



# A Useful Perspective on Performance:

## *Understanding ( $\alpha$ ) Alpha*

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# Are you looking at performance the right way?

- ▶ Excess Returns
- ▶ Risk Adjusted Returns
- ▶ Assessing Risk Adjusted Returns:
  - ▶ **Alpha**



# Excess Returns vs Alpha

- ▶ Excess Returns measure **difference** between portfolio and market returns.
- ▶ Alpha measures the excess return due to **NON-market** factors.
  - ▶ In other words, **Risk Adjusted Returns**.
- ▶ Why do we adjust for risk?...

# Excess Return Example

- ▶ Fund Manager at 1.2 Beta
- ▶ Market is up 10%
- ▶ Fund earns 12%
- ▶ Excess Return: 2% (12-10)



# Alpha: What is it?

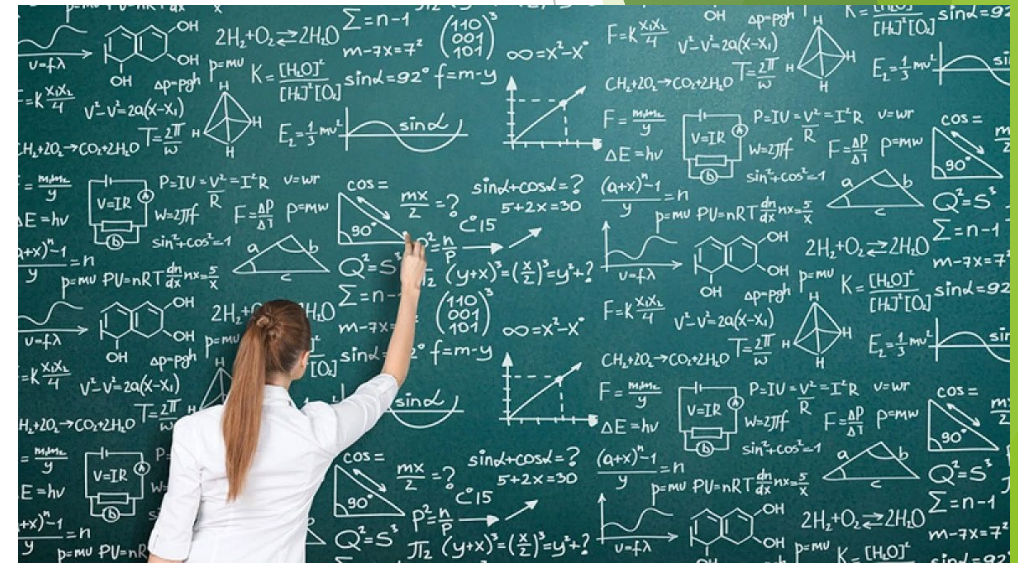
- ▶ Excess return adjusted for **risk taken**.
- ▶ Formula:  $R_p - R_f - \text{Beta}(R_m - R_f)$
- ▶ Don't memorize this ↑!
  - ▶ Just remember: Return relative to Beta.
  - ▶ But what is **Beta**?

# Beta – A risk measure...

- ▶ Beta measures **volatility** relative to the market.
- ▶ Beta: 1.0 – matches market
  - ▶ Market goes up 10%, expect 10% return
- ▶ Beta 1.2 – Market +/-10%, expect +/-12%
- ▶ Beta 0.8 – Market +/-10%, expect +/-8%

# Which fund performed better?

- ▶ Market return: 10%
- ▶ Fund A earns 12%
  - ▶ **Excess Return 12%-10% = 2%**
- ▶ Fund B earns 11%
  - ▶ **Excess Return 11%-10% = 1%**



# Which fund performed better?

- ▶ Market return: 10% >> both outperformed
- ▶ Fund A earns 12% **with a beta of 1.4**
  - ▶ Outperformed with more risk, lower  $\alpha^*$
- ▶ Fund B earns 11% **with a beta of 0.9**
  - ▶ Outperformed with less risk, higher  $\alpha^*$

*\*Assuming risk-free return of 3%, Fund A alpha = 0.6, Fund B alpha = 1.7*



# Why does Alpha matter?



- ▶ Returns are random.
- ▶ Excess returns are fleeting (especially 1-, 3-, and 5-year returns).
- ▶ Professional investors manage risk, not returns.

# Why does **Alpha** matter?

- ▶ Alpha measures Risk-Adjusted Returns.
- ▶ Professional investors manage risk.
- ▶ More reliable measure of investor skill.
  - ▶ In the short term.
- ▶ Long-term, good risk management can lead to good excess returns.

# Limitations of Alpha

- ▶ Can be misleading if risk is too low.
- ▶ Have to take enough risk to outperform
  - ▶ Market Return: 10%, Fund Return: 8%
  - ▶ Fund Beta: 0.6
  - ▶ Alpha is high, **but ability to earn excess return is low.**

# Limitations of Alpha

- ▶ Can be misleading if using wrong bench.
- ▶ Compare to appropriate benchmark
  - ▶ Value Index Return: 10%
  - ▶ Growth Fund Return: 12%
  - ▶ Growth Fund Beta: 1.1 >> Alpha 1.3\*
  - ▶ Alpha is high, **but benchmark is inappropriate.**

*\*Assuming risk-free return of 3%*

# How to use Alpha

- ▶ **1. Analyze investment manager skill.**
  - ▶ Helps filter out market noise.
- ▶ **2. Asset allocation decisions.**
  - ▶ Allocate more to higher alpha managers.
- ▶ **3. Measure fee-efficiency.**
  - ▶ Higher alpha can justify higher fees.

# Other Risk Metrics



# Other Risk Metrics



- ▶ Also: Upside capture, Downside capture, Min/Max drawdown, Treynor ratio, R-squared, etc...

# Summary

**HOMEWORK**

- ▶ Consider the **role of risk** in your performance analysis.
- ▶ Excess Returns are good...
  - ▶ But they don't tell the whole picture.
- ▶ Alpha can help you determine the **efficiency** of Excess Returns.