



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

## **Hedge Fund Investment Due Diligence Report**

**PFM Diversified Fund, L.P.**

**PFM Diversified Fund A.I., L.P.**

**PFM Diversified Offshore Fund, Ltd.**

**PFM Diversified Offshore Institutional Fund, Ltd.**

**PFM Diversified Offshore Fund A.I., Ltd.**

**December 2011**

*Operations Due Diligence Report provided under separate cover.*

## Hedge Fund Investment Due Diligence Report

<b>Firm Name:</b>	Partner Fund Management LP		
<b>Fund Name:</b>	PFM Diversified Fund, L.P.; PFM Diversified Fund A.I., L.P.; PFM Diversified Offshore Fund, Ltd.; PFM Diversified Offshore Institutional Fund, Ltd.; PFM Diversified Offshore Fund A.I., Ltd		
<b>Fund/Strategy Assets:</b>	\$2.9 billion		
<b>Style:</b>	Equity Long / Short	<b>Location:</b>	San Francisco, CA
<b>Review Date:</b>	December 2011	<b>Reviewer:</b>	██████████

### Summary

**People and Organization:** Partner Fund Management LP (“PFM” or the “firm”) was founded in September 2004 by Chris James. Previously, Mr. James was a co-founder and portfolio manager at Andor Capital Management. The firm currently manages \$4.8 billion across four investment strategies including the flagship PFM Diversified Fund (“fund”). PFM is based in San Francisco, and has satellite offices in New York, London, and Hong Kong. The firm has a total of 73 employees including 28 investment professionals, with 22 voting partners. Internal capital represents approximately █████ of total AUM. PFM has a high quality and seasoned investment team, with core members that have worked together for over 10 years.

**Investment Strategy and Process:** PFM Diversified Fund is a global long / short equity fund which seeks to exploit thematic core investments that offer multi-year secular growth. The combination of bottom up and top down analysis gives the fund an edge over pure bottom up stock pickers. The investment process utilizes detailed fundamental industry and company analysis across geographies, with a focus on identifying catalysts. Top down macro and sector views play an important role and help direct capital allocation. The portfolio is actively traded with high portfolio turnover, due to flexible exposure management and rotation of capital among themes and core positions.

**Performance:** The fund has generated strong absolute and risk adjusted returns since inception, with significant evidence of alpha generation. From inception in November 2004 through October 2011, the fund has generated an annualized return of 9.8% with volatility of 7.4%, resulting in a Sharpe ratio of 0.95.

**Risk Management:** The fund employs a flexible approach to managing exposure in response to heightened levels of market volatility and correlation, which has helped protect capital in difficult market environments. This includes actively reducing gross and net exposure, position concentration, and factor risk, particularly as the fund approaches a -3% intra-month drawdown. Macro hedges are also tactically utilized to reduce risk. The fund has an 8% volatility target. To help achieve this, the fund is managed with moderate levels of gross (80% to 140%) and net (+10% to +50%) exposure. The portfolio is highly liquid and diversified across geographies, sectors, and number of positions. Positions are sized such that no single name is greater than 2 days trading volume (100% of past 20 days). Longs are limited to 7% and shorts limited to 5% at market.

**Operations Analysis:** Partner Fund Management has established strong internal procedures and controls to ensure the firm meets nearly all operational best practices. The manager has been registered with the SEC since 2008 and continues to strengthen its internal compliance policies. PFM is focused on counterparty diversification and has established relationships with several prime brokers and custody banks. A non-market risk committee has also been created to monitor and mitigate counterparty and business risk. No material deviations from best practices were identified during Cliffwater’s operational due diligence.

**Investment Terms:** The fund is offered in three share classes. The 2% and 20% fee quarterly share class has a 1 year soft lock and is hard closed. The firm offers discounted fees of 1.5% and 17.5% for longer lock up share classes, including a 3 year soft lock class followed by quarterly liquidity and a rolling 3 year hard lock class (investors can redeem up to 15% of their initial investment at any time with quarterly notice).

### Recommendation

PFM Diversified Fund is recommended for investment in the Equity Long / Short category.

*This report reflects information only through the date hereof. Our due diligence and reporting rely upon the accuracy and completeness of financial information (which may or may not be audited by the fund manager) and other information publicly available or provided to us by the fund manager, its professional staff, and through other references we have contacted. We have not conducted an independent verification of the information provided other than as described in this report. Our conclusions do not reflect an audit of the investment nor should they be construed as providing legal advice. Past performance does not guarantee future performance. The information contained herein is confidential commercial or financial information, the disclosure of which would cause substantial competitive harm to you, Cliffwater LLC, or the person or entity from whom the information was obtained, and may be protected from disclosure by applicable law.*

## People and Organization

Partner Fund Management LP (“PFM or “the firm”) was founded by Chris James in September 2004. The firm currently manages \$4.8 billion in assets across four investment strategies. This includes \$2.9 billion in the flagship PFM Diversified Fund that launched in November 2004, \$950 million in the more aggressive PFM Meritage Fund that launched in January 2007, \$610 million in the PFM Healthcare Fund that launched in December 2005, and \$332 million in the PFM Technology Fund that launched in April 2007. The firm is based in San Francisco, and has satellite offices in New York, London, and Hong Kong. The London office will be closed at the end of 2011 and remaining employees will be relocated to New York and San Francisco. The firm has a total of 73 employees including 28 investment professionals. The firm is registered with the SEC, and the Hong Kong office is registered with the HK SFC.

Chris James is the managing partner of Partner Fund Management LP, and portfolio manager for the PFM Diversified and PFM Meritage Funds. Prior to founding the firm in September 2004, he was co-founder of Andor Capital Management (2001-2004), where he initially was the co-portfolio manager of the Technology funds, and latterly the portfolio manager for the Andor Diversified Growth Fund. Mr. James had to restructure the Andor Diversified Growth Fund after the prior manager and co-founder of Andor (Dan Benton) gave up control due to poor performance from 2003 through 2004. Previously, he was a managing director at Pequot Capital (1996-2001), an analyst / portfolio manager at Moore Capital (1995-1996), and an analyst at Ethos Capital (1992-1995) before it was sold to Moore in 1995. Mr. James’ career began at JGM Management (1991-1992). He graduated with a B.A. in Economics from Tulane University, and now serves on its Board of Trustees and is a Chair of the Investment Committee.

Chris Aristedes is the portfolio manager for the PFM Technology Funds and sector head responsible for the global Technology analyst team. He joined the firm in January 2007, having previously been a portfolio manager at Magnetar Capital (2005-2006), SAC (2003-2005), and Citadel (2001-2003). Mr. Aristedes began his career as a Technology analyst at Alliance Capital Management (1999-2001). He has a Bachelor’s degree in Economics from St. Olaf College and an MBA from the University of Minnesota.

Brian Grossman is the portfolio manager for the PFM Healthcare Funds and sector head for the global Healthcare team. Mr. Grossman has been covering Healthcare for 13 years and was most recently the senior Biotech analyst at Andor Capital Management (2001-2004). Previously, he was an equity analyst at JP Morgan Investment Management (1996-2001). Mr. Grossman received a B.S. in Economics from the University of Pennsylvania.

The firm offers three onshore Delaware LP’s and three offshore vehicles. The onshore vehicles include PFM Diversified Principals Fund, L.P. which was established in October 2004, PFM Diversified Fund, L.P. which was established in November 2004, and PFM Diversified Fund A.I., L.P. which was established in July 2010. The offshore vehicles include PFM Diversified Offshore Fund, Ltd. which was established in November 2004, PFM Diversified Offshore Fund A.I., Ltd. which was established in July 2010, and PFM Diversified Offshore Institutional Fund, Ltd. (ERISA) which was established in May 2011.

PFM is comprised of three SEC registered investment advisers: Partner Fund Management, L.P.; Partner Advisory Services, L.P.; and Partner Investment Management, L.P. (collectively “PFM”). Partner Investment Management, L.P., is the investment advisor to the onshore funds. Partner Asset Management LLC, a Delaware LLC, is the GP of the onshore funds. Partner Fund Management, L.P. is the investment advisor to the offshore funds, and contracts with Partner Advisory Services (IA to the PFM Technology Funds) to provide sub-advice.

Partner Diversified launched in November 2004 with \$430 million in assets. Assets have grown steadily over time, even though the fund had 23% in redemptions from the end of 2008 (18%) through Q1 2009 (5%). The firm returned approximately \$440 million in capital for the Diversified Fund strategy at the end of 2009, primarily by cutting back a large pension from 20% to 8% of total assets. Firm assets are currently close to the \$4.9 billion peak, and they are accepting capital largely on a replacement basis into the longer lockup vehicles. The client mix for the fund is ■■■ Fund of Funds, ■■■ Pension & Sovereign

Wealth Funds, █████ Consultant, █████ Foundation & Endowment, █████ Internal, and █████ Family Office / HNW. A detailed history of the firm assets can be found in Exhibit 1.

Exhibit 1  
Partner Fund Management, LP  
Assets Under Management (\$ millions)

<u>Year</u>	<u>Total Firm Assets</u>	<u>Strategy Diversified</u>	<u>Strategy Meritage</u>	<u>Strategy Healthcare</u>	<u>Strategy Technology</u>
2004	645	645			
2005	1,384	1,372		12	
2006	1,409	1,259		150	
2007	2,462	1,111	648	553	150
2008	2,969	1,815	449	547	158
2009	4,074	2,570	558	714	231
2010	4,428	2,698	745	744	241
2011(Oct)	4,747	2,850	954	610	332

As shown in Exhibit 2, Partner has a team of 73 that includes 28 investment professionals. Portfolio management and operational functions are primarily handled out of the San Francisco office, with additional research, trading, and marketing functions handled in New York (2 admin, 1 trader, 2 analysts), London (1 admin), and Hong Kong (2 admin, 1 trader, 5 analysts). While there has been relatively high turnover in the junior analyst pool, only one senior investment professional has left the firm since inception. In addition, 4 of the 6 sector heads have been with the firm since inception and have worked with the portfolio manager for an average of 10 years (previously at Andor and Pequot), and the Technology sector head has been with the firm for 5 years.

Exhibit 2  
Partner Fund Management, LP  
Personnel Count

	<u>Involved With Fund Strategy</u>	<u>Firm-Wide</u>	<u>Departures Within Last Three Years</u>
<b>Investment Professionals:</b>			
Portfolio Managers	1	3 <sup>1</sup>	0
Sector Heads	6	6	0
Research Analysts	21	21	11
Traders	6	6	1
Risk Management	2	2	1
<b>Operations/Back Office:</b>			
Operations	4	4	0
Accounting/Administration	24	24	13
Information Technology	5	5	1
Legal/Compliance	2	2	1
Investor Relations	2	2	0

<sup>1</sup> Healthcare and Technology PM's also act as sector heads

Key employees on the investment side include the lead portfolio manager and 6 sector heads supported by 21 research analysts. The Healthcare and Technology sector heads also act as portfolio managers for the PFM Healthcare and Technology sector funds. Sector teams include Communications & Media, Consumer, Financials, Healthcare, Infrastructure (Industrials, Energy, Materials, Utilities), and Technology. Two Credit analysts and one Macro / Risk analyst round out the team. Key employees on the operations side include a COO, CFO, and CCO, and Director of Business Development. Exhibit 3 provides brief biographical information on the firm's key investment and operations personnel.

Exhibit 3  
 Partner Fund Management, LP  
 Key Investment and Operations Professionals

<u>Name</u>	<u>Title</u>	<u>Years at Firm</u>	<u>Years Exp.</u>	<u>Prior Experience/ Education</u>
Chris James <sup>1</sup>	Portfolio Manager	Incep.	19	Andor, Pequot Capital, Moore Capital / Tulane University BA
Brian Grossman <sup>1</sup>	PM and Sector Head	Incep.	15	Andor, JPM / U Penn BS
Chris Aristedes <sup>1</sup>	PM and Sector Head	5	12	Magnetar, SAC, Citadel / St.Olaf College BS, U Minn MBA
Joseph Bou-Saba	Sector Head	Incep.	16	Andor, Pequot, CSFB / Duke BA
Jeff Hires	Sector Head	2	9	Chilton, DB Zwirn, Third Point / U of Virginia BS, Stanford MBA
Fred Seguritan	Sector Head	Incep.	11	Andor, Goldman Sachs / Johns Hopkins B
Kenn Tarantino	Sector Head	Incep.	14	Andor, MLIM / Williams College BA
Jason Greenfield <sup>1</sup>	Head of Trading	Incep.	16	Andor, Loomis Sayles, Bassini, BZW / Trinity Coll BA
Linda Fitzgerald <sup>1</sup>	Director of Operations	7	21	Aetos Capital, BGI / Cal State BS, Berkeley MBA
Graham Low <sup>1</sup>	Director of Business Development	4	17	Merrill Lynch / U of New Mexico BS, UCLA MBA
Eric Moore <sup>1</sup>	Chief Financial Officer	7	18	Cannell Capital, Bowman, RSIM / U Cal BA
Darin Sadow <sup>1</sup>	Chief Compliance Officer	1	10	Citadel, Lehman / U of Texas BS, MS, JD
Kimberly Summe <sup>1</sup>	General Counsel	2	21	Lehman, ISDA / Cambridge BA, MA in Law, U of Chicago JD

<sup>1</sup> Member of the Management Committee

The firm is a partnership that is [REDACTED] owned by employees. In [REDACTED] [REDACTED] bought a passive [REDACTED] minority interest in the management company through [REDACTED]. The balance of the [REDACTED] stake is owned by the partners in the firm. Mr. James is the largest owner with [REDACTED] and the remainder is owned by 21 additional voting partners including portfolio managers, senior analysts, and heads of operations. This ownership structure helps ensure retention of senior investment talent.

Partners are compensated based on [REDACTED]

## Investment Strategy and Process

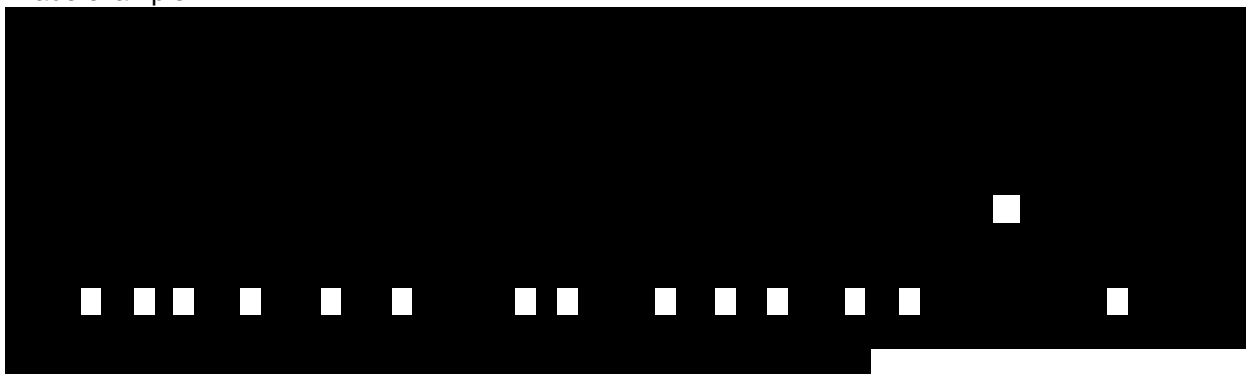
PFM Diversified is a global equity long short fund which seeks to exploit thematic core investments that offer multi-year secular growth. The strategy combines bottom up company and industry research with top down macro and market analysis. The investment team is divided across six sectors that are led by senior investment professionals, including Healthcare, Technology, Consumer, Communications & Media, Financials, and Infrastructure (Industrials, Energy, Materials, Utilities). Sector heads guide the bottom up research process and work with the analysts to vet ideas and manage workflow. The sector heads also filter idea flow up to the portfolio manager. Sector teams perform deep bottom up fundamental research to identify trends at the subsector level, develop core investment themes, and identify individual positions that have large earnings gaps relative to consensus views. Research includes extensive channel checks and contacts with corporate management. Analysts also build proprietary industry and earnings models.

A catalyst driven approach is used to help promote disciplined capital allocation. Examples of catalysts on the long side include strong secular trends, revenue and earnings acceleration, earnings or revenue surprise vs. consensus expectations, good management with a history of strong execution, and market share gains. Catalysts on the short side include negative secular headwinds, single product companies facing competitive challenges, revenue and earnings deceleration, earnings or revenue misses, poor management and evidence of flawed execution, and market share losses.

Mr. James is not intimately involved in the details of the bottom up research process, although he spent a large part of his career as an analyst and can act as a sounding board for the sector heads. For example, he will often challenge ideas that are driven from the bottom up, particularly when they do not line up with his top down views. The primary role of the portfolio manager is to manage capital allocation and risk at the portfolio (gross and net), geographic, asset class, sector, and stock level. This is mostly driven by top down views, which are derived from a variety of sources including high frequency global macro data, credit spreads, levels of market correlation and volatility, market technicals and structure (including “analog time periods”), as well as an aggregate of what analysts are hearing from company and industry contacts. Regarding capital allocation at the sector level, while the portfolio manager generally gives sector heads latitude to pick stocks, he sets limits on their overall levels of gross and net exposure, helps identify implicit bets across the portfolio, and helps determine position sizing, entry and exit points. The portfolio is actively traded and has high turnover. This is due to rotation of capital among themes, trading around core positions, and active management of the overall gross and net exposure.

Prior to 2011, the Fund invested a relatively fixed percentage of capital (Tech 10% of gross and Healthcare 18% of gross) in carve-outs that invested pari passu with the PFM sector funds. This was achieved through split tickets, where every position in the sector funds was replicated in the Diversified Fund. The portfolio manager would size up select positions beyond the carve-out size (typically 5-8 Tech names and 10+ Healthcare names) based on input provided by the sector managers. The portfolio manager decided to end the carve out allocations at the end of 2010 due to the persistence of the macro driven environment, which has forced him to more tightly manage sector exposures. For example, the Healthcare sector has increasingly acted in a cyclical manner due to the fact that the government is the largest customer, and has not offered traditional diversification benefits.

Trade example:

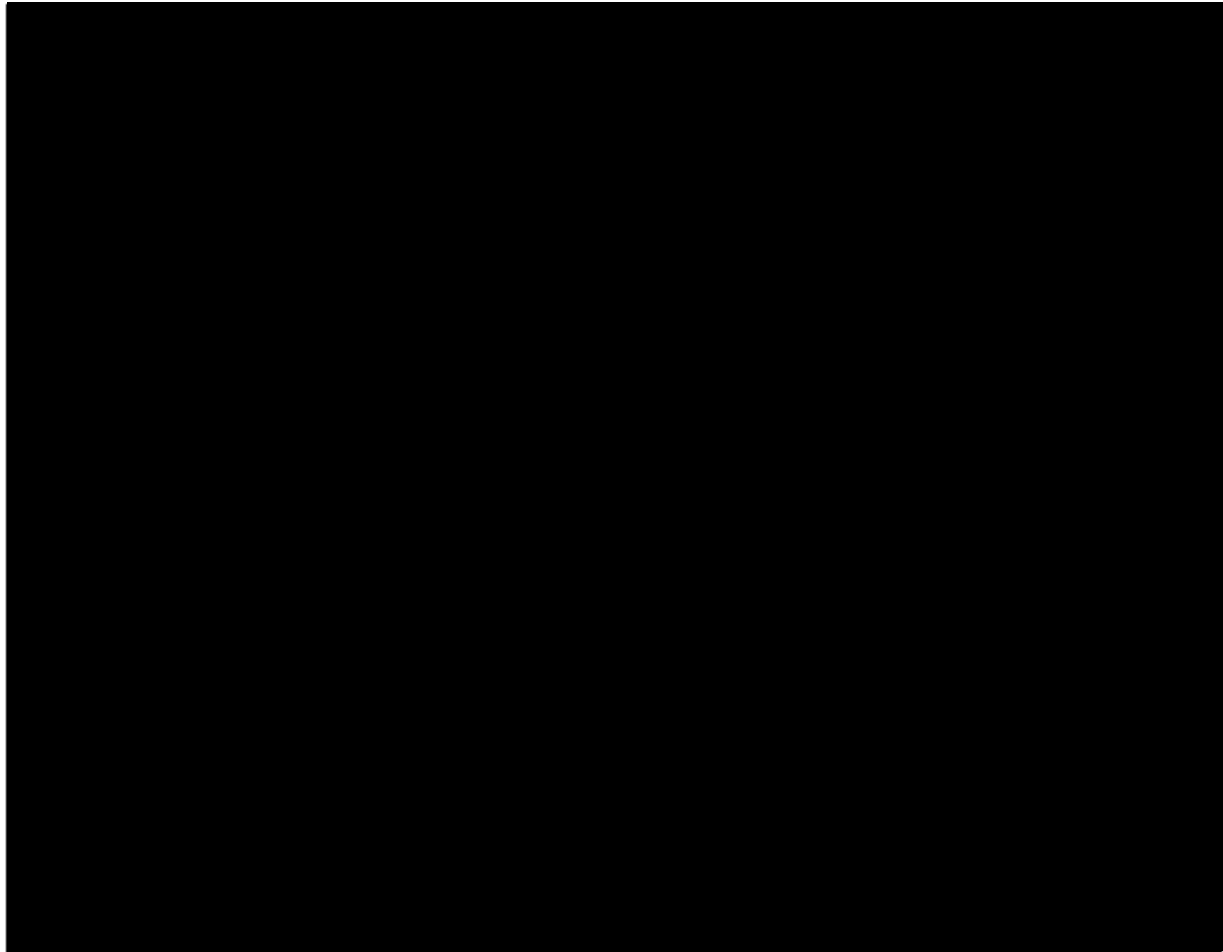


### Portfolio Characteristics

PFM Diversified Fund primarily invests in global equities, with opportunistic investments in credit and commodities. Credit investments have primarily been in corporate bonds on the long side (up to 12% of NAV), as well as CDS on corporate credit (IG and HY) and RMBS as overall macro hedges. The fund has had as much as 150% of NAV in IG CDS hedges and up to 35% in single name CDS. Commodity investments include futures and options up to 5% of NAV. The fund has a mid-to-large cap focus and places an emphasis on liquidity, with a target of less than two days trading volume (at 100% of average 20 day volume) for each position.

The portfolio is highly diversified across geographies, sectors, and positions. A majority of the portfolio is typically invested in US equities, with roughly one third of the gross exposure and half of the net exposure in international / emerging markets. Emerging market exposure tends to be more tactical in nature, and has ranged from 0-21% of gross NAV and up to 35% of the overall net exposure. As shown in Exhibit 4, as of October 2011 international exposure was at the low end of the range, with 83% of the gross allocated to the U.S., 10% to Emerging Markets, and 7% to Europe.

Exhibit 4  
PFM Diversified Fund - Historical Geographic Exposure  
Since Inception

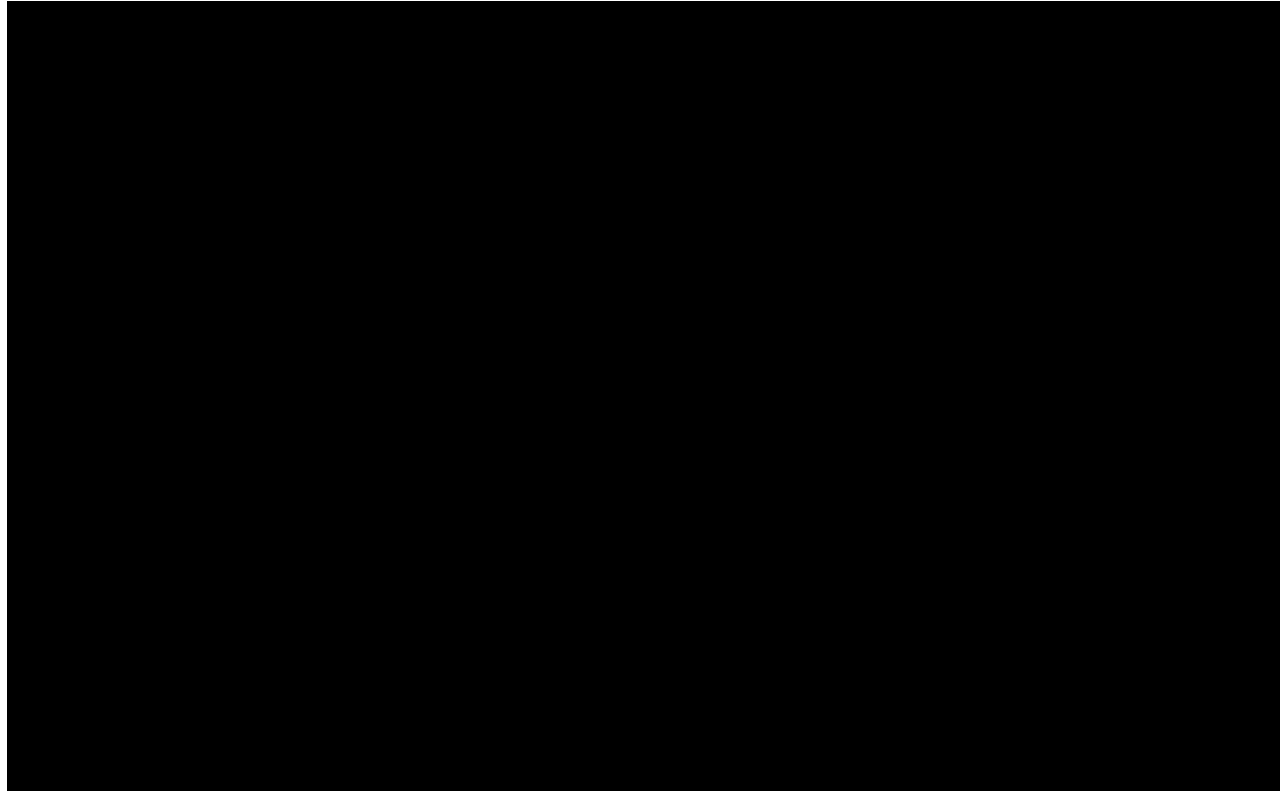


The largest sector exposure over time has been to Healthcare with an average of 27% of overall gross, followed by Industrials and Consumer at an average of 15% of overall gross for each. The portfolio is

typically invested in 60-120 positions, with position sizes in the 1% to 4.5% range for longs and 0.5% to 2.5% for shorts, and the top 10 longs representing 20-35% of NAV.

The fund is managed with conservative levels of gross and net exposure. Gross exposure typically ranges from 80% to 140% (average 96%), and net exposure typically ranges from +10% to +50% (average +35%). As shown in Exhibit 5, gross and net exposures are actively managed within the stated ranges, highlighting the flexible approach of the strategy.

Exhibit 5  
PFM Diversified Fund - Historical Equity Exposure (monthly average)  
As of October 2011



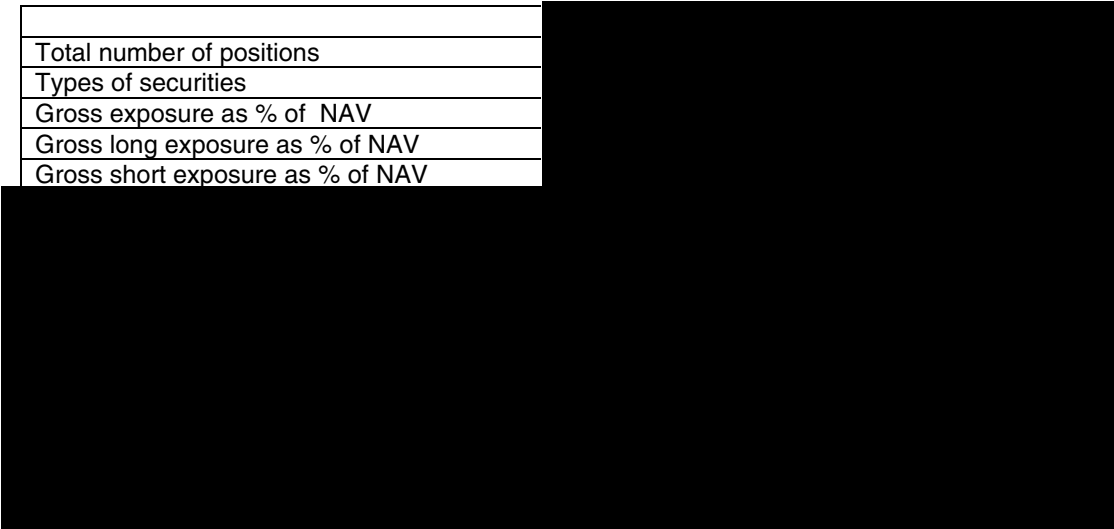
Short Long Net Gross

As of October 2011 month end, gross equity exposure was 84%, net equity exposure was 20%, gross credit exposure was 7%, and net credit exposure was 5%. The portfolio was diversified across 88 positions, with the largest long position sized at 3.8% of NAV and the largest short sized at 1.3%. The top 10 longs represented 21% of NAV and the top 10 shorts represented 11% of NAV. The largest exposures at the sector level were Technology and Consumer at 17% gross for each, followed by Healthcare at 11% gross. Gross exposure weighted average market capitalization was \$40 billion and the median market capitalization was \$12 billion.



Exhibit 6  
PFM Diversified Fund  
Portfolio Characteristics

Total number of positions	
Types of securities	
Gross exposure as % of NAV	
Gross long exposure as % of NAV	
Gross short exposure as % of NAV	



## Performance

PFM Diversified Fund has produced strong absolute and risk-adjusted returns since inception, and has also exhibited evidence of strong alpha generation on both the long and short sides of the portfolio. From inception in November 2004 through October 2011, the fund generated an annualized return of 9.80% with a standard deviation of 7.39%, resulting in a Sharpe ratio of 0.95. Exhibits 7a and 7b provide additional statistics and comparative data for the fund.

### *Return*

Since inception, the fund's annualized return of 9.80% has dramatically exceeded the HFRI Equity Hedge Index which returned 4.62% over the same period. This performance places the fund amongst the top 27% of all equity hedge funds in the HFRI universe.

### *Risk*

Since inception, the fund has generated an annualized standard deviation of 7.39%, which is much lower than the strategy universe median of 14.25%, placing the fund in the top 14% of all equity hedge funds on a risk ranking basis. Since inception, the fund also ranks in the top 17% on a risk ranking basis relative to the entire HFRI Universe.

### *Risk-Adjusted Return*

Since inception, the fund has produced strong risk-adjusted returns as evidenced by a Sharpe ratio of 0.95, which places it in the top 6% of all equity hedge funds and top 10% of all funds in the HFRI Universe over the same time period.

### *Betas / Other*

The first section of Exhibit 7b shows five year regression coefficients on major market indices. The fund has exhibited low sensitivity to global equity markets (0.25), which is not surprising given the low average net exposure and flexible nature of the strategy. The fund's  $R^2$  of 0.43 indicates that the fund has exhibited moderate correlation to other equity hedge funds over the long-term.

Prior track record at Andor: Mr. James was a co-founding partner at Andor. He had a successful track record managing several products including the Andor Small Cap Fund. In addition, he was instrumental in helping turn around performance of the Andor Diversified Fund and Andor Tech Aggressive Fund that struggled through the start of the bull market in 2003.

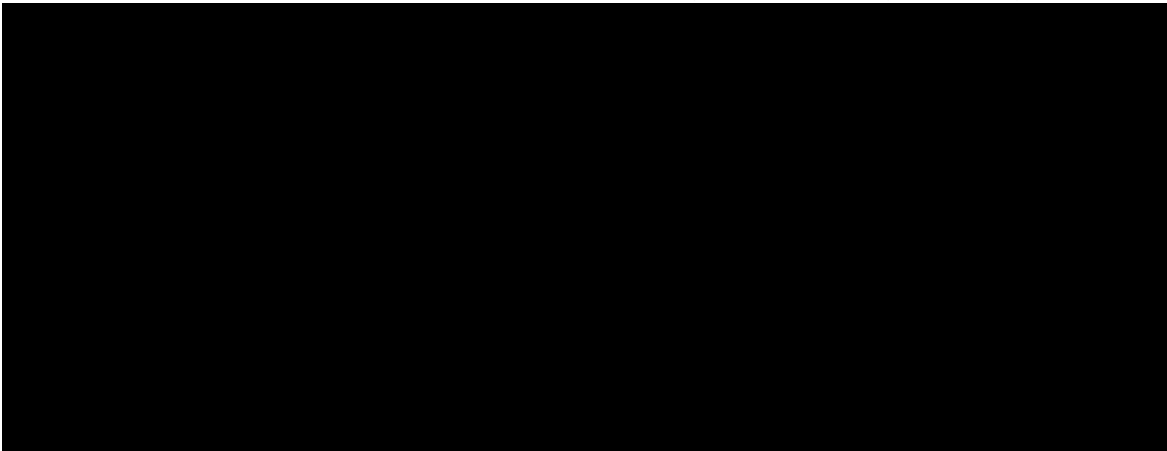
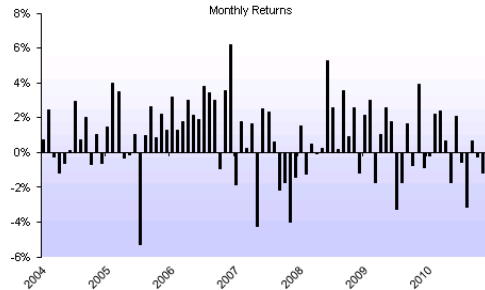
Exhibit 7a  
PFM Diversified - Performance Analysis (October 2011)



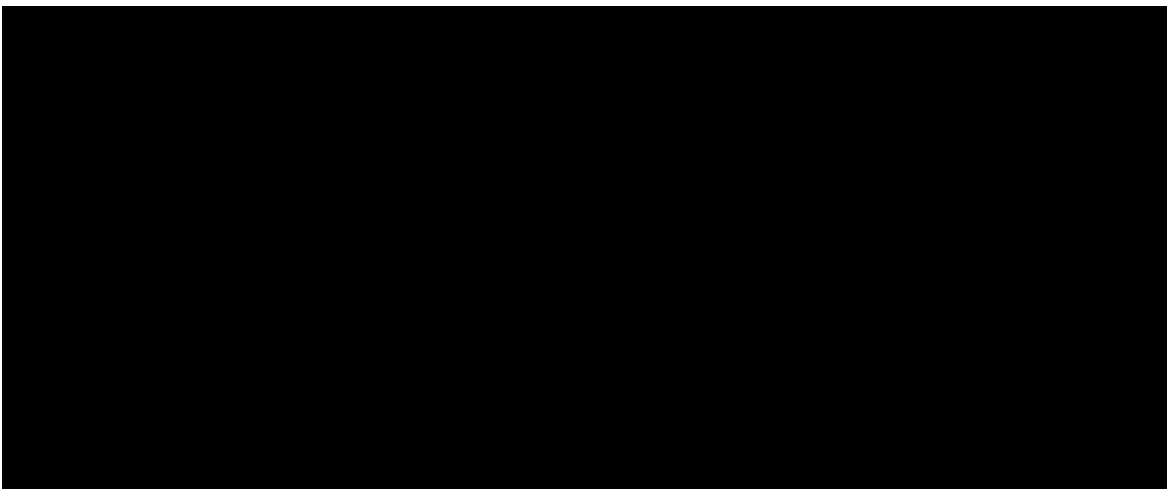
Fund Return	1-Year	3-Years	5-Years	Inception
PFM Diversified Fund, LP				



S&P 500 TR
Barclays Aggregate Bond Index
3 Month Libor Rate

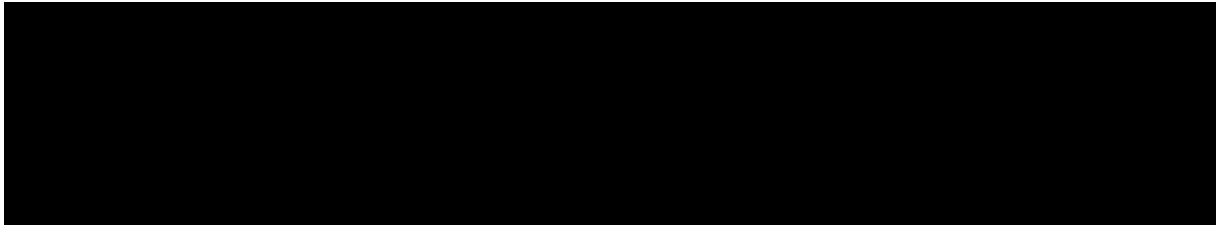
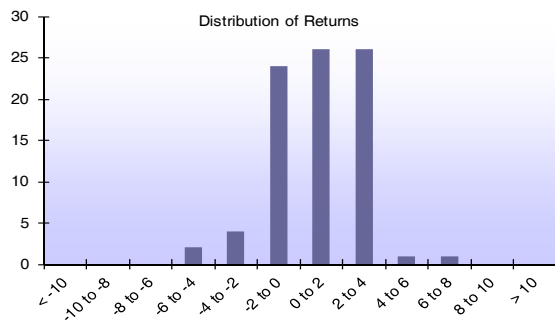
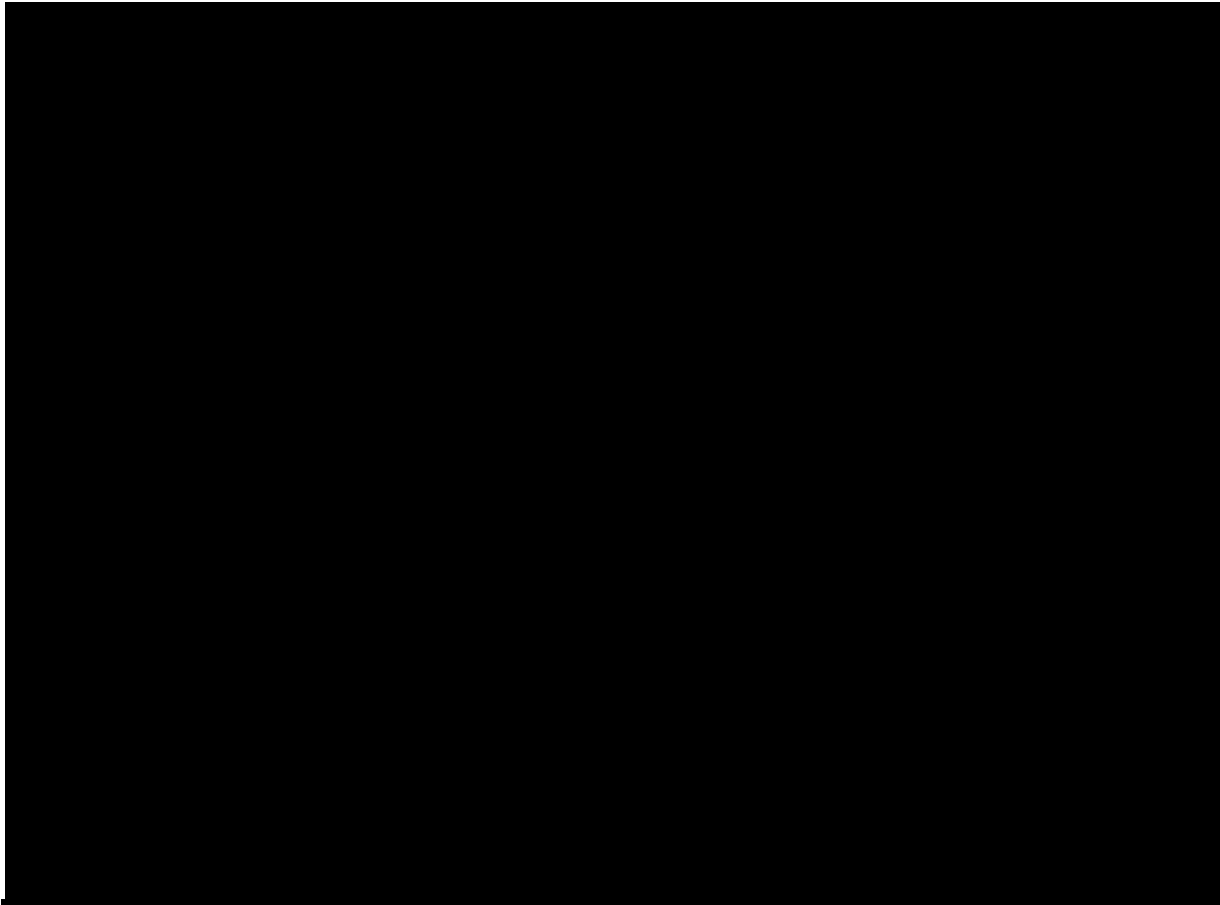


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	HFRI FW
2011	2.36%	0.64%	-1.75%	2.10%	-0.56%	-3.17%	0.65%	-0.27%	-1.20%	-0.25%			-1.57%	-3.33%
2010	-1.75%	1.06%	2.56%	1.75%	-3.24%	-1.74%	1.64%	-0.78%	3.90%	-0.87%	-0.18%	2.17%	4.36%	10.25%
2009	0.49%	-0.03%	0.21%	5.27%	2.54%	0.19%	3.53%	0.93%	2.56%	-1.16%	2.16%	3.00%	21.35%	19.98%
2008	0.26%	1.67%	-4.23%	2.50%	2.30%	0.58%	-2.15%	-1.75%	-3.99%	-1.45%	1.52%	-1.24%	-6.10%	-19.03%
2007	1.78%	3.01%	2.11%	1.90%	3.81%	3.44%	3.00%	-0.95%	3.57%	6.18%	-1.87%	1.74%	31.21%	9.96%
2006	3.50%	-0.35%	-0.16%	1.01%	-5.30%	0.96%	2.62%	0.83%	2.18%	1.25%	3.16%	1.29%	11.24%	12.89%



Hedge Fund Research, Inc. ("HFR") is the source and owner of the HFR data contained or reflected in this report and all trademarks related thereto. This report relies upon the accuracy and completeness of financial information obtained through the fund manager, which may or may not be audited by that fund manager. We have not conducted an independent verification or an audit of such information. Past performance does not guarantee future performance. The information contained herein is confidential financial information, which should not be disclosed to third parties except as required by applicable law.

Exhibit 7b  
PFM Diversified - Performance Analysis (October 2011)



Hedge Fund Research, Inc. ("HFR") is the source and owner of the HFR data contained or reflected in this report and all trademarks related thereto. This report relies upon the accuracy and completeness of financial information obtained through the fund manager. We have not conducted an independent verification or an audit of such information. Past performance does not guarantee future performance. The information contained herein is confidential financial information, which should not be disclosed to third parties except as required by applicable law.

## Risk Management

The firm has a suite of analytical frameworks including [REDACTED], and proprietary reports to evaluate risk. These include expected portfolio volatility (8% target) and VaR, factor analysis to understand implicit portfolio bets such as “economic Beta”, stress testing and scenario analysis, as well as loss control, risk-return, and liquidity reports. Stress tests and scenario analysis include a -25% adverse shock to the top 3 sector net exposures (using Betas and implied vols), and a top 5 stocks adverse basis risk (shocking top 5 longs down -10% and top 5 shorts up +10%). The loss control report details realized and expected future price moves at the stock level, and flags stocks that breach discrete -20% hard stops relative to acquisition cost and volatility adjusted thresholds. The risk-return report reviews sector / analyst attribution and performance benchmarking over various time horizons, using alpha analysis against custom benchmarks. The liquidity report provides information about the portfolio's share of short interest and outstanding float. The fund has a target of [REDACTED] trading volume [REDACTED] for each position, although in practice most positions comprise [REDACTED].

Mr. James is ultimately responsible for managing risk, which includes staying within the stated 8% volatility target and minimizing drawdowns. The fund employs a flexible approach to managing exposure in response to heightened levels of market volatility and correlation, which has helped protect capital through difficult market environments. This includes actively reducing gross and net exposure, position concentration, and factor risk, particularly as the fund approaches a -3% intra-month drawdown. The three worst months since inception have been -5.3% (May 2006), -4.23% (March 2008), and -3.99% (September 2008). Active reduction of the gross and net exposures helped the fund protect capital through the 2008 crisis, in the Spring of 2010, and in the Fall of 2011. Macro hedges are also tactically utilized to help reduce portfolio risk.

Contribution from Macro Hedges: Macro hedges added +550 bps to performance in 2007. Specifically, CDS on BBB ABS added +350 bps, a short position in a tranche of 100 IG credits added +100 bps, and single name corporate CDS added +100 bps. Macro credit hedges added +92 bps in 2008.

Risk guidelines at the portfolio level include maximum gross exposure of 200%, minimum net exposure of -20%, and maximum net exposure of +60%. At the sector level, Consumer, Healthcare, Infrastructure, and Technology are each limited to 35% gross and 15% net exposure, and Financials and Communications & Media are each limited to 25% gross and 15% net. At the position level, longs are limited to 5% at cost and 10% at market, and shorts are limited to 5% at cost.

## Investment Terms

### Summary Comments

The fund is offered in three share classes. The 2% and 20% fee quarterly share class has a 1 year soft lock and is hard closed. The firm offers discounted fees of 1.5% and 17.5% for longer lock up share classes, including a 3 year soft lock class followed by quarterly liquidity and a 3 year hard lock class (investors can redeem up to 15% of their initial investment at any time with quarterly notice). The fund provides a key-man clause, enabling special withdrawal rights associated with Mr. James' involvement with the fund.

### Term

<b>Fees and expenses</b>	
Management fee	Class A (onshore and offshore): 2% Class B (onshore) and Class D (offshore): 1.5% Fund A.I.: 1.5%
Performance fee	Class A (onshore and offshore): 20% Class B (onshore) and Class D (offshore): 17.5% Fund A.I.: 17.5%, paid at end of each 3-year lock-up
High water mark	Yes
Hurdle rate	No
Fee payment frequency	Quarterly management fees, annual performance fees except for Fund A.I. which is paid at the end of each 3-year lock-up
Fund expenses	18 bps
Typical fund expenses	Audit, tax, legal, administration, offshore director fees, portion of the D&O and E&O insurance premiums
Offsets to expenses	None
<b>Subscriptions</b>	
Minimum initial investment	Fund A.I.: \$25 million All other classes: \$5 million
Minimum subsequent investments	None
Frequency	Monthly
Timing	First business day of each month
Notification period	5 days
Other subscription provisions	None
<b>Redemptions</b>	
Frequency	Quarterly, following the applicable lock-up
Timing	Last day of each quarter
Notification period	Class A (onshore and offshore): 45 days Class B (onshore) and Class D (offshore): 60 days Fund A.I.: 45 days
Gate	No
Distribution of proceeds	Partial withdrawals (<95%): paid within 30 days Complete withdrawals (≥95%): 95% paid within 30 days, balance paid as soon as is reasonably practicable after completion of the audited financials Distributions can be made in cash or in kind. However, in lieu of a distribution in kind, the General Partner may transfer the redeeming investor's pro rata share of any liquid securities subject to a separate liquidating fund
Suspension provisions	The General Partner (onshore) or Board of Directors (offshore) may suspend redemptions
Other withdrawal provisions	None
<b>Liquidity</b>	
Lock-up	Class A (onshore and offshore): One year "soft" lock-up on each contribution Class B (onshore) and Class (D) offshore: Three year "soft" lock-

Early withdrawal penalties	<p>up on each contribution</p> <p>Fund A.I.: Rolling three-year hard lock-up on each contribution, subject to a limited redemption right as described in "Early Withdrawal Penalties" below</p> <p>Class A (onshore and offshore): 4% redemption fee if redeem during the first year</p> <p>Class B (onshore) and Class D (offshore): 5%, 4% and 3% redemption fee if redeem during the first year, second year or third year, respectively</p> <p>Redemption fees are paid to the fund</p> <p>Fund A.I.: During the lock-up, investors may redeem up to an aggregate of 15% of the capital account balance (onshore) or net asset value of the shares held (offshore) as of the first day of the applicable lock-up</p>
Key man provisions	Yes, on Mr. James
Transferability	Only with the prior written consent of the General Partner (onshore) or Board of Directors (offshore)
Side pockets for illiquid investments	No
Side letters	Yes; manager does not disclose
Applicability of terms to all investors	No; PFM employees are the only ones that have better liquidity terms

## Appendix: Glossary

Administrator	A service provider such as Citco or International Fund Services that handles administrative responsibilities such as facilitating subscriptions/redemptions, calculating the fund's monthly NAV, reporting performance, and maintaining the official books and records for the fund.
Alpha	That portion of a fund's total return that is attributable only to manager skill and which excludes return attributable to general market (i.e. stock) movements. A fund's total return is comprised of three return components: alpha, beta, and Libor.
Beta	Measure of a portfolio's return sensitivity to a market index. The higher the beta coefficient, the greater the sensitivity to the market. A portfolio with a beta of 1.0 should move directly in line with the market index. Lower beta portfolios have lower risk and hedge funds exhibit an average equity market beta of 0.30. Hedge funds with lower beta are generally viewed as desirable.
Beta Return	That portion of a fund's total return that is attributable to general market (i.e. stock) movements. It is generally calculated by multiplying the fund's portfolio beta times the market return net of Libor. A fund's total return is comprised of three return components: alpha, beta, and Libor.
Credit Default Swap (CDS)	A swap contract that acts as a form of insurance for the buyer against a loan or bond default. The buyer pays a percentage of the security's principal (premium), at periodic intervals in exchange for a guaranteed payment of principal in the event of default. If the borrower/security defaults, the CDS buyer can exchange or "swap" the defaulted loan security for a monetary payment equal to the principal value of the loan. The CDS premium payment is generally equivalent in percentage to the "credit spread" on a risky bond.
Convexity	A measure of the sensitivity of a bond's duration to changes in interest rates. Most fixed income portfolios have <i>negative</i> convexity, meaning that duration rises as interest rates rise, furthering losses in a rising interest rate environment. And when interest rates fall, duration declines, limiting security gains. Mortgage securities, for example, have significant negative convexity. Securities and portfolios structured to have <i>positive</i> convexity are not common and come at a cost of lower yield, but have the advantage in periods of market volatility.
Correlation	A statistical measure of how two securities or indices move in relation to each other. Two securities move perfectly in line with one another if their correlation is 1.0 and move in opposite directions if their correlation is -1.0. This statistic is often cited when gauging the diversification benefits of alternative assets within an equity dominated institutional portfolio and where most traditional equity managers have a correlation of 0.95 or higher with the stock indices. Hedge funds generally exhibit a much lower 0.70 correlation to the equity markets and produce overall diversification benefits where adding more stock managers does not.
Credit Strategy	See Hedge Fund Strategies.
CTA	See Hedge Fund Strategies
Delta-adjusted	A concept applied to derivatives, particularly options or securities with option-like features such as convertible securities. Delta measures the change in value of the derivative in relation to the change in value of the underlying security referenced by the derivative, rather than the value of the derivative security itself. For example, the delta-adjusted beta of an in-the-money S&P 500 index option equals 1.0 because the change in option value and index value is the same for a small 1% change in the S&P 500 index. For an out-of-the-money option, the delta-adjusted beta would be less than 1.0. The delta-adjusted exposure of a portfolio is a measure of the extent to which the portfolio as a whole will participate in stock market movements. It is equal to the sum of the weighted deltas of all individual options in the portfolio plus all equity investments.
Derivative	A security whose price is derived from the value of one or more of the underlying reference entity, commonly the price of another security. Examples include options, futures, forwards, and swaps. Derivatives can be used to hedge risk, speculate, or establish arbitrage positions.
Global Macro Strategy	See Hedge Fund Strategies
Distressed Strategy	See Hedge Fund Strategies
Drawdown	Refers to the cumulative investment loss experienced by a hedge fund, measured from the point of peak NAV to the NAV low. <i>Max</i> drawdown refers to the largest drawdown experienced by a hedge fund.



Early Withdrawal Penalty	A fee assessed to investors that redeem assets prior to the expiration of a “soft” lock-up. The penalty is a percentage of assets, typically 2% to 5%, and these fees are generally paid to the fund to the benefit of remaining investors.
Event Driven	See Hedge Fund Strategies
Equity Long/Short	See Hedge Fund Strategies
Expense Ratio	All direct expenses charged to the fund vehicle, divided by NAV. Fund expenses typically include organizational, legal, compliance, audit fees, administrative fees, directors’ fees and expenses, and fund-related insurance costs. Fund expenses should exclude costs associated with managing the investment portfolio such as management fees, brokerage fees, and research expenses. Also, charges related to entering into, maintaining, and financing a position are not included in the ratio. The fund expense ratio ranges between 10 and 30 basis points, depending upon the asset size of the fund and what types of expenses are charged to the fund.
Exposure	The value of security positions (excluding cash) as a percent of net asset value (NAV). For example, if security positions are valued at \$100 and NAV also equals \$100, then the portfolio is said to have a long exposure of 100%. If instead, the security positions are valued at \$50 with the rest in cash, the long exposure is said to be 50%. Leverage (borrowing) allows exposures to exceed 100% and shorting can allow exposures to be negative. For example, a manager that holds \$100 in stock (100% long exposure) and also borrows \$100 in stock (from a securities lender) and sells that stock short in the market (100% short exposure), is said to have a total exposure of 200% (100% long exposure plus 100% short exposure).
<i>Notional Exposure</i>	Notional exposure, as opposed to physical exposure, includes the value of reference securities/indexes of derivative securities and swaps in the calculation of exposure. For example, a hedge fund manager with a 50% long exposure to stocks may also have sold a Russell 3000 index futures on contracts worth 50% of fund NAV as a market hedge. While no physical securities are shorted, the futures positions have a “notional” value equal to 50% of NAV. Total gross notional exposure in this example is 100%, equal to the 50% long physical stock positions plus the 50% short futures contract. The most common industry practice is to include notional values in the calculation of portfolio exposures.
<i>Gross Long</i>	The total notional exposure of all long positions in a portfolio. In the example above, gross long exposure equals 50%. Gross long positions benefit from increases in securities prices.
<i>Gross Short</i>	The total notional exposure of all short positions in a portfolio. In the example above, gross short exposure equals 50%, the notional value of the short Russell 3000 futures contracts. Short positions benefit from decreases in securities prices.
<i>Net Exposure</i>	Net exposure equals the difference between a portfolio’s gross long and gross short exposures. In the example above, the portfolio has a net exposure of 0%, equal to the 50% gross long exposure minus the 50% gross short position. A positive net long exposure indicates a higher portion of long positions in the portfolio, and that the portfolio should generally benefit from an increase in asset prices. A net short exposure indicates a higher value of short positions in the portfolio, which will likely produce profits if security values fall.
<i>Total Gross</i>	The sum of a portfolio’s gross long and gross short exposures. Gross exposure in the example above equals 100%, equal to the 50% gross long exposure plus the 50% gross short exposure.
Fair Value (FAS 157)	FASB Statement No. 157, Fair Value Measurements (“FAS 157”), defines fair value as “ <i>the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.</i> ” FAS 157 established a fair value hierarchy consisting of three levels described below.
<i>Level 1 assets</i>	Liquid assets with readily observable prices, and therefore a reliable market value. Level 1 assets typically include stocks, bonds, mutual funds, and any other assets that have a regular “mark to market” pricing mechanism, generally via a central exchange.
<i>Level 2 assets</i>	Assets with a value based on market inputs that are not directly observable on a central exchange. These assets are often priced via quotations from dealers. An example of a Level 2 asset is a credit default swap which is typically priced via indicative quotations from broker dealers. Most derivative securities are considered Level 2 assets even though the valuation for the underlying security may be readily available on a central exchange.
<i>Level 3 assets</i>	Illiquid assets with a value that cannot be determined by observable measures. The fair value of a Level 3 asset can only be estimated by using significant assumptions as inputs to the valuation model. Illiquid private equity investments are an example of this type of asset. Each manager may derive its own internal valuation policy regarding the classification of Level 3 assets depending on available pricing sources and other factors. Best practice is for the hedge fund manager to use an independent external valuation firm

	to price Level 3 assets. As a further protection to investors, Level 3 assets are often placed in side pockets by the manager. (See Side Pockets.)
Fund of Funds	An investment vehicle managed by a third party that invests in a portfolio of underlying hedge funds.
Gate	A restriction on the amount that investors can redeem from a hedge fund in a given period. Gates are designed to help prevent problems associated with large redemption requests during a specific period. Fund level gates establish this limit as a percentage of all holdings in the fund, potentially allowing redeeming investors to receive a percentage greater than the gate amount. Investor level gates limit each investor's withdrawal to a specific percentage of their account.
General Partner	In a limited liability partnership, which is the legal form most hedge funds operate within, the general partner is responsible for the management and investment decisions for the hedge fund while the investors are limited partners.
Hedge Fund	An investment portfolio that seeks long term net of fee returns similar to equities (7%–9% annually) with less than one-half the risk of equities.
Hedge Fund Strategies	Hedge funds employ many investment approaches to create non-market related returns. While there is no standard industry classification, the eight strategy descriptions below are often used by practitioners.
<i>Market Neutral</i>	A hedge fund style that aims to profit from the discrepancy in valuation between related securities, which may include equities, fixed income, derivatives, etc. An example is convertible arbitrage, which attempts to exploit the mispricing between embedded options in convertible bonds and the underlying security.
<i>Credit Strategy</i>	A hedge fund style that typically invests in high yield and high grade bonds, bank loans, credit default swaps and structured products. Managers use fundamental credit analysis to identify mispriced debt instruments and express their views through long and short positions.
<i>Distressed</i>	A hedge fund style that seeks to take advantage of corporate securities in default, under bankruptcy protection, in distress or heading toward such a condition, or in liquidation. Some distressed managers attempt to add value by becoming actively involved in the restructuring process.
<i>Event Driven</i>	A hedge fund style that aims to profit from the mispricing of securities related to hard and/or soft catalysts. Examples include mergers (merger arbitrage), restructurings, bankruptcies, litigation, regulatory and legislative changes. Activist investors who seek value creation through board participation or management changes are also included in this category.
<i>Equity Long/Short</i>	A hedge fund style that primarily allocates capital to long and short positions in equities and equity derivatives. Exposures range from net long to market neutral to dedicated short. Some equity long/short funds focus on specific sectors (e.g., technology and healthcare) or regions (e.g., Asia and Europe).
<i>Macro - Discretionary</i>	A hedge fund style focused on employing a top-down approach to invest in any market in order to capture extended market movements. Global macro managers generally have broad mandates to invest globally across all asset classes. These managers tend to employ leverage and have exposure to global interest rates, currencies, commodities and equities.
<i>Macro - CTA</i>	A hedge fund style that trades currencies, interest rates, equity markets and commodities using technical systems premised mostly on the notion that market indices will trend over time, thus portfolio positions will move in the same direction as markets. "CTA" designates Commodity Trading Advisor, a regulated advisor that generally follows this hedge fund style.
<i>Multi-Strategy</i>	A hedge fund style that opportunistically allocates capital to various hedge fund strategies and uses diversification to reduce asset-class and single-strategy risks. Ideally, multi-strategy portfolio managers tactically shift capital among strategies in order to capitalize on current market opportunities. Some multi-strategy funds act as a collection of traders, while others have a more formal organizational structure.
HFRI	Hedge Fund Research, Inc. (HFRI) is a leading provider of hedge fund manager and hedge fund index information to investors. Dow Jones Credit Suisse is another leading provider of similar information.
<i>HFRI Fund of Funds Index</i>	A monthly return index of approximately 2,000 hedge fund of funds. Returns are self reported, equal weighted, and net of all fees. HFRI reports that the average management fee charged by the fund of funds manager is 1.5% with an average incentive fee of 5%. This is on top of fees charged by the underlying hedge funds.
<i>HFRI Fund Weighted Index</i>	A monthly return index of approximately 3,000 hedge funds. Returns are self reported, equal weighted, and net of all fees.

<i>HFRI Universe</i>	HFRI makes available hedge fund universes and sub-universes in order to rank individual hedge funds against peer groups.
<i>HFRX Indices</i>	HFRI also maintains <i>daily</i> return indices that are equal weighted returns of a small group of hedge funds that offer daily valuation.
High Water Mark (“HWM”)	The market value that a portfolio must exceed before performance fees can be assessed. The HWM is the highest net asset value previously achieved, and ensures that the manager does not earn performance fees on gains until previous losses are fully recaptured.
<i>Modified HWM</i>	The less common modified HWM allows the manager to earn a reduced (i.e. one-half) performance fee during recovery, with the full performance fee resuming after recovering earlier losses (e.g. between 150-250% of prior losses). A modified HWM is said to help managers retain talented employees during weak performance periods.
Hurdle Rate	The minimum return a manager must generate before performance fees can be earned. Hurdle rates are uncommon for hedge funds, but when they are present they are often based on cash benchmarks such as 3-month Treasury bills.
Information Ratio (“IR”)	Commonly used measure of a manager’s risk-adjusted alpha. The information ratio equals alpha return divided by alpha risk, where both alpha return and alpha risk are typically calculated using statistical regression where the independent variable is a market index. The information ratio is generally viewed by practitioners as the most significant measure of a hedge fund’s performance. Any information ratio above 0.5 is generally viewed as very attractive.
Key Man Provision	A legal provision that permits investors to immediately withdraw from a fund without penalty if certain key professionals are no longer involved in the management of the fund.
Leverage	<p>The use of explicit debt (i.e. borrowing) or implicit debt (i.e. derivatives) to achieve investment positions that exceed invested capital (NAV). The use of leverage may amplify returns but may also increase risk. However, if leverage is achieved by adding short exposure that offsets an existing long position, portfolio risk might actually decline due to the use of leverage. A common leverage calculation is the ratio of gross notional exposure to invested capital. For example, a \$100 investment in BP stock coupled with a \$100 short sale of Exxon stock yields gross notional exposure of \$200. Leverage in this example can be described in at least two ways:</p> <ol style="list-style-type: none"> <li>a. The portfolio has 200% gross exposure (equal to \$200 gross notional exposure divided by \$100 NAV)</li> <li>b. The portfolio is one time (1x) levered (equal to \$100 in debt divided by \$100 NAV)</li> </ol> <p>As illustrated in the example, the \$200 gross notional exposure equals the absolute value total of both \$100 long (“gross long”) and \$100 short (“gross short”) asset exposures. The measurement of gross notional exposure varies by asset class:</p> <ul style="list-style-type: none"> <li>• <i>Equities</i> – the market value of long and short positions</li> <li>• <i>Corporate Debt and Municipal Bonds</i> – the market value of long and short positions</li> <li>• <i>US Treasuries (and other highly rated government debt)</i> – the market value of long and short positions, adjusted to a 10 year bond equivalent maturity (approximate 9 year duration), so that a \$100 exposure to a 2 year duration bond is recognized as a lower risk compared to a \$100 20 year duration bond. The \$100 3 year duration bond is said to have a \$33 10 year bond equivalent exposure (\$100 times 3, divided by 9) while the \$100 20 year duration bond is said to have a \$222 10 year bond equivalent exposure (\$100 times 20, divided by 9)</li> <li>• <i>Options</i> – the delta adjusted exposure rather than the total notional value of the underlying reference asset. Delta adjusted exposure represents the implied shares/holdings necessary to hedge the options position</li> <li>• <i>Credit Default Swaps</i> – total notional exposure of the underlying reference credit</li> <li>• <i>Interest Rate Swaps</i> – total notional exposure (expressed as 10-year bond equivalent, per the duration adjustment process described above) to reference security or index</li> <li>• <i>Futures/Forwards</i> – total notional exposure to reference security or index</li> </ul>
Limited Partner	Investors are limited partners in the hedge fund and are “limited” in that they have no voice in hedge fund investment or operational matters, and their losses are limited to amounts invested.
Limited Partnership	A legal structure usually consisting of one general partner who is the investment manager and many limited partners who put up assets to form a fund investment. The most important feature of a limited partnership is that the limited partners have limited liability as long as they do not participate in the control of the investment fund.
Liquidity	The ease with which a hedge fund can convert its holdings to cash. Funds with greater liquidity can close out of positions more easily and with fewer costs.

Lock-up	The period of time before an investor is eligible to redeem assets from a hedge fund. Lock-ups of one or two years are typical. The liquidity of the strategy and underlying positions typically influences the length of the lock-up. For example, distressed funds typically have longer lock-up periods than macro and equity long/short funds.
<i>Hard Lock-Up</i>	Assets can not be redeemed during the lock-up period.
<i>Soft Lock-Up</i>	Assets may be redeemed prior to expiration of the lock-up period, but an early withdrawal penalty must be paid to the fund.
Long positions	Long positions describe securities that were purchased. Long positions benefit from increase in securities prices.
LIBOR (Libor)	Refers to the London Interbank Offered Rate (LIBOR), which is a daily reference rate based on the interest rates at which banks borrow unsecured funds from other banks in the interbank lending market. Libor is a cash rate that serves as the base rate for most floating rate corporate debt and is highly correlated with short-term interest rates. Historically, Libor rates average 20 basis points above Treasury bill rates, a difference often referred to as the TED spread. The TED spread is often viewed as a measure of market stress that can reach levels of 100 basis points or more during financial crises.
Management Fee	Compensation paid by investors to the management company of a hedge fund. Management fees are typically used to pay for the investment manager's operating expenses, including office rent, employee salaries, research and systems. Management fees typically range from 1% to 2% of NAV.
Macro - Discretionary	See Hedge Fund Strategies
Margin	Cash posted as collateral with a broker or exchange to satisfy the trading requirements of derivative contracts.
<i>Initial Margin</i>	Cash or positions posted as collateral with a broker or exchange to satisfy the initial regulatory or internal margin requirements of listed or over the counter securities purchased with borrowed funds.
<i>Variation Margin</i>	Cash or positions that may be required to be posted as collateral with a broker or exchange to satisfy additional variation margin requirements of listed or over the counter securities purchased with borrowed funds. Variation margin payments may be required if securities purchased with borrowed funds decline significantly in value from the initial holding date.
Margin-to-equity ratio	The percentage of portfolio capital posted as collateral or "margin" with a broker or exchange (i.e., margin capital divided by total capital) against a portfolio of positions. In a portfolio composed entirely of derivative contracts, this number represents the percentage of encumbered cash in the portfolio. This is a common measure of leverage used by systematic macro managers, since it is proportional to the amount of notional exposure per dollar of capital. For example, if one systematic macro portfolio has a higher margin-to-equity ratio than another, all else being equal, the former portfolio has higher leverage.
Master-Feeder Fund Structure	A fund structure which allows for onshore and offshore fund vehicles to be managed as a single portfolio. Onshore and offshore funds are aggregated into one "master" portfolio.
<i>Master Fund</i>	The master fund is that part of a master-feeder structure into which the feeder funds invest and which manages the single combined investment portfolio. The master fund is generally a non-US corporate entity.
<i>Feeder Funds</i>	Two separate legal entities, one a U.S. onshore partnership and the other a non-U.S. offshore corporation, which accommodates investor groups with different tax and regulatory needs.
Max Drawdown	The greatest investment loss experienced by a hedge fund, measured from peak (prior highest cumulative return) to valley (subsequent lowest cumulative return).
Middle and Back Office	The non-investment side of a hedge fund's operations. Includes accounting, administration, legal, investor relations, compliance and other miscellaneous non-investment functions. Hedge funds may outsource some of these operations to third-party administrators or prime brokers.
Net Asset Value (NAV)	A fund's total assets less total liabilities.
Notification Period	The advance notice period (generally 30 to 90 days) required to submit subscription or redemption documents for investing in or redeeming from a fund.
Offshore Fund	Hedge funds which are registered/domiciled in offshore jurisdictions such as the Cayman Islands, British Virgin Islands, and Luxembourg. Offshore funds provide eligible investors with tax benefits and regulatory relief. Because offshore funds are administered outside of the U.S., non-U.S. investors and tax exempt U.S. investors such as ERISA pension funds and endowments can take advantage of tax benefits.
Onshore Fund	A fund with a U.S. legal domicile that operates under U.S. regulatory authorities and U.S. tax law. Most onshore funds are limited partnerships registered under Delaware law.

Performance (Incentive) Fee	The general partner's share of the profits, net of management fees and expenses. The performance (incentive) fee is typically 20% of net profits.
Prime Broker	A prime broker custodies assets, provides trade settlement, facilitates the financing of positions, and may perform other services. JPMorgan, Goldman Sachs, Morgan Stanley and UBS are some of the largest prime brokers.
Coefficient of Determination (R <sup>2</sup> )	The Coefficient of Determination or R-squared (R <sup>2</sup> ) is the square of the correlation coefficient and identifies the percentage of variability of one variable that is explained by another variable. For example, hedge funds have an average correlation coefficient of 0.70 with the S&P 500 Index. The coefficient of determination (R <sup>2</sup> ) is 0.49, meaning that 49% of hedge fund risk is explained by the movements in the S&P 500 index.
Return	Hedge fund returns represent the percentage change in period to period NAV and are calculated net of all fees and expenses, including accrued manager fees and incentive fees.
Serial Correlation	The correlation between current and past returns. In an efficient market, there should be no correlation between returns from one period to the next. Some hedge funds, particularly credit oriented funds, exhibit positive serial correlation which indicates that security pricing may be "sticky" and not change from period to period.
Sharpe Ratio	Commonly used measure of a manager's risk-adjusted alpha in relation to a risk-free asset (i.e. T-bill or Libor). The Sharpe ratio is equal to total return, minus Libor, divided by portfolio standard deviation. A high Sharpe ratio indicates that a manager has generated high risk-adjusted returns.
Short Position	Short positions describe securities that are borrowed (generally from a dealer or securities lender) and sold. Short positions will benefit from decreases in securities prices.
Side Letter	An addendum to the partnership and subscription agreement which stipulates key terms for a particular investor, such as negotiated fee levels, MFN (Most Favored Nation) clauses, transparency requirements, or special liquidity terms.
Side Pocket	A segregated portion of a portfolio that may be used to hold illiquid, less frequently priced securities. Once a holding is placed in a side pocket, only current investors participate in its performance. Subsequent investors do not share in the gains/losses associated with assets previously placed in side pockets. Performance fees are paid when side pocket investments are realized. Assets placed into side pockets are not available for withdrawal until the investments are sold.
Skew	Skew measures the tendency of returns to deviate from a normal or symmetrical distribution. Given two return distributions with the same mean and standard deviation, the distribution with the higher positive skew would be more desirable. Several hedge fund strategies exhibit return patterns that have negative skew, meaning that losses tend to be larger than gains. A good example is merger arbitrage where profits are limited but more common and losses are less common but larger.
Sovereign Security	A debt security issued by a national government either within a given country or in a major financial center and denominated in either the issuer's currency or a foreign currency.
Stop Loss	A trading order or automated rule to sell a security when it reaches a pre-specified price. The purpose is to limit a manager's loss on an individual security if the position experiences a decline in price.
Standard Deviation	A common quantitative measure of investment risk to show the variability from the expected return or past returns of a manager. A low standard deviation represents a lower level of risk and a high standard deviation indicates a higher level of risk.
Stress Testing	A common risk management tool to evaluate the potential impact of a particularly severe set of market conditions on an individual security or portfolio. Stress testing is intended to simulate the impact on a portfolio of a hypothetical market move (i.e. S&P 500 down -10%, credit spreads widen by 500 bps). Scenario analysis is intended to simulate the impact on a current portfolio of a past market scenario (i.e. September 11 <sup>th</sup> or post-Lehman bankruptcy).
Suspension Provisions	A hedge fund provision that allows the manager to stop all redemptions at their discretion, generally to deal with very extraordinary market circumstances.
Swap	An over-the-counter bi-lateral derivative contract that permits investors to receive one instrument or set of cash flows in exchange for a different instrument or set of cash flows. A common example is an interest rate swap, which permits investors to receive a fixed rate of interest in exchange for paying the current floating market rate.
Global Macro	See Hedge Fund Strategies
Tail Risk	A form of risk that arises when portfolio returns deviate from a "normal" or symmetrical distribution and exhibit "fat tails" where there is a greater frequency of large losses and large gains versus what would be predicted. Tail risk is usually associated with downside risk in an extreme scenario.

Tracking Error	Measure of the standard deviation of the manager's excess return versus a benchmark.
Transferability	The terms under which an investor may sell ownership rights to another investor. Typically requires the approval of the manager or administrator.
Unencumbered Cash	Unencumbered cash is equal to cash balances maintained in the portfolio in excess of regulatory or house margin requirements.
Unrelated Business Taxable Income (UBTI)	U.S. pensions and endowments enjoy special tax exempt status for income and gains earned on securities portfolios. However, when those entities are thought to abuse their status, such as when they use leverage to enhance returns or invest directly in businesses, they are subject to unrelated business taxable income, or UBTI. Since many hedge funds use leverage to enhance returns, their gains are potentially taxable to even traditionally tax exempt institutions. ERISA pension plans and endowments who have invested in hedge funds often invest in offshore hedge funds, because the offshore vehicles are structured to avoid UBTI. Public pension systems generally invest in onshore hedge funds despite potential UBTI because they believe sovereignty makes them exempt from federal taxation.