Coordinated Betting by Multi-Fund Managers
(Gelly Fu)

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Motivation

- Mutual funds larger share of the financial markets than ever before (Falato, Goldstein, Hortacsu 2020)
- Mutual funds have incentive to outperform to attract funds (Massa, Patgiri 2008)
- Mutual fund managers' compensation contracts reward outperformance but do not penalize underperformance (Ma, Tang, Gomez 2019)
- Do fund managers seek outperformance in a way that harms investors?

Summary of Main Results

Paper proposes new agency problem where managers manage 2 or more funds and maximize the probability that one fund outperforms

- To do this:
  1. Presents model where multi-fund manager maximizes her own consumption by selecting negatively correlated stocks across her funds
  2. Combines 3 data sources to study whether theory is borne out in the data

Main result: returns less correlated between two funds managed by same manager relative to other matched funds

Other results: These managers take more risk, trade more often, are more heavily weighted in volatile sectors such as finance and manufacturing rather than less volatile sectors such as telecom and energy

Robustness Tests and Consistent Outcomes

Robustness Tests

- SameStyle
- TeamSample
- Placebo - Managers similar but not identical
  - At least one manager the same and at least one unique to the 2 funds

Consistent Outcomes - funds that engage in negative correlation

- Strategically coordinate investments in different industries - opposite portfolio weights in more volatile industries (manufacturing and finance rather than telecom and energy)
- Take more positions skewed toward small cap in one fund and toward large cap in another fund
- Risk Taking
  - Have 0.31% higher volatility
  - Invest in more lottery like stocks

Main Comment: Result Depends on Matching

Matching methodology

- Identify funds managed by same manager - funds *i* and *j*
- Identify common stocks in both as $C_{i,j}$
- Identify unique stocks in j relative to i as $U_{i,j}$
- Match *j* to the universe of funds in same investment style and size quintile
  - Call each matched fund *M*
- Generate synthetic portfolio M^* using fund *j* and *M* holdings
  - M^* splices together $C_{i,j}$ and $U_{i,M}$
- Measure $corr(i, j)$ relative to $corr(i, M^*)$

Main Comment: Result Depends on Matching Cont'd

- M^* is synthetic portfolio composed of $C_{i,j}$ and $U_{i,M}$
- Result: $corr(i,j) < corr(i,M^*)$
  - $\Rightarrow$ **more discussion on the matching process and synthetic fund**

Result depends on matching process

- How similar are $C_{M,i}$ and $C_{j,i}$?
- Do they contain the same number of stocks, do they have the same average return?
  1. Yes: could validate swapping $C_{M,i}$ with $C_{j,i}$
  2. No: it may be that the interplay between $C_{M,i}$ and $U_{M,i}$ is important to track j
     $\Rightarrow$ swapping $C_{M,i}$ with $C_{j,i}$ could overstate M^*'s correlation with i and drive result that $corr(j,i) < corr(M^*,i)$

Simple Example

- Fund *i* has 3 stocks: Target, Walmart, Nike
- Fund *j* has 3 stocks: Target, Walmart, United
- Fund *M* has 3 stocks: Walmart, United, Delta
  - Fund *M* selected to be similar to *j*, overlap with *j* is Walmart, United
  - *M*'s overlap with *i* however is only Walmart
  - Methodology creates M^* by swapping *M*'s Walmart for *j*'s Target and Walmart
- Now depending on how the $U_{M^*,i}$ weighting works, it could matter how United and Delta are weighted in the synthetic portfolio
- Extreme example where $U_{j,i}$'s overlap with $U_{M,i}$ is weighted at 0
  - Only consider the new bet: Delta

Imagine the Following Stocks

Fund *i* Holdings	Fund *j* Holdings	Fund *M* Holdings
Target	*Target*	Delta
Walmart	*Walmart*	Walmart
Nike	*United*	United

Simple Example

Fund i Return	Fund j Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

$$\text{correlation} = 0.24$$

Simple Example

Fund i Return	Fund j Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= 0.24$

Fund i Return	Fund M Return
(Target) 2	(Delta) -2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= -0.72$

Simple Example

Fund i Return	Fund j Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= 0.24$

Fund i Return	Fund M Return
(Target) 2	(Delta) -2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= -0.72$

Fund i Return	Fund M^* Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(Delta) -2
	(United) -4

correlation $= 0.33$

Simple Example

Fund i Return	Fund j Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= 0.24$

Fund i Return	Fund M Return
(Target) 2	(Delta) -2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= -0.72$

Fund i Return	Fund M^* Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(Delta) -2
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correlation $= 0.33$

$$corr(j, i) = 0.24 \quad < \quad corr(M^*, i) = 0.33$$

Simple Example

Fund i Return	Fund j Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= 0.24$

Fund i Return	Fund M Return
(Target) 2	(Delta) -2
(Walmart) 4	(Walmart) 4
(Nike) 3	(United) -4

correlation $= -0.72$

Fund i Return	Fund M^* Return
(Target) 2	(Target) 2
(Walmart) 4	(Walmart) 4
(Nike) 3	(Delta) -2
	(United) -4

correlation $= 0.33$

$$corr(j,i) = 0.24 \quad < \quad corr(M^*,i) = 0.33$$

$$\textbf{But } corr(j,i) = 0.24 \quad > \quad corr(M,i) = -0.72 \rightarrow \textbf{Reverses the result}$$

Other Comments - Performance Analysis

Managers engaging in this strategy are 39% more likely to produce star funds

- Managing two or more is already signal that you are a better manager
  - Coordination is at the manager level. Worried about bias at the manager level - MBA, PhD, past performance at the manager (rather than fund) level

Conclusion

- Important question
- Interesting approach
- Additional analysis explaining matching process and creation of synthetic portfolio M^* would be valuable
- Additional controls for manager characteristics would be valuable