

Uncovering Hedge Fund Skill from the Portfolio Holdings They Hide

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Institutional Background: 13F Confidential Treatment

- ◆ Form 13F: Quarterly holdings disclosure by 13F institutions.
- ◆ An exception to the 13(f) rule allows for confidential treatment of certain holdings through amendments to the Form 13F—the *confidential holdings* in this study.
 - Delay the disclosure up to one year or even longer.
 - Require sufficient written factual support on a position-by position basis: ongoing acquisition or disposition, open risk arbitrage.
- ◆ Confidential holdings have not been systematically studied.
 - Not included in the standard databases (such as Thomson Reuters).

Confidential holdings are not covered in Standard 13F Database

- ◆ Over 90% of the confidential holdings are not covered by the Thomson Reuters (CDA/Spectrum).
- ◆ Example - Stark Onshore Management LLC: 54 of 55 confidential holdings are not included in Thomson.

Issuer Name	CUSIP	Shares	Portfolio Date	Filing Date	Thomson Reuters
Anthem Inc	94973V10	67,360	9/30/2004	2/14/2005	No
Cox Communications Inc	22404410	269,964	9/30/2004	2/14/2005	No
Metro-Goldwyn-Mayer Inc	59161010	60,000	9/30/2004	2/14/2005	No
Sears Holdings	81238710	390,800	12/31/2004	5/13/2005	No
Symantec Corp	87150310	161,650	12/31/2004	8/16/2005	No
Gold Fields Ltd	38059T10	73,277	3/31/2005	8/16/2005	No
MCI Communications Corp	55269110	2,103,850	3/31/2005	2/15/2006	No
Sungard Data Systems	86736310	1,557,250	3/31/2005	9/27/2005	No
Symantec Corp	87150310	161,650	3/31/2005	8/16/2005	No
Unocal Corp	91528910	393,650	3/31/2005	9/27/2005	No
At&T Corp	00195750	6,250	6/30/2005	2/15/2006	No

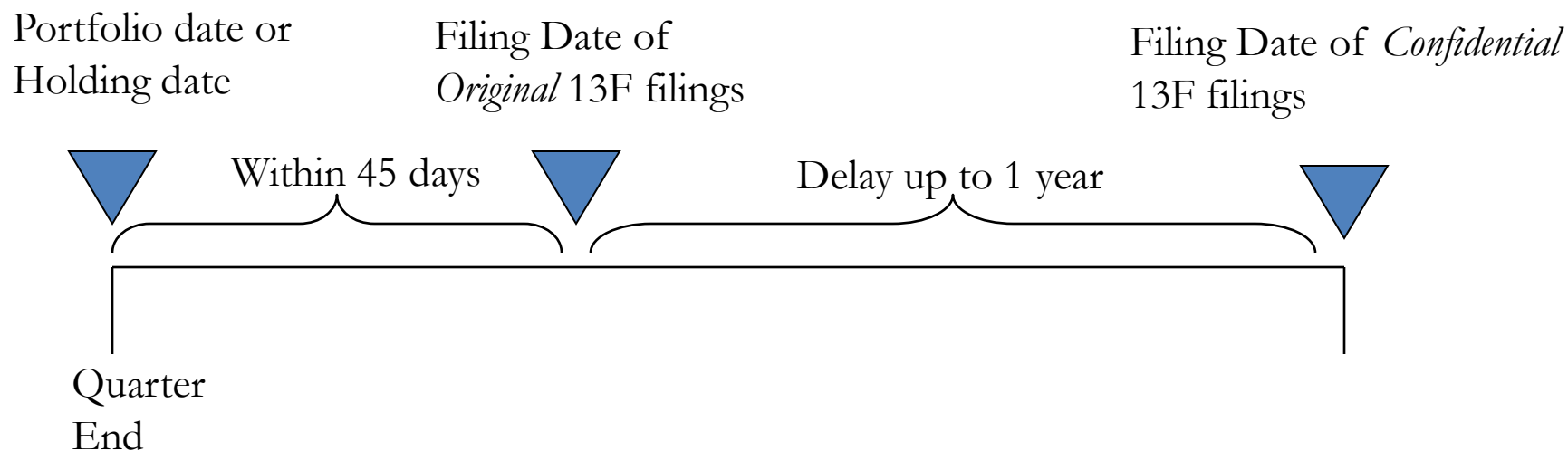


Motivation



- ◆ Phillip Goldstein vs. SEC in 2007:
 - “Stock holdings are ‘trade secrets’ much like the protected formula used to make Coke.”
 - “Complying with the 13F rule constitute[s] a ‘taking’ of [the fund’s] property without just compensation in violation of the Fifth Amendment to the Constitution.”
- ◆ The billion dollar misunderstanding: “Confusion” about Warren Buffett’s 8% holdings in Wells Fargo in 1997Q2 caused the stock to drop 5.8% in one hour.
- ◆ “The blank 13F:” D.E. Shaw sought confidentiality for its entire portfolio by filing a blank 13F form in 2007Q2, denied by the SEC.

Timeline of original and confidential 13F filings



- ◆ If approved, confidential holdings are disclosed when the confidential treatment expires.
- ◆ If denied, amendments need to be filed within six business days from denial.
- ◆ Overall denial rate: 17%.



Motives behind seeking confidentiality



◆ Private information

- Delayed disclosure preserve incentives to collect and process information (Grossman and Stiglitz (1980))

◆ Price impact

- Can be related to information
 - Informed trading should incur higher price impact (Glosten and Milgrom (1985) and Kyle (1985))
 - Front-running or free-riding activities reduce returns to the managers (Wermers (2001), Frank, Poterba, Shackelford, Shoven (2004), Verbeek and Wang (2010))
- Can be unrelated to information
 - Distressed sellers are vulnerable to predatory trading (Brunnermeier and Pedersen (2005))



Motives behind seeking confidentiality (contd.)



◆ Window dressing

- Hiding loser stocks from investors (Lakonishok, Shleifer, Thaler, and Vishny (1991))
- Hiding volatile or risky positions (Musto (1999))

◆ Portfolio blurring

- Hiding part of the portfolio to make it difficult for others to reverse engineer the trading strategies

◆ Manipulation

- Benefit from temporary market reaction and eventual price reversion by placing side trades using derivatives
- Illegal and harder to detect



Theoretical Underpinnings



◆ Impact of mandatory disclosure on informed trading

- Fishman and Hagerty (1995), John and Narayanan (1997), Huddart, Hughes, and Brunnermeier (1999), Huddart, Hughes, and Levine (2001), and George and Hwang (2007)
- Most relevant is Huddart, Hughes, and Levine (2001)
- Intuition: Dissimulation (i.e., adding noise) to avoid full retrieval of private information is costly and results in loss of profits under mandatory disclosure; confidentiality provides relief to minimize this loss

◆ Predatory trading

- Brunnermeier and Pedersen (2005), Attari, Mello, and Ruckes (2005), Carlin, Lobo, and Viswanathan (2007), and Pritsker (2009)



What do we study?



- ◆ The prevalence and distribution of confidential holdings
- ◆ Incentives for confidential filings
 - Institutional characteristics
 - Stock characteristics
- ◆ The abnormal returns of confidential holdings
- ◆ The approval and denial of confidential filings



Main data input: Original and amendment 13F filings from EDGAR



- ◆ **Sample Period: March 1999 - June 2007**
 - Availability of electronic files (coincides with the SEC tightening the conditions for confidential treatment)

- ◆ **We processed the complete holdings information for 91% of all the 13F filings:**
 - 3,134 (232) original (amendment) 13F-filing institutions

- ◆ **Two types of amendments to 13F filings:**
 - Restatements: correcting a previously filed position (Not included in our sample)
 - Amendments: disclosure of new holdings not contained in the original filings



Definition of Confidential Holdings

- ◆ We define a Confidential Holding as one that was excluded from the original filings or the disclosed increase compared to the originally filed position
 - 52,272 original filings
 - 1,554 confidential filings

Who are the top filers and most denied institutions?



Top filers	# Conf. Filings	% Rejected	Most denied	# Conf. Filings	% Rejected
Chesapeake Partners Management Co.	112	6.3%	Berkshire Hathaway Inc	65	72.3%
UBS Oconnor, L.L.C.	79	1.3%	D. E. Shaw & Co., Inc.	17	100.0%
T. Rowe Price Assoc Inc	70	5.7%	Relational Investors, L.L.C.	24	62.5%
Berkshire Hathaway Inc	65	72.3%	HBK Investments, L.P.	48	27.1%
Satellite Asset Management	64	9.4%	Staro Asset Management, LLC.	25	52.0%
Lehman Brothers Inc.	49	0.0%	SAB Capital Advisors, L.L.C.	26	46.2%
HBK Investments, L.P.	48	27.1%	Atlantic Investment Co	12	91.7%
Polygon Investment Partners	40	0.0%	RBS Partners, L.P.	31	29.0%
M.H. Davidson & Company	39	0.0%	Caxton Corporation	9	100.0%
Stark Offshore Management, LLC	38	2.6%	Two Sigma Investments, LLC.	10	80.0%
% of total confidential filings by top 10	39%	29%	% of total rejections by top 10	17%	57%

Delay Period between Portfolio Date and Filing Date

<u>Original 13F Form Filings</u>									Total
Duration (in days)	0-30	31-45	46-60	61-180	>180				
Number	12,332	33,645	5,424	1,190	705				53,296
Percent	23.14%	63.13%	10.18%	2.23%	1.32%				
<u>Confidential 13F Form Filings: Overall</u>									
Duration (in days)	0-30	31-45	46-60	61-180	181-410	411-775	776-1505	> 1,505	
Number	34	105	123	485	703	277	103	27	1,857
Percent	1.83%	5.65%	6.62%	26.12%	37.86%	14.92%	5.55%	1.45%	

Over 86% of original filings are filed within 45 days

Over 92% of confidential filings are filed more than 45 days

- > Exclude confidential filings with less than 46 days or more than 1505 days delay and original filings with more than 180 days delay.



Classification of Institution Types

- ◆ We manually reclassify the type 5 institutions in Thomson Reuters.
- ◆ We manually classify hedge funds by identifying all 13F-filing institutions that have major hedge fund management business.
- ◆ Institution types:
 - Hedge funds
 - Manual classification
 - Banks and insurance companies
 - Type 1 and type 2 institutions in Thomson Reuters
 - Reclassified type 1 and 2 institutions from type 5
 - Investment companies and investment advisors
 - Type 3 and 4 institutions in Thomson Reuters, excluding hedge funds
 - Reclassified type 3 and 4 institutions from type 5
 - Others
 - What remain; less than 5%

Summary Statistics of Original and Confidential Holdings by Institution Types



	Hedge Fund	Invest. Comp./Adv.	Bank & Insurance	Total
<i>Original 13F Form Filings</i>				
# of institutions	942	1,842	350	3,134
# of filings	14,002	31,963	6,307	52,272
\$ million (Mean)	1,313.2	3,366.3	6,755.6	3,225.5
\$ million (Median)	270.0	268.3	486.0	286.9
# of stocks (Mean)	138.3	219.3	539.5	235.9
# of stocks (Median)	63.0	92.0	220.0	90.0
<i>Confidential 13F Form Filings</i>				
# of institutions	106	103	23	232
# of filings	870	627	57	1,554
% of total portfolio value (Mean)	33.8%	20.6%	11.4%	27.3%
% of total portfolio value (Median)	23.7%	5.3%	0.2%	13.4%
% of total # stocks (Mean)	22.8%	13.2%	9.4%	18.3%
% of total # stocks (Median)	12.0%	3.2%	0.3%	6.7%



Hedge funds: the ideal subjects to study confidential treatment

◆ Focus only on hedge funds

- Heaviest users of confidential treatment
- Most active and aggressive group of institutional investors
- Most skillful in collecting and processing information

◆ Hedge fund skill measurement

- Return autocorrelation due to illiquid assets and return smoothing
- Look at long equity positions
 - Challenges in adjusting for different risks while using overall returns
- Mandatory reported holdings
 - Commercial hedge fund databases provide self-reported data.

Which types of hedge funds seek confidential treatment?

Variable	Dependent: Confidential filing or not?		Dependent: Percentage of confidential holdings	
	Probit	Marginal Effect	Tobit	Marginal Effect
Log Portfolio Size	0.198***	1.34%	0.131***	0.44%
Portfolio Concentration	2.912***	19.72%	2.396***	8.12%
Turnover	1.861***	12.60%	1.589***	5.38%
Portfolio Return	-0.163	-1.10%	0.032	0.11%
Flow	0.194***	1.31%	0.168***	0.57%
Portfolio Volatility	-1.402	-9.50%	-0.802	-2.72%
Idiosyncratic Volatility	6.696**	45.35%	5.123*	17.35%
Observations	12,845		12,845	
Pseudo R-squared	0.109		0.113	
Unconditional Mean	3.39%		1.21%	



Which types of hedge funds seek confidential treatment?



- ◆ Large portfolio size
- ◆ High portfolio concentration
- ◆ High idiosyncratic volatility
- ◆ High portfolio turnover



Results overall consistent with private information and active management

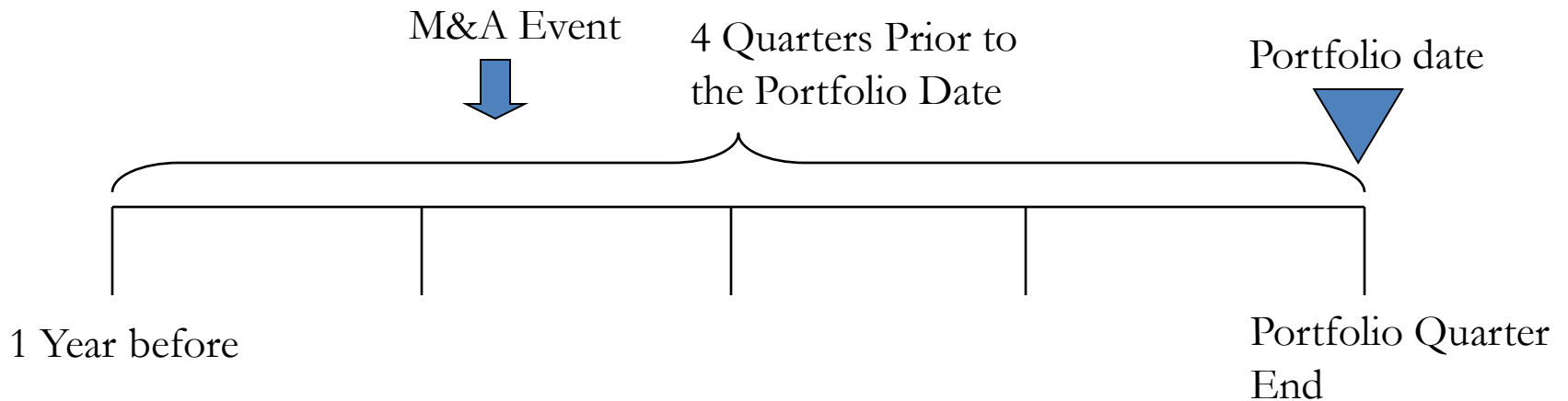


Which stocks become confidential holdings?



- ◆ Are they stocks associated with greater information asymmetry?
- ◆ Are they more likely to be related to information sensitive transactions such as M&As?
- ◆ Are these stocks past “losers”?

Timeline for M&A Involved Holdings



What types of stocks become conf. holdings?

DV: Stock in Confidential holding?	(1)	(2)	(3)	(4)	(5)	Marg. Effect
M&A	0.932***	0.951***	0.956***	0.938***	0.945***	1.95%
Log(Size)	-0.148***				-0.251***	-0.52%
Illiquidity		-0.296***			-2.044***	-4.22%
Analysts			-0.110***		-0.020**	-0.04%
Idiosyncratic Volatility				0.833***	0.195***	0.40%
DTD < 1.64	0.016	0.217***	0.156***	-0.074***	-0.007	-0.01%
B/M	-0.185***	0.083***	-0.024	-0.010	-0.114***	-0.24%
Adj. Past Ret.	0.026**	0.051***	0.007	-0.001	0.126***	0.26%
Industry & Qtr Dum.	Yes	Yes	Yes	Yes	Yes	
Observations	1,761,104	1,755,335	1,758,763	1,758,672	1,755,335	
Unconditional Mean	2.16%	2.16%	2.16%	2.16%	2.16%	
Pseudo Rsquared	0.104	0.0976	0.0987	0.0991	0.110	



Which stocks become confidential holdings?

◆ Stocks in the confidential holdings:

- M&A arbitrage
- Small market cap
- Low analyst coverage
- Higher idiosyncratic volatility
- Low B/M ratio
- High past returns

 **Consistent with potential private information and price impact motive for confidential filings but not performance-based window dressing**

How to measure abnormal performance?

- ◆ Four-factor alpha (Carhart (1997))
 - Return-based measure
 - Captures both stock picking and market timing ability

- ◆ DGTW (1997) benchmark-adjusted return
 - Holding based measure
 - Captures stock selection ability
 - Stock Return – Return on a benchmark portfolio consisting of stocks with same characteristics (size, book-to-market, and momentum)



Compare the returns of original and confidential holdings

- ◆ Compare the abnormal returns between portfolios of original and confidential holdings
 - Measure the abnormal returns over the confidential period
- ◆ Evaluation horizons ranging from 2 months up to 12 months
 - Start with 2 months since 45 days are granted to all institutions
 - Look at long-term performance to distinguish private information from price impact hypothesis

Four-Factor Alpha: Confidential holdings outperform original holdings

Four-Factor Alpha (Value-Weighted)	Return Horizons						
	2m	3m	4m	5m	6m	9m	12m
Confidential Holdings (in bp)	5.39	5.04	4.36	3.74	4.32	3.70	4.50
Original Holdings (in bp)	2.82	2.72	2.77	2.54	2.45	2.38	2.44
Diff: Conf. – Orig. (in bp)	2.57***	2.31**	1.59**	1.21	1.88***	1.31*	2.05***
Annualized Diff.	6.5%***	5.8%**	4.0%**	3.0%	4.7%***	3.3%*	5.2%***
t-Stat.	3.02	2.22	2.05	1.04	2.68	1.72	3.11

DGTW-adjusted Returns: Confidential holdings outperform original holdings

DGTW-Adjusted Returns (Value-Weighted)	Return Horizons						
	2m	3m	4m	5m	6m	9m	12m
Confidential Holdings	5.48%	1.97%	0.89%	3.86%	2.64%	4.86%	8.08%
Original Holdings	0.22%	0.26%	0.15%	0.19%	0.17%	0.29%	0.57%
Diff: Conf. – Orig.	5.3%***	1.7%**	0.7%	3.7%**	2.5%**	4.6%***	7.5%***
Annualized Diff.	31.6%***	6.8%**	2.2%	8.8%**	4.9%**	6.1%***	7.5%***
t-Stat.	6.78	2.39	0.93	2.56	2.46	2.83	4.27

Trading during the confidential periods



Variable	Initial Position	Total Trade Volume	Max – Initial	Total Trade Volume	Max - Initial	Time to Max
		% of shares outstanding		Multiple of Initial Position		Quarters
Mean (Confidential)	0.30%	0.96%	0.25%	14.77	6.55	2.58
Mean (Original)	0.28%	0.34%	0.09%	5.55	3.03	0.93
Difference in Means (t-stat)	0.02% (0.21)	0.62%*** (3.77)	0.16%*** (3.03)	9.22*** (2.45)	3.52* (1.77)	1.66*** (2.95)

Hedge funds trade more in confidential holdings compared to original holdings

And

Hedge funds take much longer to accumulate to the maximum position in confidential holdings compared to original



Approval and Denial of Conf. Filings



- ◆ What are the costs of seeking confidentiality?
 - Confidential treatment is meant to be an exception

- ◆ What are the criteria of SEC's approval/denial decisions?
 - Past history of filings
 - Number of stocks and position size of confidential holdings
 - Institutional characteristics

Determinants of Denial and Approval of Conf. Filings

Variables	Probit: Dep. Var. =1 if Conf. Filing is Denied				
	(1)	(2)	(3)	(4)	(5)
Log(# Past CF)	-0.085	-0.133	-0.115	-0.068	-0.060
% Past Denied	3.158***	3.201***	3.187***	3.109***	3.677***
% Conf. Stocks	0.513**			1.405***	1.062***
Avg. Conf. Position		12.482***		14.929***	10.082***
Log(PortSize)					-0.144**
Turnover					-1.279*
Other Inst. Characteristics					Yes
Observations	713	713	713	713	629
Unconditional Mean	22%	22%	22%	22%	19.4%
Pseudo R-squared	0.413	0.408	0.417	0.432	0.481

Market Reactions to Quick Denials of Conf. Filings

Windows	Quickly-Denied Conf. Filings			Accepted Conf. Filings		
	Num	Mean CAR	% Positive	Num	Mean CAR	% Positive
(-1, +1)	66	0.54%**	63.64%**	197	0.39%	52.28%
(-3, +3)	66	0.97%***	63.64%**	197	0.30%	53.81%
(-5, +5)	66	1.19%**	62.12%***	197	0.52%	52.79%



◆ Hedge Fund Skill in Confidential Holdings

- Hedge funds are the heaviest users of confidential treatment
- Fund and stock characteristics for confidential holdings consistent with private information incentive
- Superior performance of confidential holdings of hedge funds over the confidential period up to 12 months
- Upon receiving quick denials, price reactions to confidential holdings are significantly positive
- Hiding private information seem to be the dominant motivation for hedge funds to seek confidentiality



Summary (contd.)



- ◆ Inform the debate on the optimal level of ownership disclosure
 - Confidential treatment provides relief for institutions to protect private information and relieve price impact concerns
 - The SEC approval/denial mechanism makes it costly to abuse of confidential treatment

- ◆ Potential biases in using Thomson Reuters data
 - Could be significant in analyzing position changes of individual institutions or in response to specific events