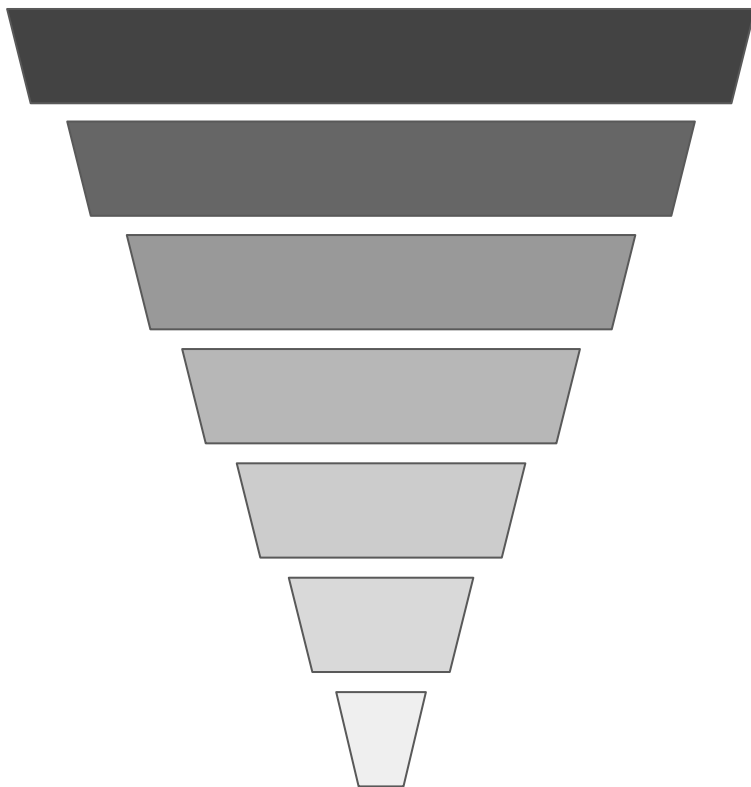
*Designs and manufactures (IDM)*
Intel
Samsung
Micron
Texas Instruments

**Semiconductor Consumers**

*Drivers of semiconductor demand:*
- computers
- electronic devices
- cloud computing and data centres
- wireless infrastructure
- vehicles
- industrial electronics

# What works in investing

**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.