Santa Barbara County Employees' Retirement System (SBCERS)

Overlay Introductory

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Overlay Overview

Parametric Overlay Solutions by the Numbers

$140B

overlay assets
under management[1]

11

'37 Act County Peers that are Parametric Overlay Clients

42

dedicated investment personnel

>$1 trillion

exposure value
traded in 2023

30+

years of experience
managing overlay programs

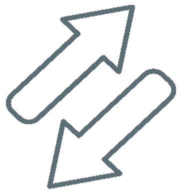
All numbers are approximate as of 12/31/2023.
[1]Assets under management include overlay assets managed on a discretionary and non-discretionary basis.

Overlay Services – Big Picture

Institutional investors employ overlay strategies to help them better implement and achieve their policy objectives. Typical applications include:

- Streamlining the management of fund liquidity
- Eliminating cash drag on performance
- Managing transition market exposure
- Synthetically rebalancing fund exposures

Overlay Strategies Provide:



Return/cost improvement

Risk management

Increased efficiency

Investing in an overlay strategy involves risk. All investments are subject to loss. Please refer to Overlay Solutions: What Are the Risks and other Disclosures in the Appendices for additional information

Solving Implementation Challenges with Core Overlay

Parametric Core Overlay Solutions may help mitigate policy implementation challenges

Potential Solution	*What it provides:*
Cash overlay	> Eliminates cash drag on operating and manager cash balances > Improved liquidity and reduced transaction costs > Increased expected returns
Transition overlay	> Reduction of performance risk through mitigation of exposure gaps > Added flexibility in manager terminations and new manager searches > Exposure throughout long-settled redemptions (e.g. hedge fund receivables)
Rebalancing overlay	> Daily monitoring of portfolio allocations and thresholds > Prompt rebalancing of portfolio exposures > Reduced transaction costs and tracking error

Intended component may not meet benefits listed. There is no guarantee that the investment objectives will be achieved. All investments are subject to loss.

Futures Overview

What Are Futures?

Definition

- A futures contract ("future") is an agreement to buy or sell an underlying asset or index on a specific future date, at a pre-set price.

History

- In the mid-19th century, organized grain markets were established for farmers to sell their commodities for either immediate delivery (spot trading) or future delivery at a pre-set price.
- Today, futures are available not only for agricultural goods but also currencies and financial instruments such as Treasury bonds, the S&P 500 Index, and a wide array of other indices.

Futures are the primary investment instrument utilized in the Overlay Strategies we are discussing today

What Are Futures?

Characteristics

- Standardized contracts, exchange-traded
- Futures are partially funded, traded on margin:
  - Initial Margin Requirement (collateral posted to exchange)
  - Variation Margin - gains/losses are marked-to-market daily (virtually eliminating market risk)
- Efficiently priced with very low transaction costs
- Users include Money Managers, Fund Sponsors, Index Funds, and Hedgers
- Wide variety of liquid futures types available, including:
  - U.S. Equity - S&P 500 Composite, S&P 400 Mid Cap, Russell 2000 indices
  - U.S. Fixed - Treasury Securities (2, 5, 10, 20 and 30 year)
  - International Equity - MSCI EAFE, Emerging Markets and several foreign country indices
  - International Fixed Income - foreign country government contracts
  - Commodities - S&P GSCI and DJ-UBSSM indices, numerous individual commodities

Futures Indexing Illustration

Futures can provide a return approximately equal to a benchmark index when fully funded

Total Index Return = Price Return + Dividends

≈

Gain/Loss on Index Futures

+

Money Market Interest[1]

The above illustrates the basic overlay principle of transforming existing cash exposure (with cash drag) to desired benchmark index exposure

[1]Money market interest may vary depending upon the particular Money Market or STIF investment the client is invested in.
For illustrative purposes only.

Overlay Application of Futures

A primary driver of instrument selection is the overlay application and frequency of overlay adjustments

Overlay Strategy	Key Strategy Considerations	Instrument Application
Cash Overlay	***Frequent adjustments***, driven by cash flow activity	Futures maximize trade flexibility due to frequency of trading.
Rebalancing	Less frequent but potentially transient positions, with an emphasis on ***prompt and in-tandem execution***	Futures prioritize ability to promptly execute rebalancing trades and mitigate timing mismatch.
Transitions	Usually short-term (<3 months), and ***can require intraday adjustments*** to align with underlying manager transactions	Futures provide flexibility to transact intraday in coordination with underlying managers.
Completion	Can be strategic or tactical in nature. Instrument selection is ***dependent on time horizon and level of customization***.	Futures used for short-term or broad-based exposure.

For informational purposes only. Not a recommendation to buy or sell any particular instrument.

Why Parametric?

Parametric has been helping institutional investors and Public Plans like SBCERS meet their policy objectives for over 30 years

We can provide you with:

Capabilities and resources

> Extensive risk management capabilities
> Transparent, fund-wide reporting available on a daily basis
> Proprietary technology
> Thought leadership

Flexible, innovative solutions

> Rules-based, risk-controlled approach to managing unique client objectives
> Customization across a comprehensive range of investment solutions
> Deep experience in equity risk mitigation strategies

Expertise

> Access to our investment professionals and our operational and accounting expertise
> Tailored transitions and implementations
> Partnership approach
> Custom client reporting

Opinions offered constitute our judgement. Certain statements contained herein reflect the subjective views of Parametric and its personnel and as such cannot be independently verified.

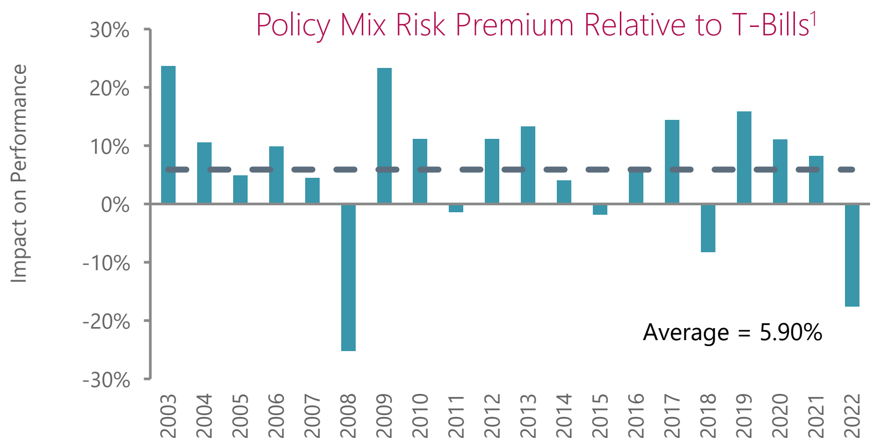
Appendix

Cash Overlay: A Closer Look (Illustrative Example)

An overlay program can eliminate cash drag, improving portfolio returns

Example policy mix	
S&P 500®	20%
Russell 2000	10%
MSCI EAFE	20%
MSCI EM	10%
Barclays Aggregate	40%
Total	100%

Example average 12-month rolling return (2003–22)[1]	
Policy mix	7.63%
Treasury bills	1.73%
Risk premium	5.90%



- A sample 60/40 equity/fixed income policy mix had an average 12-month rolling return of 7.63% from 2002 to 2022, earning an average risk premium of 5.90% over T-Bills.
- A plan holding 2% residual cash over that time period would have generated an estimated annual performance slippage of 12 basis points on the total plan assets

[1]Illustration reflects a 20-year period from 1/1/2003 - 12/31/2022. Results are simulated and do not represent the results of any investor and may not be relied upon for investment decisions.
[2]Returns are presented net of management fees and expected transaction costs. Transaction costs are assumed to be 5bps, which is accounted for in the returns of the simulation. This analysis assumes the following fee schedule: 15bps per year on the first $50mm, 10bps per year on the next $50mm, 5bps per year on any remaining amount; $1,800/year retainer fee; defaults to $75k annual minimum.
For illustrative purposes only to show how holding unintended cash can create performance drag relative to the benchmark. Parametric's Cash Overlay strategy is designed to help eliminate this inefficiency. The illustrative example results are based on index movements. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and other expenses. Results based on individual policy mix managed by underlying managers will vary from those demonstrated. All investments are subject to loss. Please refer to the Disclosures for additional information. Sources: Bloomberg, Parametric; Date: 12/31/2022.

Cash Overlay Illustrative Example

Fund Liquidity Position

> $4 Billion fund has $100 million in cash to meet liquidity needs

Fund Challenge

> On-demand cash needs create cash drag

Potential Cash Overlay Solution

> Futures contracts are used to obtain market exposure on cash holdings
> A portion of cash is moved to the Parametric account as margin for the overlay

Cash Overlay Example

Asset Class	Policy Targets	Exposure Before Overlay	Overlay Exposure	Exposure After Overlay
Equity	60%	$2,324,000,000	$76,000,000	$2,400,000,000
Fixed Income	40%	$1,576,000,000	$24,000,000	$1,600,000,000
Existing Cash		$85,000,000		
Parametric Cash Balance		$15,000,000		
Total Cash Exposure	**0%**	**$100,000,000**	**-$100,000,000**	**$0**

For informational purposes only.
The example is provided for illustrative purposes only. Client experience will vary. Investing in an overlay involves risk. There is no assurance that the strategy will be successful or that Parametric will achieve profits or avoid incurring losses.

Futures Margin Example

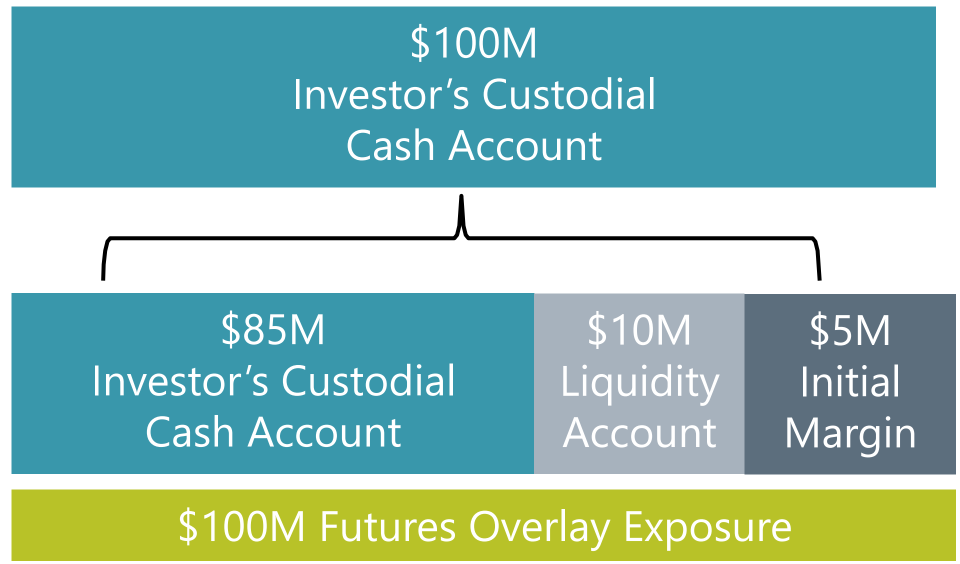
Assumptions:

- $100 million S&P 500® overlay
- 5% Initial Margin Requirement[1]
- 10% to Liquidity Account

Current Cash Structure: Single Cash Account: $100 million Cash

New Cash Structure: Addition of Liquidity Account and Futures Initial Margin from $100 million cash

Futures overlay adds market exposure equal to total cash



Overlay via futures mitigates cash drag, while preserving on-demand liquidity

[1]Initial Margin Requirement % used was based on S&P 500® future initial margin as of 12/7/2022 rounded to nearest whole number. For illustrative purposes only.

Synthetic Instruments: Key Characteristics

Futures, Swaps, and Physical Securities (including ETFs and Treasuries) are instruments commonly utilized for overlay strategies. Key characteristics of each include:

	Futures	Bilateral OTC Swaps	ETFs & Treasuries
Common Application	**Position is not fully funded. Use futures when benchmark can be easily tracked with liquid index futures and/or turnover is expected to be frequent.**	Position is not fully funded, client has operational ISDAs. Use bilateral OTC swaps when neither futures nor centrally cleared swaps can adequately track the designated benchmarks, and/or overlay turnover is expected to be low.	Position is fully funded. Use when liquid ETFs and/or physical treasuries that closely track the benchmark are available.
Account Setup	**Futures Commission Merchant (FCM) Account**	ISDA[1]	Custody Account
Counterparty Risk	**Low**	Moderate, subject to ISDA terms	Low
Collateral Requirements	**Initial Margin: 2%-10% of Notional Daily Mark-to-Market**	Initial Margin: 0%[2] Daily collateral posting based on defined threshold	Fully funded (100%)
Exposure Availability	**Limited to available listed contracts or basket approach**	Extensive array of exposures available including customized exposures	Extensive array of exposures available
Tracking Error	**Variable Based on Benchmark**	Extremely Low	Generally low, but can vary
Trade Flexibility	**Highly flexible to trade intra-day and certain exposures trade virtually around the clock**	Less flexible, as swaps are typically traded at index close and may have to be aligned a day in advance[3]. Additionally, some exposures contain break fees for early terminations.	Highly flexible to trade intra-day during US market hours
Trading Costs	**Low – Highly liquid, narrow bid/offer spreads**	No explicit cost – embedded in financing cost	Variable – management fees plus initiation and removal costs

[1]Parametric has a suite of umbrella ISDAs clients can utilize to access bi-lateral OTC exposures
[2] The equivalent of initial margin is referred to as an independent amount. While typically zero, the need to post an independent amount will be governed by the investors' ISDA and CSA agreements.
[3]Advanced trading is typically required for international or global exposures
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Derivatives such as futures, swaps, and other investment strategies have certain disadvantages and risks. Futures require the posting of initial and variation margin. Therefore, a portion of risk capital must be preserved for this purpose rather than being allocated to a manager. Liquid futures may not exist for published benchmarks which may result in tracking error. Also, some intraperiod mispricing may occur. Swaps require periodic payments, may be less liquid than futures, and may have counterparty/credit risk. Some investment strategies require a cash investment equal to the desired amount of exposure.

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