Asset Management

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- Individuals hold directly 47.9% of the market in 1980 and only 21.5% in 2007

Private Benefits of Asset Management

- ► Why do individuals prefer to pay professionals to invest their money?
  1. Ability to diversify, or to follow a particular strategy (for instance hedging labor income by being short technology if you work in technology)
     - However, nowadays, one does not need active management for it. One can just buy ETF with much cheaper fees
  2. Earn higher average returns
     - But do active investors really deliver higher returns compared to ETF?

- Does a strategy does better than the market?
- The usual way to answer this equation is to regress excess return of this strategy on excess return of the market, i.e.

$$R_t - R_{ft} = \alpha + \beta_M(R_{Mt} - R_{ft}) + \epsilon_t$$

where R_t denotes the return of the strategy, R_{ft} denotes the risk free rate and R_{Mt} denotes the market portfolio.

β_M is called the loading of the strategy to the market

- A test of $\alpha \neq 0$ is a test of whether this strategy does better than the market.

Why? If you buy a portfolio composed of β_M weight in market, and $1 - \beta_M$ in risk free asset, the return of this portfolio is

$$\tilde{R}_t = \beta_M R_{Mt} + (1 - \beta_M)R_{ft} = R_{ft} + \beta_M(R_{Mt} - R_{ft})$$

Therefore, the difference in average return between R_t and $\tilde{R}_t$ is

$$E[R_t - \tilde{R}_t] = \alpha$$

- CAPM theory is the theory that α should be zero.
    - What is the economic intuition between CAPM? If investors can diversify, the only risk that should matter for an investor is the risk that they cannot diversify, i.e. market portfolio
- However CAPM does not hold in the data. Two famous examples:
    1. Returns of firms with small market capitalization earn α
    2. Return of firms with high book equity to market equity earn α
- We do not really understand why.
    1. Returns of firms with small market capitalization earn α: maybe stocks of firms with small market capitalization have lower liquidity so investors require higher return to hold them?
    2. Return of firms with high book equity to market equity earn α: maybe firms with low book to market equity are overpriced because people are systematically too optimistic about these new firms?

- Fama French defined 3 factor models, i.e

$$R_t - R_{ft} = \alpha + \beta_M(R_t^M - R_t^f) + \beta_{SMB}(R_{SMB,t} - R_t^f) + \beta_{HML}(R_{HML,t} - R_{f,t}) + \epsilon_t$$

  where $R_{SMB,t}$ is the return of a portfolio long small firms and short big firms, and $R_{HML,t}$ is the return of a portfolio long high book to market firms and short low book to market firms

- By construction, in this factor model, stocks of firms with small market capitalization or high book equity to market equity no longer have α

- It turns out that this 3 factor model works pretty well for all other stocks, i.e. it is hard to find stocks/portfolios with positive α

Next question: do active investors have α compared to this 3 factor model?

- Mutual funds grew assets under management from $134 billion in 1980 to over $12 trillion in 2007.
- Fees on equity mutual funds dropped steadily during this period, from over 2 percent of assets to approximately 1 percent of assets
- Overall, asset management share of GDP went from 1% in 1997 to 2.5% in 2007 (0.67% as a proportion of equity market)

- Fama and French (2010) show that mutual funds under perform passive benchmarks, even before taking out fee

Two important stylized facts on mutual funds

1. Relative performance of mutual funds unpredictable from past relative performances
2. Still, investors give money to mutual funds that perform well in previous years

Two alternative explanations for these two stylized facts

1. Behavioral: superior performance is due to luck rather than differential ability but households don't understand it

2. Rational: There are decreasing returns to scale to a strategy: the more money goes into a given strategy, the lower its returns. If some fund finds a great strategy, then all the money flows to it, until returns are equalized across all mutual funds

Model of Rational explanation (Berk&Green)

- ▶ Investors have access to external technology with a return of $\overline{R}$. They are ready to supply an infinite amount of capital to investments that offer returns $R > \overline{R}$

- ▶ Suppose a fund has strategy with return R_i (high R_i means high ability fund). Assume that the payoff of investors allocating q to the fund is

$$R_i q - C(q)$$

where R_i is the return of investor and $C(q)$ is the supplementary cost per unit invested. The function C models the decreasing returns to scale

- ▶ Investors allocate capital to a fund until the return of each fund equals the benchmark return $\overline{R}$, i.e. they decide to invest q^* such that

$$R_i q^* - C(q^*) = \overline{R} q^*$$

- Hedge fund fees have high fees
- Overall, the average annual hedge fund fee for 1996-2007 is a hefty 4.26% of assets
- Hedge fund fees often have two components. A fee of "2 and 20," for example, means that investors pay an annual management fee of 2% of the assets in the fund plus a performance fee of 20% of profits

- Traditional risk factor models indicate that hedge funds capture pre-fee alphas of 6% to 10% per annum over the period from 1996 to 2012.
- The realized pre-fee Sharpe ratios on alternatives are almost four times higher than that of the S&P 500 index.

Asset	Mean	Vol.	Skew	Kurt.	JB	p_{JB}	SR	CAPM		AR(1)	
								$\hat{\alpha}$	$\hat{\beta}$	Coeff	t-stat
HFRI	9.3%	7.9%	-0.46	4.86	35.6	0.00	1.18	7.3%	0.37	0.25	3.65
DJCS	9.6%	8.0%	-0.08	5.47	50.7	0.00	1.20	8.0%	0.29	0.16	2.26
HFRI (after-fee)	5.5%	7.4%	-0.64	5.27	56.2	0.00	0.74	3.6%	0.35	0.26	3.73
DJCS (after-fee)	5.8%	7.5%	-0.30	5.68	62.1	0.00	0.78	4.4%	0.27	0.17	2.44

Figure 1: HFRI and DJCS are two indexes of Hedge Funds returns

- ▶ Mean returns of hedge funds are higher than that of the stock market index, while incurring lower volatility.
- ▶ Returns to hedge fund indices exhibit significant unconditional autocorrelation at the monthly horizon reflecting the effects of stale prices and return smoothing
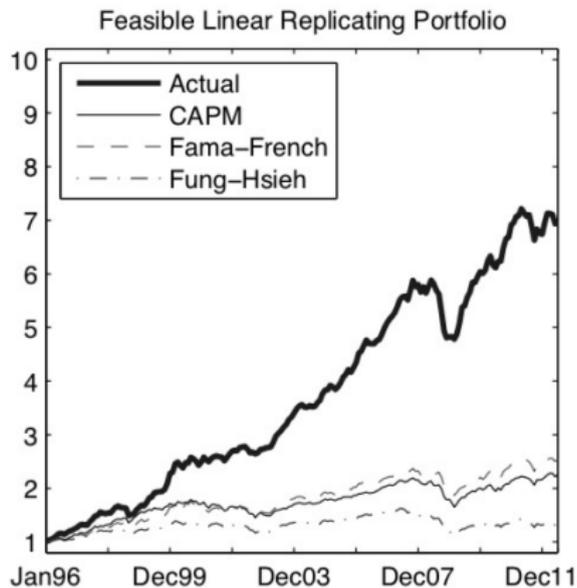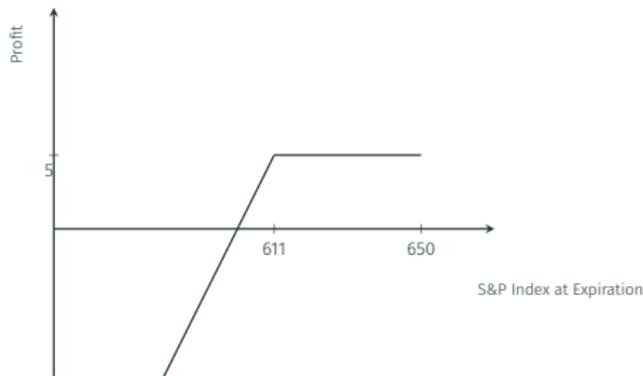
Figure 2: Comparison with βRMRF

Figure 3: Profit of put option with premium $5, strike $30

- ▶ Let us examine return of the strategy of writing options that are about 6% out of the money and one month maturity
- ▶ For instance, if S&P 500 index is 650, write put with strike price, $K = 611$ for a premium of 5$
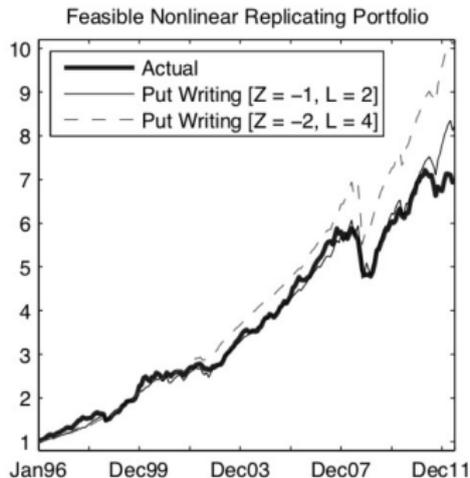- ▶ This strategy is very exposed to downside risk

Figure 4: Comparison with $\beta_{\text{Put Writing}}$

▶ simple put-writing portfolios that explicitly bear downside market risks appear to track the economically important time series variation well, and also explain the mean return,

Social Benefits of Asset Management

- The no-net-transfer assumption guarantees that, in aggregate, the search for trading gains is doomed. Before considering costs, a trading gain for one active investor must be a loss for another
- This does not mean, however, that the cost of active investing is a pure loss to society. In aggregate, active investors almost certainly improve the accuracy of financial prices.
- "pursuit" of high returns generates information production

- ▶ Higher participation. There is evidence that professional asset management has indeed increased household participation. During the 1980-2007 period of growth in asset management, the share of household financial assets held in marketable securities or mutual funds grew from 45 percent to 66 percent
- ▶ Therefore, asset management may increase participation and therefore the total demand for equity, and therefore decreases the cost of capital for firms

- ► Hedge funds often pressure the boards of public companies to change corporate policies. Current research is still unsure on whether this increases productivity of firms
- ► Mutual funds exerce a more subtle influence. However, danger of common ownership. BlackRock is also the largest shareholder of 33 of the FTSE 100 companies, and among the top-5 shareholders of 89 of them. For those large investors, fierce competition within the industry might not seem so appealing

Panel A: Technology Firms

Apple	[%]		Microsoft	[%]
Vanguard	6.02		Vanguard	6.31
BlackRock	5.77		BlackRock	5.81
State Street	3.94		- Bill Gates -	5.14
Fidelity	2.52		Capital Group	4.87
Northern Trust Corporation	1.28		- Steve Ballmer -	4.24
			State Street	3.91
			T. Rowe Price	2.13

Panel B: Pharmacy / Drug Stores

CVS	[%]	Walgreens Boots Alliance	[%]	Rite Aid	[%]
Vanguard	6.7	-Stefano Pessina-	12.9	Vanguard	7.0
BlackRock	6.1	Vanguard	5.4	BlackRock	4.0
State Street	4.1	KKR	4.7	Franklin Resources	2.9
Fidelity	4.1	BlackRock	4.1	T. Rowe Price	2.0
Wellington	2.8	State Street	3.3	State Street	1.7
		Wellington	2.4		

Panel C: U.S. Banks

JP Morgan Chase	[%]	Bank of America	[%]	Citigroup	[%]
BlackRock	6.4	Berkshire Hathaway*	6.9	BlackRock	6.1
Vanguard	4.7	BlackRock	5.3	Vanguard	4.4
State Street	4.5	Vanguard	4.5	State Street	4.2
Fidelity	2.7	State Street	4.3	Fidelity	3.6
Wellington	2.5	Fidelity	2.1	Capital World Investors	2.4

Wells Fargo	[%]	U.S. Bank	[%]	PNC Bank	[%]
Berkshire Hathaway	8.8	BlackRock	7.4	Wellington	8.0
BlackRock	5.4	Vanguard	4.5	BlackRock	6.7
Vanguard	4.5	Fidelity	4.4	Vanguard	4.6
State Street	4.0	State Street	4.4	State Street	4.6
Fidelity	3.5	Berkshire Hathaway	4.3	Barrow Hanley	4.0

Delta Air Lines	[%]	*Southwest Airlines Co.*	[%]	*American Airlines*	[%]
Berkshire Hathaway	8.25	PRIMECAP	11.78	T. Rowe Price	13.99
BlackRock	6.84	Berkshire Hathaway	7.02	PRIMECAP	8.97
Vanguard	6.31	Vanguard	6.21	Berkshire Hathaway	7.75
State Street Global Advisors	4.28	BlackRock	5.96	Vanguard	6.02
J.P. Morgan Asset Mgt.	3.79	Fidelity	5.53	BlackRock	5.82
Lansdowne Partners Limited	3.60	State Street Global Advisors	3.76	State Street Global Advisors	3.71
PRIMECAP	2.85	J.P. Morgan Asset Mgt.	1.31	Fidelity	3.30
AllianceBernstein L.P.	1.67	T. Rowe Price	1.26	Putnam	1.18
Fidelity	1.54	BNY Mellon Asset Mgt.	1.22	Morgan Stanley	1.17
PAR Capital Mgt.	1.52	Egerton Capital (UK) LLP	1.10	Northern Trust Global Inv	1.02

United Continental Holdings	[%]	*Alaska Air*	[%]	*JetBlue Airways*	[%]
Berkshire Hathaway	9.20	T. Rowe Price	10.14	Vanguard	7.96
BlackRock	7.11	Vanguard	9.73	Fidelity	7.58
Vanguard	6.88	BlackRock	5.60	BlackRock	7.33
PRIMECAP	6.27	PRIMECAP	4.95	PRIMECAP	5.91
PAR Capital Mgt.	5.18	PAR Capital Mgt.	3.65	Goldman Sachs Asset Mgt.	2.94
State Street Global Advisors	3.45	State Street Global Advisors	3.52	Dimensional Fund Advisors	2.42
J.P. Morgan Asset Mgt.	3.35	Franklin Resources	2.59	State Street Global Advisors	2.40
Altimeter Capital Mgt.	3.26	BNY Mellon Asset Mgt.	2.34	Wellington	2.07
T. Rowe Price	2.25	Citadel	1.98	Donald Smith Co.	1.80
AQR Capital Management	2.15	Renaissance Techn.	1.93	BarrowHanley	1.52

Spirit Airlines	[%]	*Allegiant Travel Company*	[%]	*Hawaiian*	[%]
Fidelity	10.70	Gallagher Jr., M. J. (Chairman, CEO)	20.30	BlackRock	11.20
Vanguard	7.41	BlackRock	8.61	Vanguard	10.97
Wellington	5.44	Renaissance Techn.	7.28	Aronson, Johnson, Ortiz, LP	5.99
Wasatch Advisors Inc.	4.33	Vanguard	6.65	Renaissance Techn.	4.67
BlackRock	3.77	Fidelity	5.25	Dimensional Fund Advisors	3.17
Jennison Associates	3.49	Franklin Resources	4.52	State Street Global Advisors	2.43
Wells Capital Mgt.	3.33	Wasatch Advisors Inc.	4.39	PanAgora Asset Mgt.	2.22
Franklin Resources	2.79	T. Rowe Price	4.23	LSV Asset Management	2.22
OppenheimerFunds.	2.67	TimesSquare Capital Mgt.	3.91	BNY Mellon Asset Mgt.	1.84
Capital Research and Mgt.	2.64	Neuberger Berman	3.07	Numeric Investors	1.79

▶ Changes in common ownership concentration over time in a given route are associated with changes in ticket prices in the same route: 3% higher on the average US airline route compared to separate ownership.

▶ Changes in passenger volume are negatively related to changes in common ownership, indicating that the price effects are not driven by increased demand that institutional shareholders correctly foresee (a reverse-causality argument)

This is a hotly debated topic

- Meetings, board seats "Chen (2016) reports that amid rising political pressure to reduce drug prices, the mutual fund companies Fidelity, T. Rowe Price, and Wellington invited several pharma managers to a Boston hotel and encouraged them to "defend their pricing.""
- Incentives
  - Actively managed funds can threaten management with selling the stock in case man-agement does not adhere to their desired product market strategy, which may explicitly feature not entering competitors' markets.
  - Passively managed fund tend to vote for less incentives to relative performand than other investors.A lack of relative performance incentives gives managers reduced incentives to compete.
- Votes. Shareholders do not directly vote on competitive strategies but they do vote on director candidates. However, they do vote on director candidates. head of corporate governance at State Street Global Advisors believes "The option of exercising our substantial voting rights in opposition to management provides us with sufficient leverage and ensures our views and client interests are given due consideration"