


Commonwealth of Pennsylvania Public School Employees' Retirement System

DATE: November 14, 2014

SUBJECT: PIMCO Commodity Alpha Fund Ltd. Recommendation

TO: Members of the Finance Committee

FROM: Steven M. Derr, CPA (inactive) 
Senior Portfolio Manager, Fixed Income

At the December Finance Committee meeting, staff and Aksia will recommend that PSERS invest in the PIMCO Commodity Alpha Fund Ltd. (Fund). This Fund invests primarily in market neutral, relative value commodity strategies.

Launched in March 2013, the Fund takes a diversified approach to commodity investing with a focus on risk management. The Fund seeks to generate 8% to 12% returns per year with low correlations to the commodity, equity, and fixed income markets.

Staff recommends that the Board invest \$200 million in this Fund, an amount which is within the target ranges established in Exhibit D of the Investment Policy Statement, Objectives and Guidelines as amended from time to time.

Included for your review are Aksia's recommendation letter, a presentation prepared by staff, a presentation prepared by PIMCO, and the resolution recommending the investment in the Fund. Included in your confidential folder are the confidential fund terms. Representatives from PIMCO will make a presentation to the Finance Committee and will be available for any questions.

If you have any questions or comments prior to the meeting, please contact me at 717-720-4717.



Commodities Allocation

PIMCO Commodity Alpha Fund Ltd.

December 8, 2014

Steven M. Derr, CPA (inactive)
Senior Portfolio Manager, Fixed Income

PIMCO Commodity Alpha Fund Ltd.

Overview of PIMCO

- Founded in 1971
- Owned by Allianz SE (a global financial services company)
- Manage approximately \$1.87 trillion in assets across the fixed income, equity, commodity, and alternative asset classes
- Offices located in 11 different countries
- More than 2,400 employees worldwide
 - The PIMCO Commodity Alpha Fund Ltd. (PCAF) investment management team includes 38 investment professionals (Managing Director, 2 Executive Vice Presidents, Senior Vice President, 2 Commodity Portfolio Managers, 13 Credit Analysts, 13 Risk Management Professionals, 2 Commodity Analysts, and 4 Product Management Professionals)

PIMCO Commodity Alpha Fund Ltd.

Fund Strategy

- Focus primarily on market neutral, relative value commodity strategies
- Diversified approach to commodity investing
 - Invests across a broad range of commodity markets
 - Bottom-up fundamental analysis that examines supply-demand balances and inventory projections for major commodities
 - Blend of fundamental and structural views of the commodity markets

Fund Targets

- Capacity
 - \$1 billion
- Returns
 - Target 8% to 12% annualized returns net of fees
- Volatility
 - Target 8% to 12% annualized volatility
- Correlation
 - Low correlation to equity, fixed income, and commodity markets

PIMCO Commodity Alpha Fund Ltd.

Key Investment Considerations

- PSERS will gain access to an experienced investment team focused on commodities.
- Combines fundamental commodity analysis with top-down macroeconomic themes to develop a diverse set of trade ideas.
- Risk management is fundamental. Each investment theme will contribute no more than 1/4th of the total portfolio risk and each commodity sector will contribute no more than 2/3rd of the total portfolio risk. The risk management team is independent of the portfolio management team.

Key Investment Risks

- The portfolio is primarily focused on relative value trades which require leverage
 - If an identified market dislocation worsens, the fund could suffer losses
- The size of the combined long-only and absolute return programs makes them potentially vulnerable when scaling into and out of positions.

PIMCO Commodity Alpha Fund Ltd.

Performance (through 09/30/2014)

	1 year	Inception to Date
Returns, net of fees	7.8%	16.8% (10.3% annualized)
Volatility	4.2%	3.6%
Sharpe Ratio	1.83	2.79
Bloomberg Commodity Index Total Return	-6.6%	-0.1% (-0.1% annualized)

The return data is net of the standard fee schedule

Fund inception date: March 2013

PIMCO Commodity Alpha Fund Ltd.

History with PSERS

- With this investment, PSERS will have five active investment mandates with PIMCO

Fund	PSERS Inception Date	Net Funding(s) (in millions)	Net Asset Value at 10/31/2014 (in millions)	PSERS inception to date return (annualized as of 10/31/2014)
PIMCO Absolute Return Strategy (PARS)	02/29/2008	\$134.9	\$263.3	14.9%
PIMCO Global Credit Opportunity (GCOF)	02/29/2008	\$140.9	\$244.1	10.6%
PIMCO Multi-Asset Volatility (MAV)	09/30/2012	\$224.2	\$226.5	0.5%
PIMCO Multi-Sector Strategy	05/31/2012	\$819.5	\$914.1	4.8%

PIMCO Commodity Alpha Fund Ltd.

Portfolio Use

- Invest \$200 million in the PIMCO Commodity Alpha Fund Ltd.
- Include this investment in the Commodities asset class

Other

- Relationship with Aksia: None
- Placement Agents: None
- Political Contributions in PA: None
- Introduction Source: Existing PSERS relationship

PIMCO Commodity Alpha Fund Ltd.

Recommendation

Staff, together with Aksia LLC, recommends (i) that the Board invest \$200 million in the PIMCO Commodity Alpha Fund Ltd., and (ii) that the Investment Office shall have the discretion to invest additional sums within the target ranges approved by the Board in Exhibit D of the Investment Policy Statement, Objectives and Guidelines, as amended from time to time, provided that any investment of an additional sum by the Investment Office shall be reported to the Board in a timely manner.

DISCLAIMER: This document was presented to the Public School Employees' Retirement Board at the public meeting at which the Board acted on the resolution to which the information relates. The sole purpose for posting the presentation information on this website is to enable the public to have access to documents that were utilized at a public meeting of the Public School Employees' Retirement Board, and no other purpose or use is intended.

Appendix - Correlations

Correlation (as of 09/30/2014)	PIMCO Commodity Alpha Fund	Bloomberg Commodity Index Total Return	S&P 500 Index	Barclays Global Aggregate Index
PIMCO Commodity Alpha Fund	1.00	-0.04	0.43	-0.10
Bloomberg Commodity Index Total Return	-0.04	1.00	0.42	0.14
S&P 500 Index	0.43	0.42	1.00	-0.01
Barclays Global Aggregate Index	-0.10	0.14	-0.01	1.00

**Proposed
PSERB Resolution 2014-_____**
Re: PIMCO Commodity Alpha Fund Ltd.
December 8, 2014

RESOLVED, that pursuant to the recommendations of Steven M. Derr, Senior Portfolio Manager, and Aksia, LLC, dated November 14, 2014, the Finance Committee of the Public School Employees' Retirement Board (the "Board") hereby recommends (i) that the Board invest an initial amount of \$200 million in the PIMCO Commodity Alpha Fund Ltd., and (ii) that the Investment Office shall have the discretion to invest additional sums within the target ranges approved by the Board in Exhibit D of the Investment Policy Statement, Objectives and Guidelines, as amended from time to time (the current version of which can be found at <http://www.pasers.state.pa.us/investment/guide/guide.htm>), provided that any investment of an additional sum by the Investment Office shall be reported to the Board in a timely manner.

The final terms and conditions of the investment must be satisfactory to the Investment Office, the Office of Chief Counsel, and the Office of Executive Director, as evidenced either by the appropriate signatures on, or by a memo to that effect appended to, the implementing investment contract.



Commodities Allocation

PIMCO Commodity Alpha Fund Ltd.

December 8, 2014

[NEXT](#)

Steven M. Derr, CPA (inactive)
Senior Portfolio Manager, Fixed Income

Manager Recommendation Memo

November 14, 2014

Board of Trustees
 Pennsylvania Public School Employees' Retirement System
 5 North Fifth Street
 Harrisburg, PA 17101

Re: PIMCO Commodity Alpha Fund Ltd.

Dear Trustees:

Aksia LLC, having been duly authorized by the Board of PSERS, has evaluated and herewith recommends a direct allocation to PIMCO Commodity Alpha Fund Ltd. ("PCAF") in line with PSERS Investment Policy Statement, Objectives, and Guidelines.

PCAF is a commodity relative value fund led by Mihir Worah, who has been with PIMCO since 2001 and has headed the commodities effort since 2008, but is also responsible for other real return strategies such as inflation-linked bonds. His role on this fund consists primarily of setting the overall macro tilt and risk levels of the fund while vetting and sizing trades conceived by the three strategists. Prior to PIMCO, Worah was a postdoctoral fellow in theoretical physics at UC-Berkeley. The strategists are all seasoned commodities professionals with backgrounds primarily in research. Greg Sharenow led energy research at Goldman Sachs and then specialized in oil trading within DE Shaw's highly profitable energy team, Gillian Rutherford was an agriculture strategist at JP Morgan and Armajaro Asset Management, and Nic Johnson has a more quantitative bent and has been at PIMCO for 7 years, researching and implementing structural strategies.

Commodity relative value funds are few in number and generally run by niche operators dedicated to a single sector such as agricultural commodities or power and gas. PCAF is a relatively unique product in that it seeks to take RV positions across all major commodity sectors, and has the infrastructure advantages of being housed in one of the world's largest asset managers. The manager's approach is to identify opportunities in spread trades by analyzing publicly available data. Trades are constructed in 10-20 themes, with the intention of avoiding undue risk in any one spread. While they don't claim to have an edge in any particular market, they attempt to compensate by running a relatively large number of positions without concentrating risk in any one of them, an approach that we view favorably. Likewise, we have a positive view of PIMCO's independent risk management and find the manager's risk systems to be credible.

Aksia's recommendation is based upon the following analytical factors and is made within the context of PSERS' investment guidelines:

- Due diligence of PCAF's investment process, including a review of their investment strategy, investment team and structure, and risk management process;
 - Most recent on-site Investment Due Diligence visit conducted May 20, 2014.
 - The following is a listing of the relevant points of contact with the manager since the most recent on-site Investment Due Diligence.

Date	Nature of Contact	Aksia Points of Contact
November 4, 2014	Monthly Performance Update	L. Cinamon
October 9, 2014	Calls with CIO & President	K. Chen
October 3, 2014	Monthly Performance Update	L. Cinamon
September 30, 2014	Call discussing management changes	J. Hemley
September 28, 2014	Monthly Performance Update	L. Cinamon
August 8, 2014	Monthly Performance Update	L. Cinamon
June 16, 2014	Portfolio follow-up with PMs	L. Cinamon

- Due diligence of PCAF's operations, including an operations and infrastructure review, regulatory and compliance review, PPM review, Form ADV review, and Financial Statement Review;
 - Most recent on-site Operational Due Diligence visit conducted January 24, 2014.
- Evaluation of PCAF's strategy within the context of the current investment environment; and
- Appropriateness of PCAF as a component of PSERS' portfolio.

This recommendation is given solely for the benefit of PSERS and cannot be relied upon by other investors considering an investment in PCAF, since their needs, objectives and circumstances may not be identical to those of PSERS. The scope of this recommendation is limited to the investment merits of PCAF. Aksia manager recommendation memos should be reviewed with other Aksia due diligence materials, including the full Investment Review and Operational Review. In addition, please consult your tax, legal and/or regulatory advisors before allocating to any private investment fund.

Please feel free to contact us should you have any questions about this recommendation.

Respectfully,



Bruce Ruehl
Partner, Head of Portfolio Advisory, Americas



Norman Kilarjian
Partner, Head of Relative Value and Tactical Trading

P I M C O

Your Global Investment Authority

An Introduction to PIMCO Commodity Alpha Fund:

Pennsylvania Public School Employees' Retirement System

8 December 2014



Disclosures

This is neither an offer to sell nor a solicitation of an offer to buy interest in a fund. Offers are made solely pursuant to the Private Placement Memorandum. This material has been prepared for informational purposes only, and is not intended to provide, and should not be relied on for, accounting, legal or tax advice. You should consult your tax or legal adviser regarding such matters. Only qualified investors may invest in the Fund.

PIMCO Investments LLC, 1633 Broadway, New York, NY 10019, is a company of PIMCO. PIMCO Investments LLC (“PI”), a U.S. broker-dealer registered with the U.S. Securities and Exchange Commission, serves as the principal underwriter for the U.S. registered PIMCO Funds (“Funds”) and placement agent for the PIMCO-sponsored private funds (the “Private Funds”).

For Qualified Investor Use Only

Biographical information

Ignacio Galaz, CFA

Mr. Galaz is a senior vice president and account manager in the New York office, focusing on client servicing for public institutions. He is also responsible for leading PIMCO's minority broker outreach program to provide opportunities to small minority- and women-owned business enterprises. He joined PIMCO in 2000 and worked most recently as a senior associate in account management in New York and previously as a trading assistant on the short-term bond desk in Newport Beach. He has 13 years of investment experience and holds an MBA from the MIT Sloan School of Management and an undergraduate degree from Chapman University. In 2009 he received a Toigo fellowship, which is awarded to MBA candidates who demonstrate leadership within the finance industry.

Bob Greer

Mr. Greer is an executive vice president and real return product manager in the Newport Beach office. Prior to joining PIMCO in 2002, he was with JPMorgan Chase and Daiwa Securities as a developer and product manager of commodity indexes. Mr. Greer has investment experience with real return products, including commodities, real estate and inflation-linked bonds. He has also written about them in investment journals and publications and is the author of "The Handbook of Inflation Hedging Investments," published in 2005. He also co-authored "Intelligent Commodity Indexing," published by McGraw Hill in 2012. He has over 30 years of investment experience and holds an MBA from the Stanford University Graduate School of Business and an undergraduate degree from Southern Methodist University.

Thomas J. Otterbein, CFA

Mr. Otterbein is a managing director in the Newport Beach office, an account manager and head of PIMCO's client management group in the Americas. In addition to his institutional client servicing responsibilities, he serves on the firm's Global Operating and New Product Business Review Committees. Before returning to Newport Beach in 2006, he managed the firm's Northeast client service office in New York City for five years. He has 26 years of investment experience and holds an MBA from the University of Chicago Graduate School of Business and undergraduate degrees from Carnegie Mellon University.

Mihir P. Worah

Mr. Worah is CIO Real Return and Asset Allocation and a managing director in the Newport Beach office, a portfolio manager, and head of the real return and multi-asset portfolio management teams. Prior to joining PIMCO in 2001, he was a postdoctoral research associate at the University of California, Berkeley, and the Stanford Linear Accelerator Center, where he built models to explain the difference between matter and anti-matter. In 2012 he co-authored "Intelligent Commodity Indexing," published by McGraw-Hill. He has 13 years of investment experience and holds a Ph.D. in theoretical physics from the University of Chicago.

Agenda

1. PSERS Relationship Summary
2. PIMCO Summary
3. PIMCO Commodity Alpha Fund Overview
4. Additional Items

1. PSERS Relationship Summary

PSERS relationship summary

As of 31 October 2014

Account Name	Strategy	Portfolio Manager	Inception Date	Since inception annualized performance (%)	YTD performance (%)	Correlation to equities	Correlation to fixed income	Market value (\$mm)
PIMCO Global Credit Opportunity Fund (GCOF) ¹	Credit Relative Value Hedge Fund	Dan Ivascyn, Jon Horne	2/29/08	10.84	7.60	0.18	0.12	244.1
PIMCO Absolute Return Strategies V Fund (PARS V) ¹	Global Macro Hedge Fund	Qi Wang	2/29/08	15.24	12.70	0.43	0.41	263.3
PIMCO Multi-Asset Volatility Fund (MAV) ¹	Relative Value Volatility Hedge Fund	Josh Thimons	9/30/12	0.44	5.21	0.09	0.32	226.5
PIMCO Multi-Sector Strategy Fund ²	Tactical Asset Allocation – PSERS Fixed Income Policy Benchmark	Curtis Mewbourne	5/31/12	5.35	6.28	0.39	0.89	914.1
U.S. Core Plus ^{2,3}	Fixed Income – Core Plus	Saumil Parikh	4/27/87	8.45	N/A	0.18	0.94	0

As of 31 October 2014

¹ Since inception annualized performance and YTD performance represent returns net of administrative fee, but are gross of management and incentive fees given PSERS netting arrangement.

² Since inception annualized performance and YTD performance represent returns gross of fees.

³ Portfolio transitioned into the PIMCO Multi-Sector Strategy Fund as of 31 May 2012.

Refer to Appendix for additional investment strategy and risk information.

2. PIMCO Summary

PIMCO snapshot

History

- Founded in 1971
- Investment solutions include fixed income, equities, alternatives and asset allocation
- Assets under management: \$1.87 trillion
 - \$1.47 trillion in third-party client assets
 - Full complement of vehicles to meet client needs (mutual funds, separate accounts, LPs, ETFs)

People

- Employees** **2,462**
- Investment professionals 758
 - Technical and support 1,704
 - Collaborative team-oriented approach
- | Highly experienced | Avg Yrs Experience | Avg Yrs at PIMCO |
|--------------------------------|--------------------|------------------|
| ▪ All investment professionals | 13 | 6 |
| ▪ Senior professionals | 20 | 9 |

Global presence

Offices	Investment Professionals
Amsterdam	2
Hong Kong	15
London	131
Milan	3
Munich	63
New York	120
Newport Beach	358
Rio de Janeiro	6
Singapore	10
Sydney	15
Tokyo	27
Toronto	4
Zurich	4



As of 30 September 2014
 Effective 31 March 2012, PIMCO began reporting the assets managed on behalf of its parent's affiliated companies as part of its assets under management.

PIMCO alternatives platform and philosophy

PIMCO HAS MANAGED ALTERNATIVE STRATEGIES SINCE 2004 AND HAS OVER 70 INVESTMENT PROFESSIONALS DEDICATED TO THE PLATFORM

- **\$15.7** bn in hedge fund and hybrid fund assets
- **\$8.1** bn in outstanding commitments to distressed/real-estate strategies; **\$16.2** bn in cumulative commitments
- **Over \$330** mm of voluntary employee after-tax capital invested in PIMCO alternatives funds

INTEGRATES PIMCO'S TIME-TESTED INVESTMENT PROCESS WITH ALTERNATIVES SPECIFIC RESOURCES

- Funds benefit from PIMCO's world class macroeconomic leadership while utilizing granular credit expertise
- Investment teams include hedge fund experienced investment managers
- Leverages sourcing and trading relationships across asset classes
- Extensive risk management and analytics infrastructure

NARROW PRODUCT RANGE EXCLUSIVELY FOCUSED ON PIMCO'S CORE COMPETENCIES

- Focus only on strategies where PIMCO has a high PM competency and a competitive advantage
- Access to world-class investment professionals and thought leadership across eight global trading offices

BEST PRACTICES IN CLIENT SERVICE

- Commitment to transparency
- Fund terms highlight alignment with clients
- Focus on properly matching liquidity of assets with fund liquidity terms

As of 31 October 2014
Refer to Appendix for additional investment strategy and risk information.

3. PIMCO Commodity Alpha Fund Overview

PIMCO Commodity Alpha Fund (PCAF) overview

Investment strategy and objective

- A commodity hedge fund that **focuses primarily on market neutral, relative value strategies**
- Seeks to generate absolute-returns with **low correlations to the commodity, equity and fixed income markets**
- Takes a **diversified approach** to commodity investing
 - **Does not rely on commodity beta** to generate returns
 - Invests across a **broad range of commodity markets** rather than focusing on one commodity and/or sector
 - Relies primarily on bottom-up commodity research, considering PIMCO's macro views, to develop a **diverse set of trade ideas**
 - Blends **fundamental and structural views** of the markets in its portfolio construction
- Focus on **risk management** utilizing PIMCO's proprietary risk systems

Fund details

- Launched March 2013
- Targets an after fee return of **8-12% per annum** with comparable volatility
 - **6.6% YTD** and **10.0% annualized** since inception return, net of fees¹
- \$141 mm Fund AUM
 - Anticipated initial capacity of \$1 Bn

As of 31 October 2014

¹ Since inception: March 2013. Performance reflects a Series 1 investment. Refer to Appendix for additional investment strategy, outlook, return target, and risk information.

PCAF's key advantages

Established commodity practice

- PIMCO is a leading commodities manager with approximately \$24 billion in AUM across commodity mandates
- Managed by a team of seasoned commodity portfolio managers, with nearly 50 years of collective experience

Consistent Return Profile

- Unique approach has yielded **consistent, positive alpha each calendar year** since 2007
- Track record of commodity alpha demonstrates **low correlation** to commodities, bonds and equities
- Implement relative value trades with **little directional commodity exposure**

Attractive Market environment

- Regulatory developments are putting pressure on proprietary bank trading, creating inefficiencies that present compelling opportunities for return generation in commodity markets
- Dispersion across individual commodities has been on the rise as markets return to trading based on commodity-specific fundamental factors

As of 31 October 2014
Refer to Appendix for additional investment strategy, outlook and risk information.

PCAF portfolio management team

PORTFOLIO OVERSIGHT

Mihir Worah, MD

CIO Real Return and Asset Allocation

13 years industry experience

COMMODITY PORTFOLIO MANAGERS

MULTI-SECTOR, RISK ALLOCATION

Nic Johnson, EVP

10 years industry experience

Pioneer in identifying and quantifying structural commodity risk premiums

ENERGY

Greg Sharenow, EVP

15 years industry experience

Prior commodity trading and research experience at Hess Energy Trading, Goldman Sachs and DE Shaw

AGRICULTURE

Gillian Rutherford, SVP

10 years industry experience

Commodity research, strategy and finance focus, most recently at Armajaro and JPMorgan

Additional commodity PM resources

Andrew Dewitt

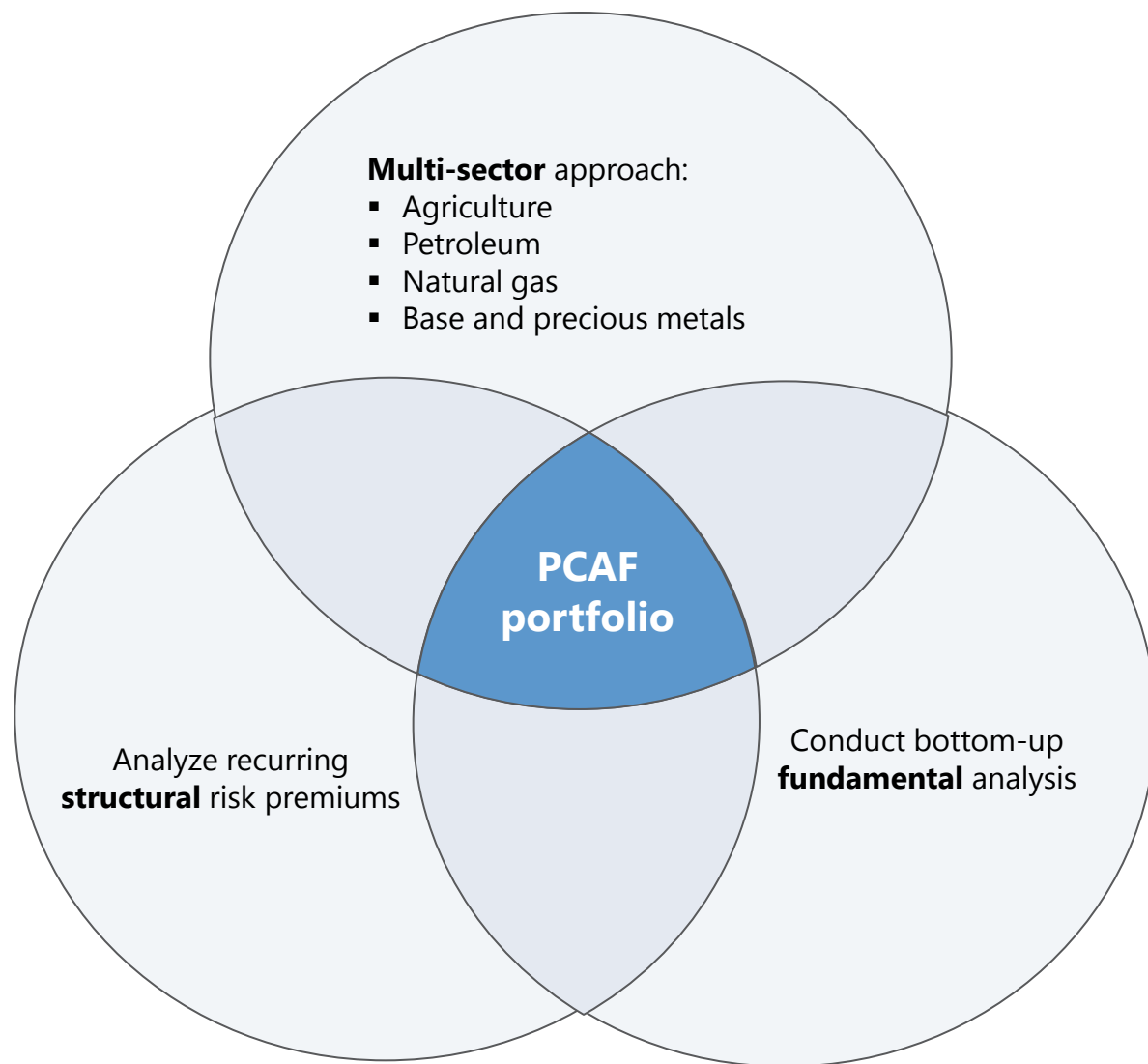
Lillian Lin

FIRM-WIDE RESOURCES

CREDIT ANALYSTS	RISK MANAGEMENT	COMMODITIES ANALYTICS	PRODUCT MANAGEMENT
Zeljka Bosner (E&P, Refiners)	Bill De Leon	Lutz Schloegl	Bob Greer
Raja Mukherji (Metals, Mining)	Christian Stracke	Ran Duan	Bransby Whitton
+11 other resource analysts	+ 11 Global Risk Specialists		Klaus Thuerbach
			Berdibek Ahmedov (London)

As of 31 October 2014

PCAF blends fundamental and structural views across commodity markets



Diversification targets

- Construct a well-diversified portfolio of **8 to 15 commodity investment themes**
- Volatility contribution constraints are applied to commodity sectors and trades
 - Each theme is expected to contribute **no more than 1/4th of total portfolio risk**
 - Each commodity sector is expected to contribute **no more than 2/3rd of total portfolio risk**

Refer to Appendix for additional investment strategy, portfolio structure and risk information.

PCAF's trade idea generation process

Commodity market analysis

Fundamentals

- Supply outlook
- Inventory levels
- Consumer demand

Flows

- Producer hedging
- Speculative positioning

Technicals

- Investor behavior
- Seasonality
- Volatility

Consider macro views

- Global growth
- Economic cycle



Inter-commodity strategies

Trade highly correlated commodities or inputs versus products in an effort to tactically exploit relative value distortions

Examples: WTI vs Brent crude, Ethanol vs corn

Calendar / seasonality strategies

Manage exposure across forward curves in an effort to capitalize on inventory pressures, seasonal risk premiums and other factors

Examples: Short natural gas spreads, Short soybean spreads

Fundamentally-driven directional views

Implement directional exposures based on supply/demand analysis or carry opportunities

Examples: Long gold, Long deferred natural gas

Commodity volatility strategies

Identify pockets of structurally rich volatility, whether caused by physical hedgers, futures speculators or Wall Street dealers

Examples: Sell index or single commodity volatility

Refer to Appendix for additional investment strategy and risk information.

PCAF's differentiated approach to risk management

Portfolio risk management is fundamental to PCAF's investment process, and leverages PIMCO's world-class proprietary systems and controls to support portfolio oversight.

PCAF Portfolio Managers focus on:

- Construction of a well-diversified portfolio
 - 8 to 15 commodity investment themes
- Position sizing
 - Each investment theme is expected to contribute no more than 1/4th of total portfolio risk
 - Each commodity sector is expected to contribute no more than 2/3rd of total portfolio risk
- Potential correlation of positions to commodity risk factors
- Managing to an 8-12% annualized volatility target

PIMCO's independent Risk Management team:

- Monitors and enforces PCAF risk guidelines
 - Includes limits on maximum volatility, net commodity exposure, leverage, etc.
- Provides analytical tools, VaR and scenario analysis
- Monitors regulatory and political developments

Refer to Appendix for additional investment strategy and risk information.

Key Takeaways

Why now?

- Proprietary bank trading in commodities is on the decline due to regulatory changes
- Dispersion across commodities has increased
- Correlation of commodities to other asset classes has returned to historically low levels
 - Risk drivers in commodities are distinct from those in equities and fixed income
- When markets deteriorate, alpha investing should offer the most diversification

Why PIMCO?

- One of the leading and most tenured global commodity managers
- Dedicated commodity team with extensive history in market research, portfolio management and industry presence
- Unique approach to commodity investing designed to yield positive alpha
- A time-tested leader in risk management with robust proprietary risk systems

As of 31 October 2014
Refer to Appendix for additional investment strategy and risk information.

4. Additional Items

PIMCO Commodity Alpha Fund performance

PIMCO Commodity Alpha Fund

Market value as of Oct '14

\$ 141 million

Monthly returns for the Commodity Alpha Fund (% net of fees)

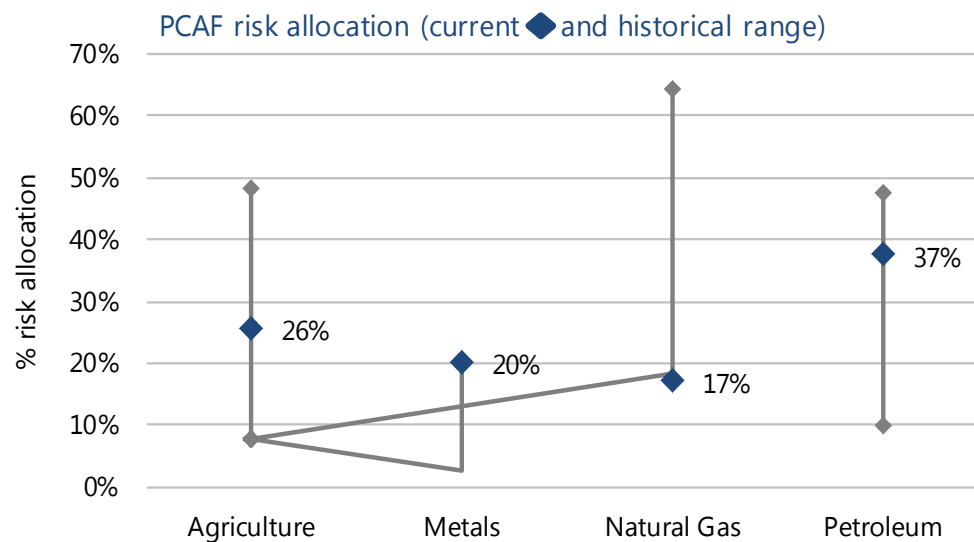
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
2013			1.58	1.20	1.53	-0.02	1.01	0.80	1.98	0.89	-0.71	1.39	10.05
2014	-1.40	0.27	2.14	-0.62	0.98	1.80	1.32	2.11	-0.54	0.38	-	-	6.56

Since inception cumulative return **17.26**

Since inception annualized return **10.03**

Attribution (% net of fees)

Sector	2013	2014 YTD
Agriculture	2.31	1.84
Metals	-0.15	0.08
Natural gas	-0.78	-2.45
Petroleum	6.12	6.57
Other*	2.55	0.52
Total	10.05	6.56



As of 31 October 2014

Performance reflects the fees applicable to a Series 1 investment.

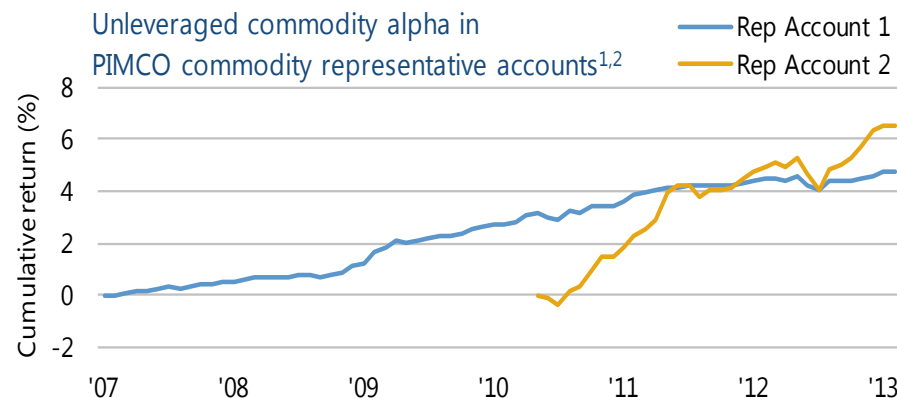
All periods longer than one year are annualized

* Includes index relative value strategies and collateral

Refer to Appendix for additional performance and fee, attribution analysis, portfolio structure and risk information.

Historical commodity alpha

- A live track record with a focus on delivering consistent alpha from active commodity trading, including during the 2008 crisis¹
- Demonstrated ability to scale up the size and volatility of active commodity trades, as shown by Representative Account 2
 - Scaling up trades even further and removing the commodity index beta exposure is the next step
- Commodity alpha in PIMCO representative accounts exhibits low correlation to broad commodity and equity markets



Commodity Alpha in PIMCO Representative Accounts^{1,2}

	Unleveraged annualized returns (%)	Unleveraged volatility (%)	Net annualized returns (%) scaled to 10% volatility model ³	Correlation to broad commodities ⁴	Correlation to equities ⁴	Correlation to fixed income ⁴
Rep Account 1	0.77	0.40	16.06	-0.13	-0.05	0.03
Rep Account 2	2.40	1.25	15.91	-0.40	-0.13	-0.18

As of 28 February 2013

¹ The track record illustrates active commodity management since January 2007, when it first began, to the present. Representative account 1 inception: 28 Jun '02, Representative account 2 inception: 28 May '10. Commodity alpha (before fees) is the excess return (alpha) stemming from active commodity strategies that, in these representative accounts, are overlaid on top of the core commodity index exposure. The benchmark for the representative account 1 is the Bloomberg Commodity Index, and the benchmark for the representative account 2 is the Credit Suisse Commodity Benchmark. The representative accounts are managed with respect to a broad commodity index; therefore their total returns will be driven primarily by the performance of their respective benchmarks. The performance shown does not represent the overall total return of the underlying representative accounts and is before application of any fees. If fees were applied, returns would be lower. The performance does not reflect the returns of any overall existing PIMCO managed account and PIMCO makes no representation that any account would have results similar to those shown. The PIMCO Commodity Alpha Fund (PCAF) is not designed to gain broad commodity index exposure; therefore, its total return is expected to be driven primarily by the performance of the commodity alpha strategies. Commodity alpha strategies are comprised of active commodity trading that could include directional exposure to individual commodities or commodity sectors, relative value positioning across related commodities or across commodity forward curves and selling structurally rich volatility in commodity markets.

² PIMCO believes that the commodity alpha performance records of the representative accounts are relevant to prospective investors because each account represents the largest account within the actively managed commodity strategies. The representative accounts are actively managed commodity strategies that seek to track and outperform the returns on a broad commodity index. The representative accounts have different investment strategies, risks, and investment considerations than the PIMCO Commodity Alpha Fund. Fees and expenses in the PIMCO Commodity Alpha Fund will be different. The team responsible for the management of PCAF is comprised of the lead portfolio managers for the representative accounts and an additional commodity portfolio manager. No guarantee is being made that the structure or actual account holdings of any account will be the same or that similar returns will be achieved. **Past performance is not a guarantee or a reliable indicator of future results and no assurance can be made that the Fund will achieve returns comparable to the representative accounts.** Additional fee and expense information will be available in the Fund's offering memorandum.

³ **Hypothetical example for illustrative purposes only.** Based on representative accounts' commodity alpha scaled up to 10% volatility. The performance data for Representative Account 1 and Representative Account 2 are each presented pro forma net of the fees and expenses expected to be incurred by the Fund, as such fees and expenses are summarized in the Appendix, and as further described in the Fund Documents (as defined in the Appendix). The fees and expenses expected to be incurred by the Fund are estimates. The actual fees and expenses that are ultimately incurred by the Fund may be higher or lower than these estimates.

⁴ Correlations are based on PIMCO representative accounts monthly commodity alpha (before fees) from 1 Jan '07 for representative account 1 and from 28 May '10 for representative account 2. Note: Bloomberg Commodity Index, S&P 500 and Barclays U.S. Aggregate Index are compared as asset classes. Refer to Appendix for additional performance and fee, hypothetical example, index, investment strategy, and risk information.

Proprietary commodity-specific risk management tools offer transparent position risk estimates and specific trade construction tools

- Proprietary model for calculating VaR for commodity portfolios
- Model consists of 42 commodity curves, each composed of 26 key points covering maturities from 1 month to 5 years
- Incorporates covariance matrices, which are based upon various historical time periods ranging from 1 month to 5 years, that give both high and low frequency measures of risk
- Model offers flexibility to analyze trades on a standalone basis or to evaluate the impact of each trade on the overall portfolio
- Model is able to estimate total Vol and VaR at different confidence levels and based on various time frames

						Portfolio Exposure	Benchmark Exposure	Relative Exposure	Factor Volatility	Portfolio Volatility (bp)
☐	Currency	☐	☐	☐	☐	100.00	100.00	0.00	7.76 %	1
	Rates	☐	☐	☐	☐	0.33	0.22	0.11	0.55 %	0
	Commodity	☐	☐	☐	☐					
		Petroleum	☐	☐	☐	1.64	0.00	1.64	19.84 %	193
		Natural Gas	☐	☐	☐	9.30	0.00	9.30	25.07 %	294
		Agriculture	☐	☐	☐	0.07	0.00	0.07	22.49 %	115
		Precious Metal	☐	☐	☐					
			Gold	☐	☐	6.85	0.00	6.85	15.59 %	24
			Silver	☐	☐	0.04	0.00	0.04	28.64 %	0
		Total	☐	☐	☐	6.89	0.00	6.89	19.94 %	24
		Base Metal	☐	☐	☐	0.23	0.00	0.23	24.16 %	29
		Livestock	☐	☐	☐	-0.41	0.00	-0.41	17.70 %	0
	Total	☐	☐	☐	☐	17.72	0.00	17.72	21.51 %	655
	DM Sovereign Spread	☐	☐	☐	☐	0.00	0.00	0.00	0.52 %	0
	Credit Spread	☐	☐	☐	☐	0.11	0.00	0.11	0.44 %	0
	Convexity/Gamma	☐	☐	☐	☐	-0.78	0.00	-0.78	0.00 %	39
	EM Spread	☐	☐	☐	☐	0.00	0.00	0.00	0.34 %	0
	Total	☐	☐	☐	☐					695

As of 31 August 2014

Sample for illustrative purposes only

Refer to Appendix for additional risk information.

PIMCO's extensive history and experience in commodities

- One of the leading global commodity managers with approximately \$24 billion* in commodity mandates
 - Launched its commodity business in 2000, first focusing on a portable alpha structure around a commodity index
 - In 2004, began incorporating structural commodity alpha trades, which are discretionary trades that seek to capture recurring risk premiums in commodity markets
 - Over time, grew the talents and capabilities of our team and expanded into fundamentally-driven alpha strategies
 - In 2013, launched a commodity hedge fund, using fundamental and structural views to implement relative value trades with little directional commodity exposure
- Dedicated commodity team with extensive history in market research, portfolio management and industry presence
- A time-tested leader in risk management with robust proprietary risk systems and a keen focus on downside risk

As of 31 October 2014

* Assets include fund of funds allocation
Refer to Appendix for additional investment strategy and risk information.

Management team details

Mihir P. Worah

Mr. Worah is a CIO – Real Return and a managing director in the Newport Beach office. He leads both the Real Return (which includes commodities) and Asset Allocation portfolio management teams; is one of three portfolio managers for the PIMCO Total Return Fund; and has management responsibilities within the PM group. PIMCO's commodity team is responsible for guiding firm's views on the commodity markets and implementing commodity-related trades in client portfolios, which represent over \$24 billion in assets. Mr. Worah's involvement in the commodity markets began in 2002 with the launch of the innovative PIMCO CommodityRealReturn strategy, which is currently one of the world's largest commodity strategies with over \$13 billion in assets under management. He has been managing the strategy and leading PIMCO's commodity team since 2008. Mr. Worah is the author of several articles and book chapters on real asset investing, and is frequently a featured speaker at investment conferences. Most recently, with his colleagues Nicholas J. Johnson and Bob Greer, he co-authored the book, "Intelligent Commodity Indexing," which lays out enhanced strategies for investors in commodities. Prior to joining PIMCO in 2001, he was a postdoctoral research associate at the University of California, Berkeley, and the Stanford Linear Accelerator Center, where he built models to explain the difference between matter and anti-matter. He holds a Ph.D. in theoretical physics from the University of Chicago.

Nicholas J. Johnson

Mr. Johnson is an executive vice president in the Newport Beach office and a portfolio manager focusing on commodities. He is the primary or co-portfolio manager across PIMCO's commodity mandates, representing over \$24 billion in assets. Mr. Johnson has deep understanding of structural risk premiums, while incorporating fundamental understanding of the markets to develop relative value views across a range of commodity sectors. He also works with Mihir to oversee the overall commodity portfolio risk allocation and construction process. He joined PIMCO in 2004 and managed the portfolio analyst group prior to joining the commodity portfolio management team in 2007. With his colleagues Mihir Worah and Bob Greer, he co-authored the book, "Intelligent Commodity Indexing," which lays out some of the structural opportunities for investors in commodities. Prior to joining PIMCO, he worked at NASA's Jet Propulsion Laboratory, developing Mars missions and new methods of autonomous navigation. He has ten years of investment experience and holds a master's degree in financial mathematics from the University of Chicago and an undergraduate degree in mechanical engineering from California Polytechnic State University.

Greg E. Sharenow

Mr. Sharenow is an executive vice president in the Newport Beach office and a portfolio manager focusing on commodities. He has an industry-wide reputation for his specialization in fundamental research and analysis of the energy markets, including petroleum and natural gas. Mr. Sharenow is also responsible for informing PIMCO's broader views on energy and guiding other portfolio managers on developments in this space. Prior to joining PIMCO in 2011, he was an energy trader at Hess Energy Trading, Goldman Sachs and DE Shaw, working in a pure proprietary trading capacity. Mr. Sharenow started his career as a senior energy economist at Goldman Sachs, where he supported traders and marketers as an analyst responsible for North American energy research and global petroleum markets. Together with two Goldman colleagues, Mr. Sharenow authored "Beating Benchmarks: A Stockpicker's Reality, Part II," which was published in "The Journal of Portfolio Management" and received the Second Annual Bernstein Fabozzi/Jacobs Levy Award for Outstanding Article during volume year 1999-2000. He has 15 years of investment experience and holds bachelor's degrees in mathematical methods in the social sciences and in economics from Northwestern University.

Appendix

PERFORMANCE AND FEE

Past performance is not a guarantee or a reliable indicator of future results. The performance data in Section 3, “Historical track record” for Representative Account 1 and Representative Account 2 are each presented pro forma net of the fees and expenses expected to be incurred by the Fund, as such fees and expenses are summarized below, and as further set forth in the Fund’s Confidential Private Placement Memorandum Fund (and each supplement accompanying such Private Placement Memorandum), organizational documents, subscription agreement and any other definitive legal Fund documents, in each case as amended (the “Documents”). The fees and expenses expected to be incurred by the Fund include: a management fee, administration fee and incentive fee (as set forth in Section 5, “Fund terms”); organizational expenses (which are expected to be amortized during the first fiscal year of the Fund’s operations), due diligence costs and other costs, expenses and liabilities related to the identification, purchase, holding and sale of investments (including legal), brokerage commissions, spreads and other transactional expenses; interest expense on borrowings; fees and expenses of special consultants, and other service providers engaged by the Fund; expenses of annual meetings; taxes and tax compliance expenses; fees and expenses of its directors; litigation expenses and regulatory-related legal expenses; its pro rata share of the expenses of PIMCO Commodity Alpha Master Fund not specifically assumed by PIMCO; and any other operational expenses not specifically assumed by PIMCO. For purposes of netting the fees and expenses expected to be incurred by the Fund, investments are assumed to have been made from the Fund’s inception date and held through the applicable performance period. The fees and expenses expected to be incurred by the Fund are estimates. The actual fees and expenses that are ultimately incurred by the Fund may be higher or lower than the estimated figures used herein. The **Fund’s** fees will be discussed within its Documents. Any investment decision must be based only on the Fund’s Private Placement Memorandum, organizational documents, subscription agreement and any other definitive legal Fund documents (the “Documents”), which shall govern in the event of any conflict with the information contained herein. **You must rely only on the information in the Documents in making any decision to invest.**

The information is being furnished to you solely for the purpose of giving you a preliminary indication of the strategy and structure of PIMCO Commodity Alpha Fund and is not to be used for any other purpose or made available to anyone not directly concerned with your evaluation of the possibility of requesting further information regarding an investment. The summary of the structure and other information for PIMCO Commodity Alpha Fund mentioned in the presentation are not and do not purport to be complete, and are qualified by and subject in their entirety to the Documents. If you express an interest in investing in the Fund, an offer will be made pursuant to, and you will be provided with, the Documents.

This summary is for informational purposes only, and does not constitute an offer to sell, or a solicitation of an offer to buy, the Fund described above or to participate in any trading strategy. In the event that an offer were to be made, any such offer would be made only after a prospective purchaser has had the opportunity to conduct its own independent evaluation of the Fund and has received all information required to make its own investment decision, including a copy of the Documents, which contain material information not included herein and to which prospective purchasers are referred. This summary is intended solely to determine the level of interest, if any, in PIMCO Commodity Alpha Fund. No person has been authorized to give any information or to make any representation with respect to the Fund other than those contained in this summary and, if given or made, such information or representations must not be relied upon as having been authorized. Each prospective investor should consult its own counsel, accountant, or tax or business adviser as to legal, accounting, regulatory, tax and related matters, as well as economic risks and merits, concerning the possibility of making an investment in the Fund.

CERTAIN RISKS

The Fund is not subject to the same regulatory requirements as mutual funds. The Fund may be, and is expected to be, leveraged and may engage in speculative investment practices that may increase the risk of investment loss. The use of leverage may cause a portfolio to liquidate positions when it may not be advantageous to do so to satisfy its obligations or to meet segregation requirements. Leverage, including borrowing, may cause a portfolio to be more volatile than if the portfolio had not been leveraged. The Fund’s performance could be volatile; an investor could lose all or a substantial amount of its investment. The Fund manager has broad trading authority over the Fund. The use of a single adviser applying generally similar trading programs could mean lack of diversification and, consequently, higher risk. The Fund is not restricted to tracking a particular benchmark by client guidelines. There is no secondary market for interests in the Fund and none is expected to develop. There are restrictions on transferring interests in the Fund and limited liquidity provisions. The Fund’s fees and expenses may offset its trading profits. It is likely that the Fund will utilize complex tax structures and there may be delays in distributing important tax information.

Investing in the bond market is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and the current low interest rate environment increases this risk. Current reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. Sovereign securities are generally backed by the issuing government, obligations of U.S. Government agencies and authorities are supported by varying degrees but are generally not backed by the full faith of the U.S. Government; portfolios that invest in such securities are not guaranteed and will fluctuate in value. Investing in foreign denominated and/or domiciled securities may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. Commodities contain heightened risk including market, political, regulatory, and natural conditions, and may not be suitable for all investors. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and while generally backed by a government, government-agency or private guarantor there is no

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assurance that the guarantor will meet its obligations. Municipals may realize gains may be subject to state and local taxes and may at times be subject to the alternative minimum tax. High-yield, lower-rated, securities involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. Entering into short sales includes the potential for loss of more money than the actual cost of the investment, and the risk that the third party to the short sale may fail to honor its contract terms, causing a loss to the portfolio. Derivatives and commodity linked derivatives may involve certain costs and risks such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested.

A purchase of interests in the Fund involves a high degree of risk that each prospective investor must carefully consider prior to making such an investment. Investors should thoroughly review the Fund's Private Placement Memorandum for a more complete description of these risks. Prospective investors are advised that investment in the Fund is suitable only for persons of adequate financial means who have no need for liquidity with respect to their investment and who can bear the economic risk, including the possible complete loss, of their investment.

ATTRIBUTION ANALYSIS

The attribution analysis contained herein is calculated by PIMCO and is intended to provide an estimate as to which elements of a strategy contributed (positively or negatively) to a portfolio's performance. Attribution analysis is not a precise measure and should not be relied upon for investment decisions.

CORRELATION

The correlation of various indices or securities against one another or against inflation is based upon data over a certain time period. These correlations may vary substantially in the future or over different time periods that can result in greater volatility.

HYPOTHETICAL EXAMPLE

No representation is being made that any account, product, or strategy will or is likely to achieve profits, losses, or results similar to those shown. Hypothetical or simulated performance results have several inherent limitations. Unlike an actual performance record, simulated results do not represent actual performance and are generally prepared with the benefit of hindsight. There are frequently sharp differences between simulated performance results and the actual results subsequently achieved by any particular account, product, or strategy. In addition, since trades have not actually been executed, simulated results cannot account for the impact of certain market risks such as lack of liquidity. There are numerous other factors related to the markets in general or the implementation of any specific investment strategy, which cannot be fully accounted for in the preparation of simulated results and all of which can adversely affect actual results.

INVESTMENT STRATEGY

There is no guarantee that these investment strategies will work under all market conditions or are suitable for all investors and each investor should evaluate their ability to invest long-term, especially during periods of downturn in the market. Additionally, the investment guidelines referenced herein are for indicative purposes only, and the Fund may exceed such guidelines in the ordinary course. Any applicable investment guidelines are described in the Fund Documents in more detail, and such description shall take precedence over the summary included herein.

OUTLOOK

Statements concerning financial market trends are based on current market conditions, which will fluctuate. There is no guarantee that these investment strategies will work under all market conditions or are suitable for all investors and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market. Outlook and strategies are subject to change without notice.

PORTFOLIO STRUCTURE

The portfolio structure presented is intended to illustrate sectors in which the portfolios may invest. The structure is subject to change, and no guarantee is being made that the Fund's actual portfolio will resemble the illustrative portfolio presented herein.

RETURN TARGET

The Targets were calculated based on projected cash flows for a model portfolio that is comprised of hypothetical portfolio investments that are consistent with the Fund's investment strategy and takes into consideration (among other factors) assumptions with respect to projected valuations of the hypothetical portfolio investments at future dates, market conditions, broad general macroeconomic factors, the availability of leverage and financing at expected costs and other terms, anticipated contingencies and portfolio investment concentrations in certain assets.

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The targeted return set forth above is not a prediction or projection of actual investment results and there can be no assurance that any targeted return for an investment or, in the aggregate, for the Fund, will be achieved. Investors should also be aware that a relatively high targeted return, such as that set forth above, entails concomitantly greater risks of adverse investment results. The targeted return set forth above is an aggregate target and is based on the targeted returns that PIMCO intends to use as selection criteria in connection with the evaluation of individual investments for the Fund. The target return of any individual investment is intended to be commensurate with the assessed degree of risk and can be lower or higher, depending on the nature of any individual investment. PIMCO's evaluation of a investment for the Fund will be, in turn, based on PIMCO's internal analysis and evaluation of the investment and on numerous investment-specific assumptions that may not be consistent with future market conditions and that may significantly affect actual investment results.

No representation or warranty is made as to the reasonableness of the assumptions made or that all assumptions used in calculating the target return have been stated or fully considered. The Fund's ability to achieve investment results consistent, in the aggregate, with the targeted return set forth above depends significantly on a number of factors in addition to the accuracy of such assumptions. These factors include the Fund's ability to identify a sufficient number and mix of suitable investments to achieve full investment consistent with the Fund's asset allocation criteria and investment strategy, and the Fund's overall ability to execute its investment strategy successfully. Each of these is subject to the potential risks they are summarized below. In any event, the past performance of previous investments made by PIMCO is not necessarily indicative of future performance and there can be no assurance that PIMCO will succeed in identifying a sufficient number and mix of investments consistent with the targeted return objective set forth above or the Fund's investment philosophy, investment strategy and current investment allocation targets. Such targets may be adjusted in light of available opportunities or changing market conditions.

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INDEX DESCRIPTION

Barclays U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

The Credit Suisse Commodity Benchmark is an unmanaged index composed of futures contracts on 30 physical commodities. The objective of the benchmark is to gain exposure to the broad commodity universe while maintaining sufficient liquidity. Commodities were chosen based on world production levels, sufficient open interest, and volume of trading. The index is designed to be a highly liquid and diversified benchmark for commodities as an asset class.

The Dow Jones UBS Commodity Total Return Index is an unmanaged index composed of futures contracts on 20 physical commodities. The index is designed to be a highly liquid and diversified benchmark for commodities as an asset class. Prior to May 7, 2009, this index was known as the Dow Jones AIG Commodity Total Return Index.

The S&P 500 Index is an unmanaged market index generally considered representative of the stock market as a whole. The index focuses on the Large-Cap segment of the U.S. equities market.

It is not possible to invest directly in an unmanaged index.