

SBCERA – Exposure Management Overview

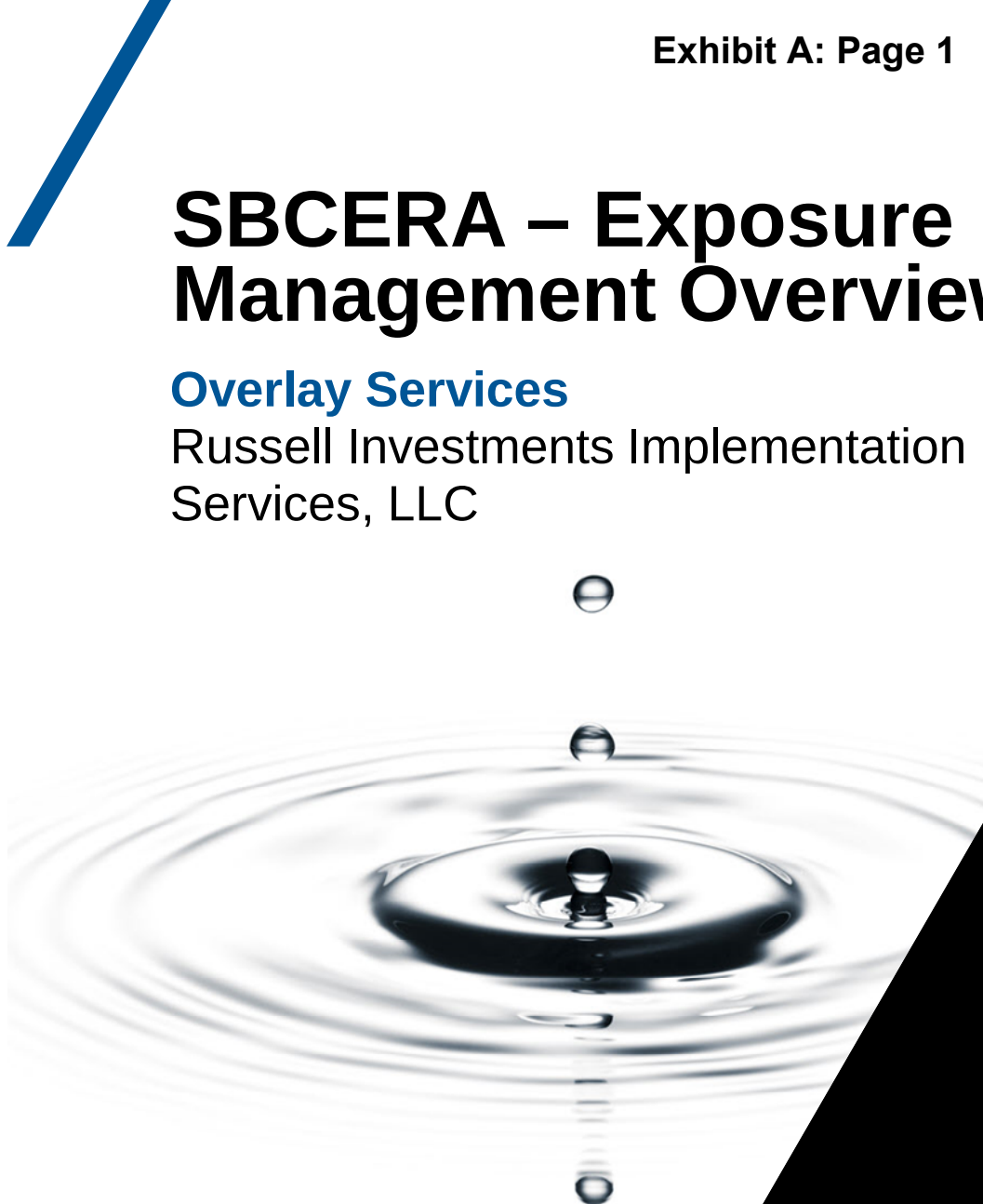
Overlay Services

Russell Investments Implementation Services, LLC

GREG NORDQUIST, CFA
Director, Overlay Strategies

KARL SAHLIN, CPA
Senior Portfolio Manager

October 13, 2020



Agenda

Overview

Basics of futures

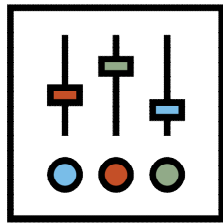
How do futures work?

Appendix

Implementation Services

Why use an Overlay for Managing complex asset allocations

GOALS



Risk reduction



Cost reduction



Return Enhancement

HOW - By adding value across portfolios and saving every basis point possible.

EXPOSURE MANAGEMENT

- > Cash equitization & Rebalancing
- > Tactical rebalancing
- > Liability Driven Investing
- > Currency hedging
- > Downside protection
- > Enhanced Portfolio Implementation

SPECIALITY ASSET MANAGEMENT

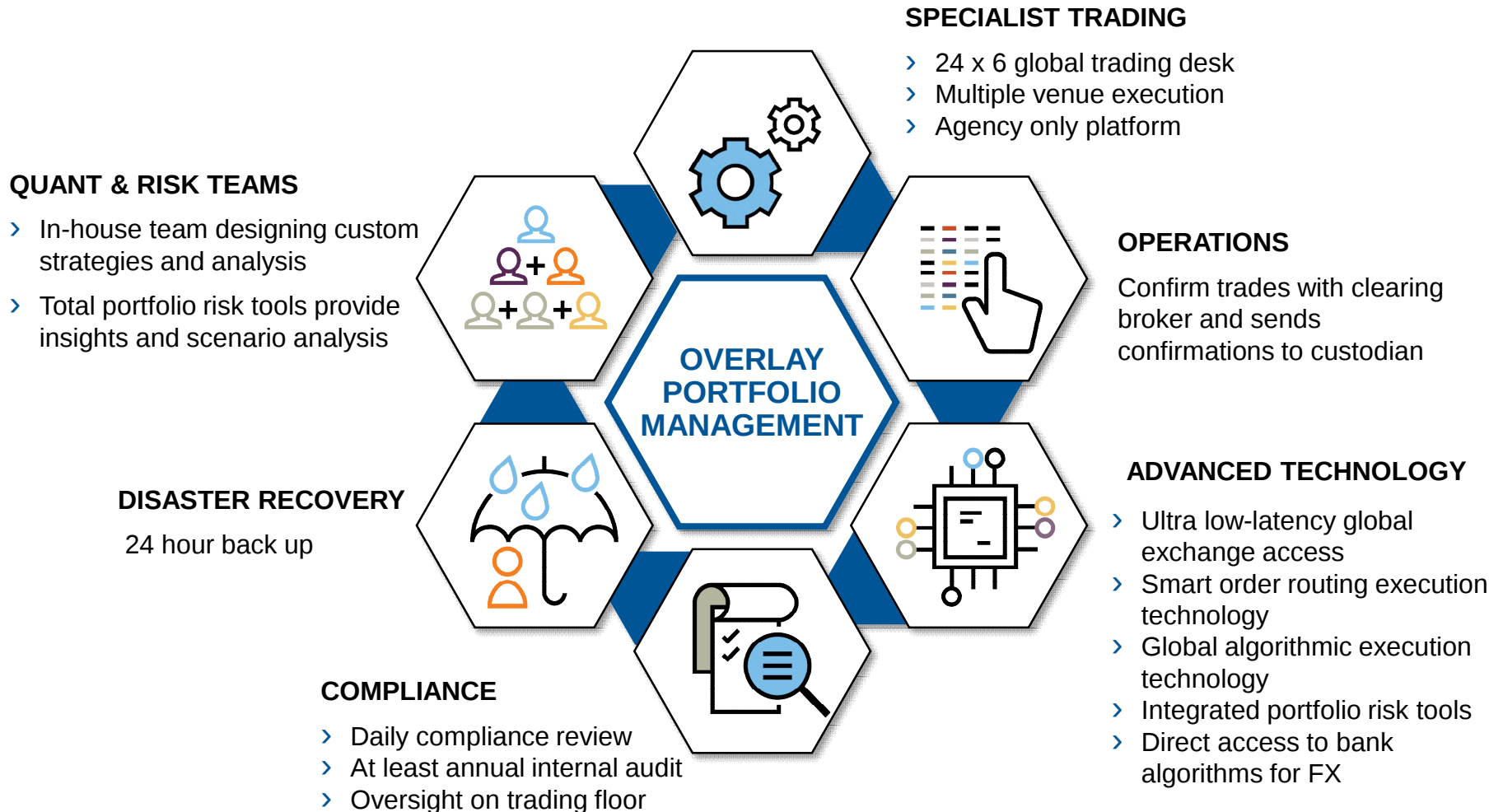
- > Managing implementation delays
- > Manager changes and terminations
- > Interim portfolio assignments
- > Expressing factor beliefs through positive exposures and completion portfolios
- > Custom quantitative strategies

EXECUTION MANAGEMENT

- > Provide global scale and execution expertise
- > Measuring and controlling FX and execution costs
- > Managing hidden costs
- > Trading transparency and oversight (agency model)
- > Alignment of interests

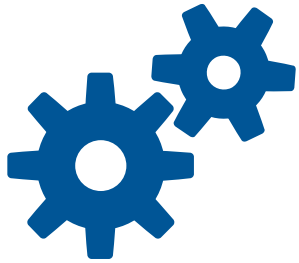
Source: Russell Investments. For illustrative purposes only.

Seamless coordination and oversight



Drawdown management

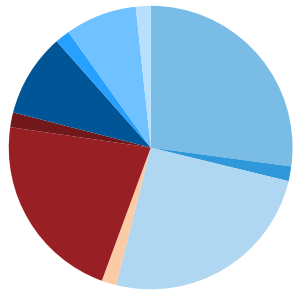
Frameworks for managing equity beta risk



Tactical Hedging

Derivative Overlays provide flexibility to adjust equity beta risk

- › Futures to de-risk immediately
- › Options for downside protection or upside participation
- › Requires tactical timing decision



Strategic Allocation

Ongoing systematic strategies to limit risk and asset draw-downs

- › Structural risk premiums
- › “Alternative/Smart” Beta
- › Embed positive skew and improve wealth compounding

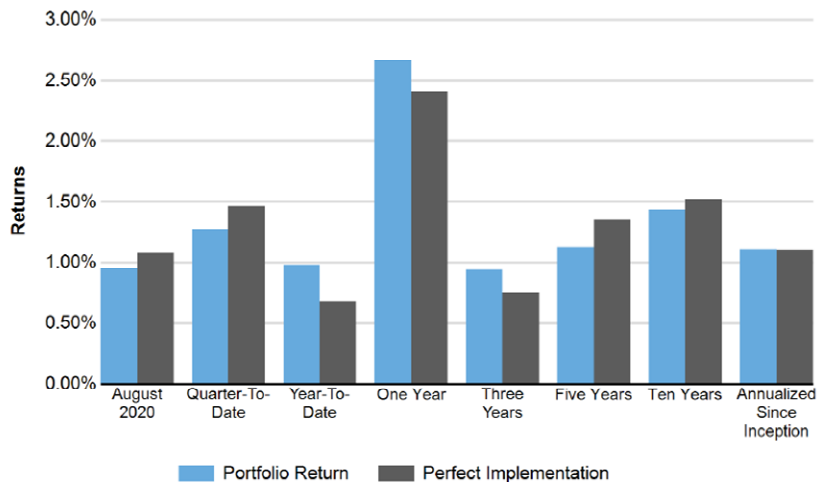
The referenced solutions are representative and not all inclusive.

SBCERA – Performance summary

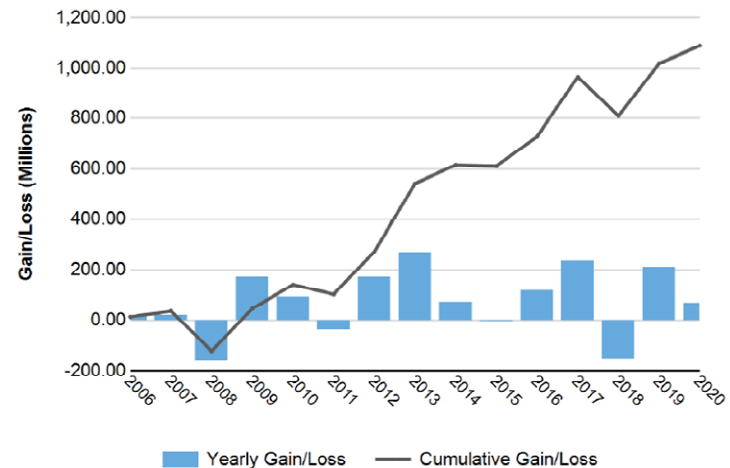
As of August 31, 2020

Time Period	Gain/Loss	Portfolio Return*	Perfect Implementation*
August 2020	100,263,715.49	0.95 %	1.08 %
Quarter-To-Date	131,573,086.97	1.27 %	1.47 %
Year-To-Date	69,061,111.31	0.98 %	0.68 %
One Year	246,924,557.42	2.67 %	2.41 %
Three Years	250,386,184.05	0.94 %	0.75 %
Five Years	492,970,192.08	1.13 %	1.35 %
Ten Years	1,054,430,479.85	1.44 %	1.52 %
Annualized Since Inception	76,820,753.92	1.11 %	1.11 %
Cumulative Since Inception	1,088,118,624.06	16.94 %	16.84 %

Portfolio Return vs Perfect Implementation



Yearly Gain/Loss vs Cumulative



Inception date: 06-Jul-2006. Annualized if greater than one year

*Perfect Implementation assumes all trades at the prior day close, no transaction costs, and returns equal to physical benchmark(s). In addition, 3-month LIBOR (daily calculated) is subtracted from the total return benchmark in the calculation of the perfect implementation benchmark. For illustrative purposes only. Past performance is not a guarantee of future results.

Basics of futures

Reasons to use futures

- > Usually cheaper than trading stocks
- > Lower credit risk than OTC products
- > Risk management
- > Efficient use of cash
 - > Do not need 2 days settlement to raise cash
 - > Not fully funded (typically cash need is 15%-20% of exposure)
- > Standardized product
- > No explicit premium
- > Definitely want the exposure
- > Daily mark to market

What is a futures contract?

- > A futures contract is an obligation to buy/sell some asset at some date in the future
 - > Futures were first traded on the CBOT in the 1860's
- > Asset could be anything – corn, oil, exposure to an equity index, Treasuries or other financial product
- > A financial future differs from a commodity-based future
 - > Underlying the contract is a set of financial assets (e.g. S&P 500 Index)
 - > Virtually all financial futures contracts are closed or rolled prior to expiration

Example of a financial futures contract

US Equity

Long Sep S&P 500 (“e-mini” contract)

- > Contract (plus cash) represents “synthetic” exposure to the S&P 500 Index
 - > Futures + Cash (LIBOR) should provide similar return pattern to investing in S&P 500 Index in physical securities
- > The notional value is equal to the contract multiplier¹ x price
 - > Each contract = \$140,000 (50 * \$2800²)
 - > \$100 mil of exposure would require 714 contracts
- > Contract expires on the third Friday of June³
 - > Let contract expire (i.e. settle with cash)
 - > Enter into an offsetting trade
 - > Roll into next contract (e.g. from June '19 to Sep '19)

¹ Multiplier varies by contract

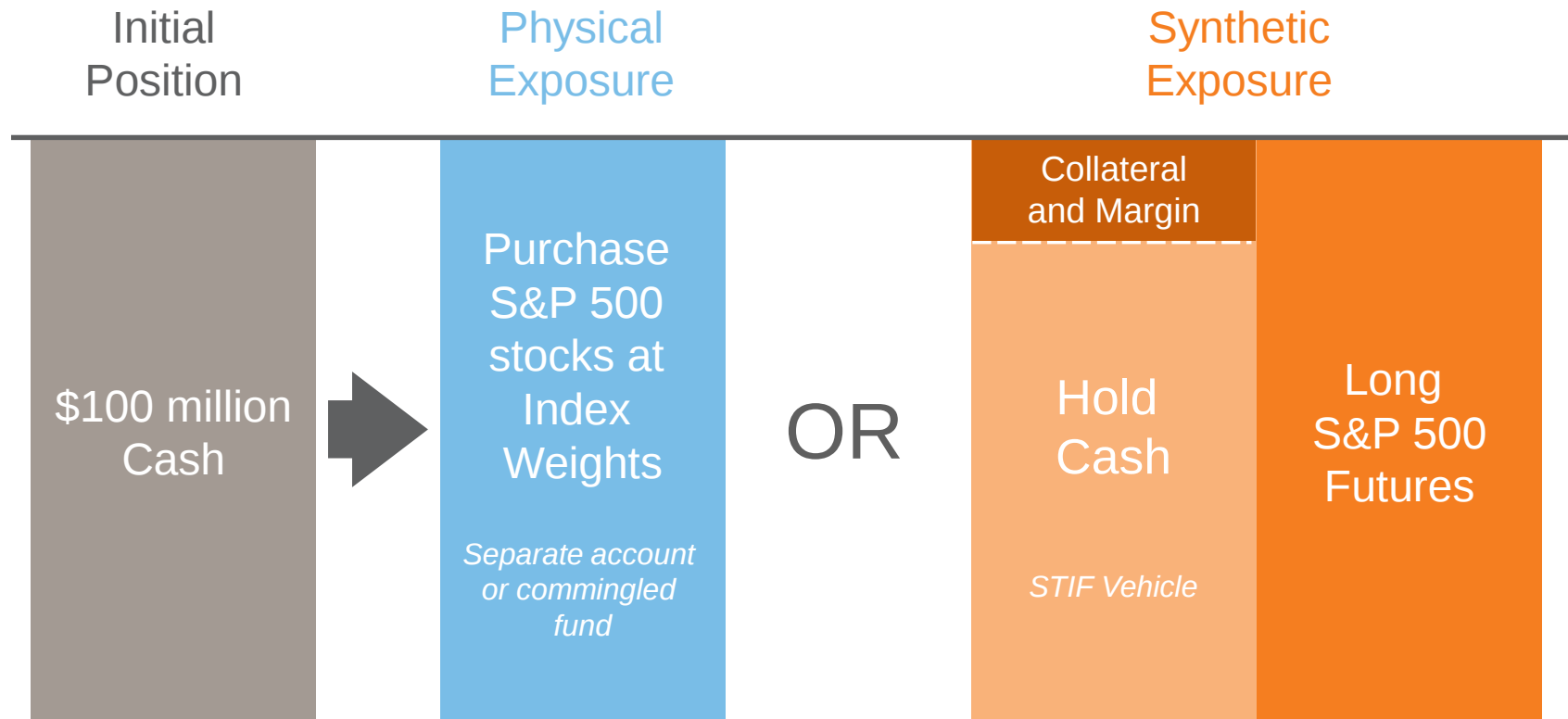
² Price indicated for illustrative purposes only

³ In the US, expiration is at the open of the third Friday of March, June, Sept, Dec
Indexes are unmanaged and cannot be invested in directly.

How do futures work?

Example

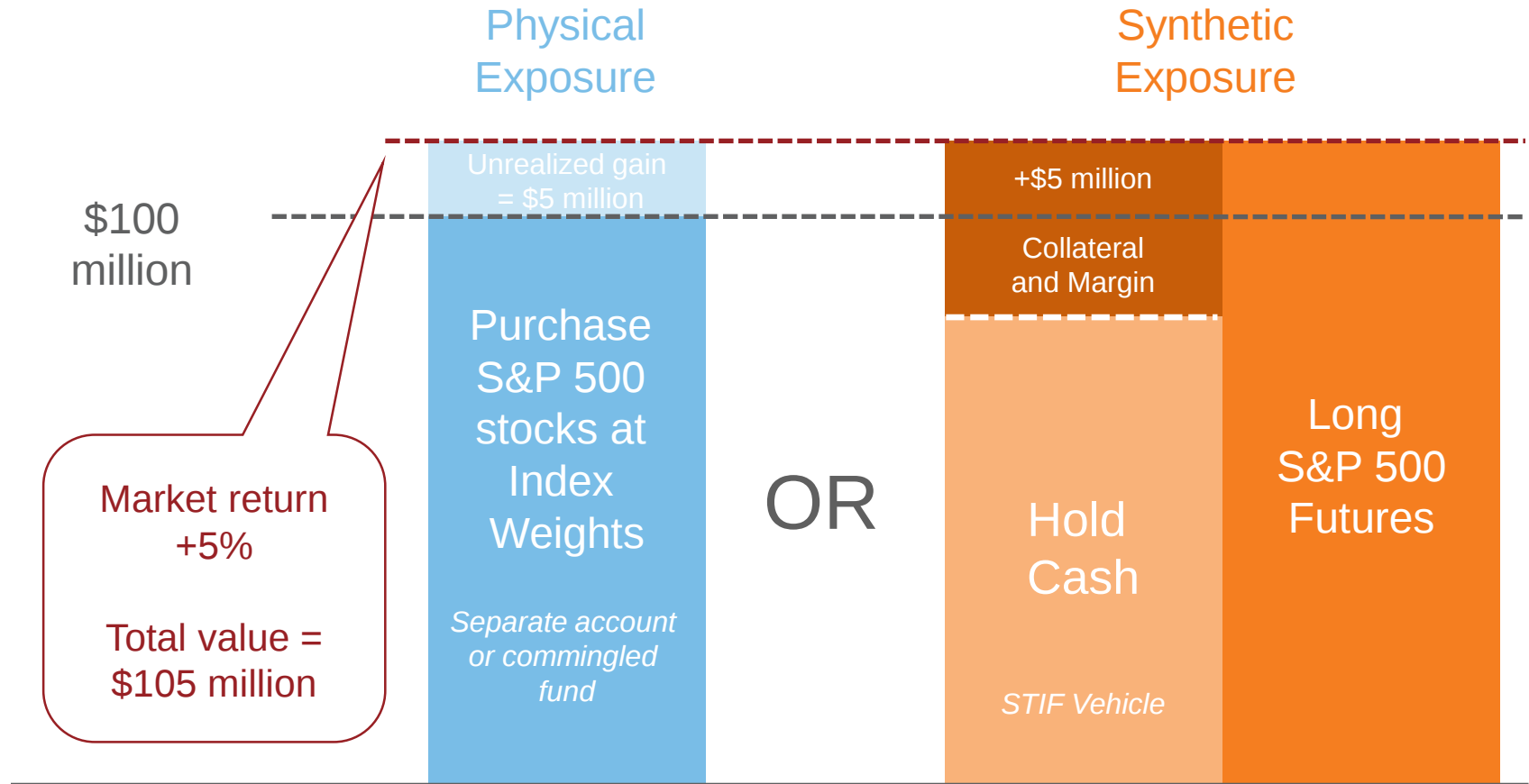
Physicals vs Futures – Day 0



For illustrative purposes only.
Indexes are unmanaged and cannot be invested in directly.

Example

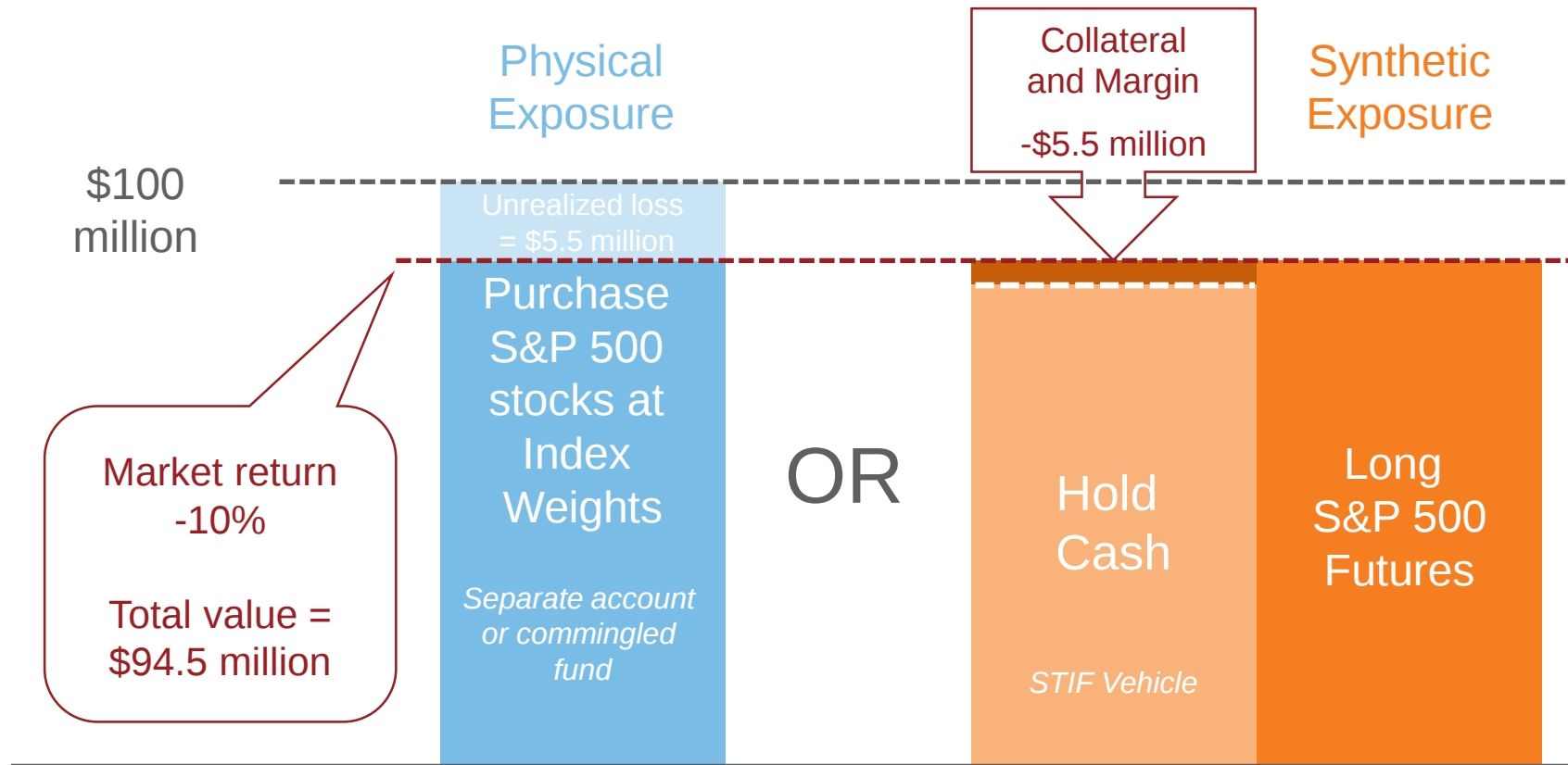
Physicals vs Futures – Day 1



For illustrative purposes only.
Indexes are unmanaged and cannot be invested in directly.

Example

Physicals vs Futures – Day 2



For illustrative purposes only.
Indexes are unmanaged and cannot be invested in directly.

Other types of derivatives

Swaps

- > Traded over the counter (OTC) through bi-lateral agreements
- > Exposures can be customized across asset classes
- > Longer more stable exposure terms
- > Requires an ISDA agreement

Options

- > Asymmetric risk/return profile
- > Provides right to gain exposure at a certain price but not the obligation
- > Need to pay a premium for the right
- > Can be traded OTC or Listed (exchange traded)
- > Requires an ISDA agreement for OTC trading

Thank you.

Any questions?



Appendix

Overlay Services Overview

TEAM

18

Overlay services team members

15

Average years PM experience

11

CFA Charterholders

14

Traders specialized by asset class

EXPERIENCE

\$2.2 trillion

Traded in 2019

\$88 billion

Third party derivatives exposure

\$580 million

Avg. derivatives position per client

71

Multi-Asset Overlay clients

EXPERTISE

European Pensions

AWARDS 2019

WINNER

Currency Manager of the Year



European Pensions

AWARDS 2018

WINNER

Transition Management Firm of the Year



All figures as of December 31, 2019 unless otherwise noted.

¹As of September 2020.

Please see slide 28 for awards disclaimers.

Russell Investments – core competencies



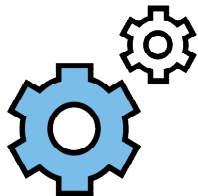
Advice

- > 50 years of consulting experience
- > Advise on \$2.45 trillion in institutional assets*
- > Independent 3rd party manager research



Asset Management

- > 50 years designing customized investment strategies
- > 40 years of building multi-asset solutions
- > \$284.8 billion assets under management**



Implementation

- > Over 30 years managing risks and overall portfolio exposures
- > \$88.1 billion in passive/enhanced assets managed internally
- > \$125 billion transitioned in 2019

As of December 31, 2019, unless otherwise noted.

*As of June 30, 2019.

**As of June 30, 2020

Risk management

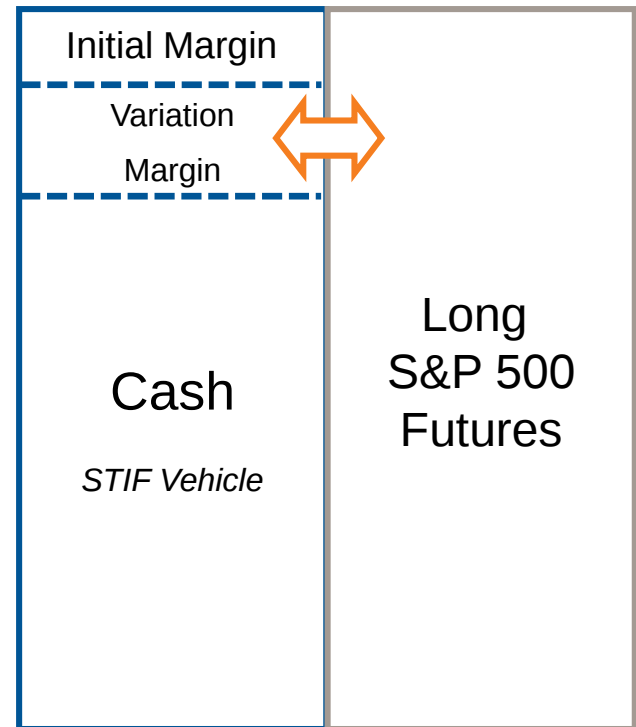
Clearinghouse

- › The clearinghouse holds offsetting positions so it's net exposure is zero
- › Exposure is limited to a single day's loss through daily "marking to market"
- › Collateral requirements protect the clearinghouse from this exposure



Mechanics of a futures position

- Initial margin required by the exchange
 - ~1%-4% for interest rate futures
 - ~5%-10% for equity index futures
- Set aside additional cash for settling daily variation margin (G/L)
 - ~5-10% for interest rate futures
 - ~10-20% for equity index futures
- Both initial margin and variation margin cash earn interest and are overlaid
- Gains/losses are marked to market daily
 - Reconciled with Custodian and Clearing Broker
 - Paid/received out of margin buffer



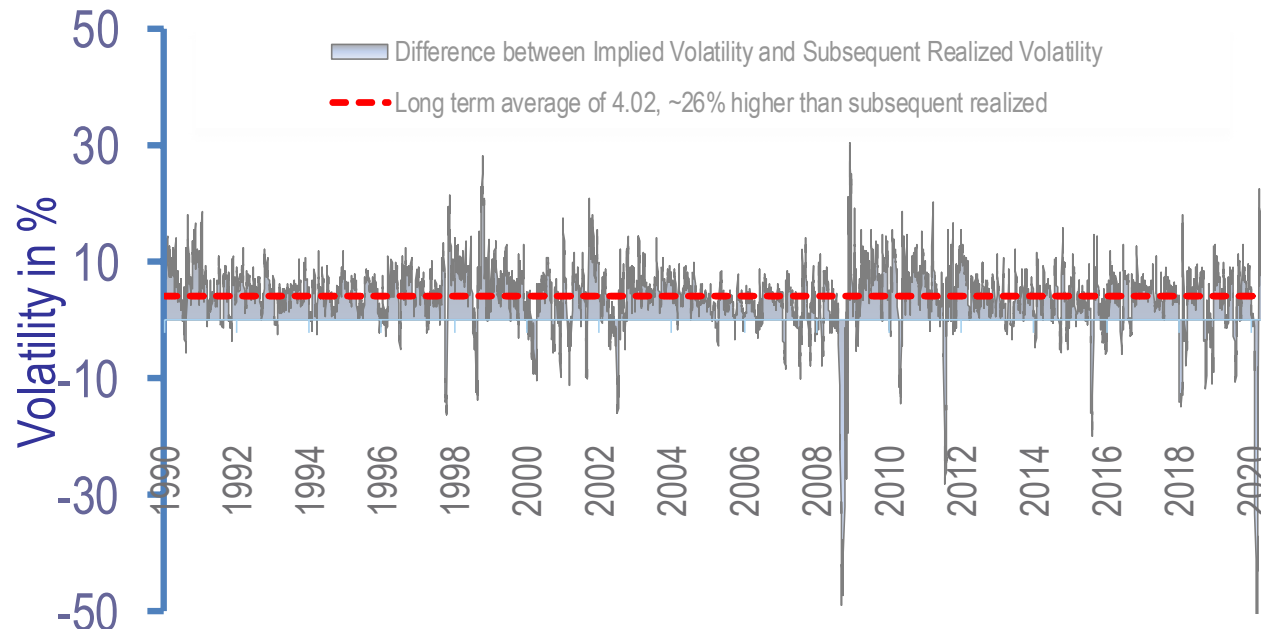
For illustrative purposes only.
Indexes are unmanaged and cannot be invested in directly.

Volatility Risk Premium

Diversify your risk premia by writing options

Option sellers receive a premium for providing risk mitigation to other market participants. This is known as the Volatility Risk Premium (VRP).

This can be visualized by comparing Implied Volatility (VIX) versus the actual realized volatility on the S&P 500. This spread has existed since the early 1990s and is positive >80% of the time.



Why does this exist? There is a persistent demand in the market place to buy options. By supplying the sell side of that demand, investors can earn a premium.

What is the value to put writing? Diversifies risk exposures away from the equity risk premia and toward the volatility risk premia.

Source: Russell Investments, Bloomberg. VIX = CBOE SPX Volatility Index
Time period is 01/03/1990 – 06/30/2019. Past performance is no guarantee of future results.

Accessing the volatility risk premium

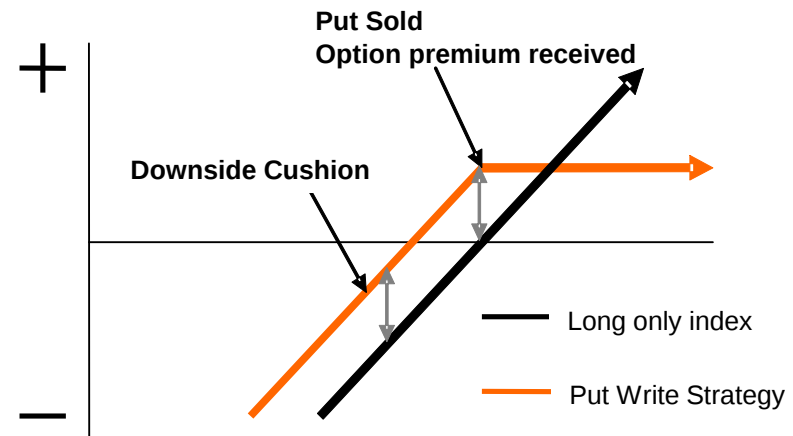
Equity replacement vs. Rebalancing

	Pros	Cons
Equity Replacement	Lowers exposure to equity risk premium. Provides some downside protection. Diversifying to stock based defensive equity.	Will lag in a bull market, best to have strategic allocation. Sharp sell-off also limits effectiveness due to limited repricing.
Rebalancing	Intuitive appeal of monetizing what you plan to do already. Does not impact existing asset mix.	Imprecise due to cash flows and other asset movements. Value is limited due to the strike price * size of rebalance 1% bands = 95%/105% strike * 1% of portfolio

Put Write mechanics

Cash backed Put Writing: A short volatility strategy with embedded beta

- > Put writing strategies write options over a portfolio of cash securities (typically treasuries). Those short puts bring in a relatively consistent premium.
- > The goal is to provide equity like returns with a lower risk.
 - > Volatility = Reduced
 - > Downside = Cushioned
 - > Risk drivers = Diversified

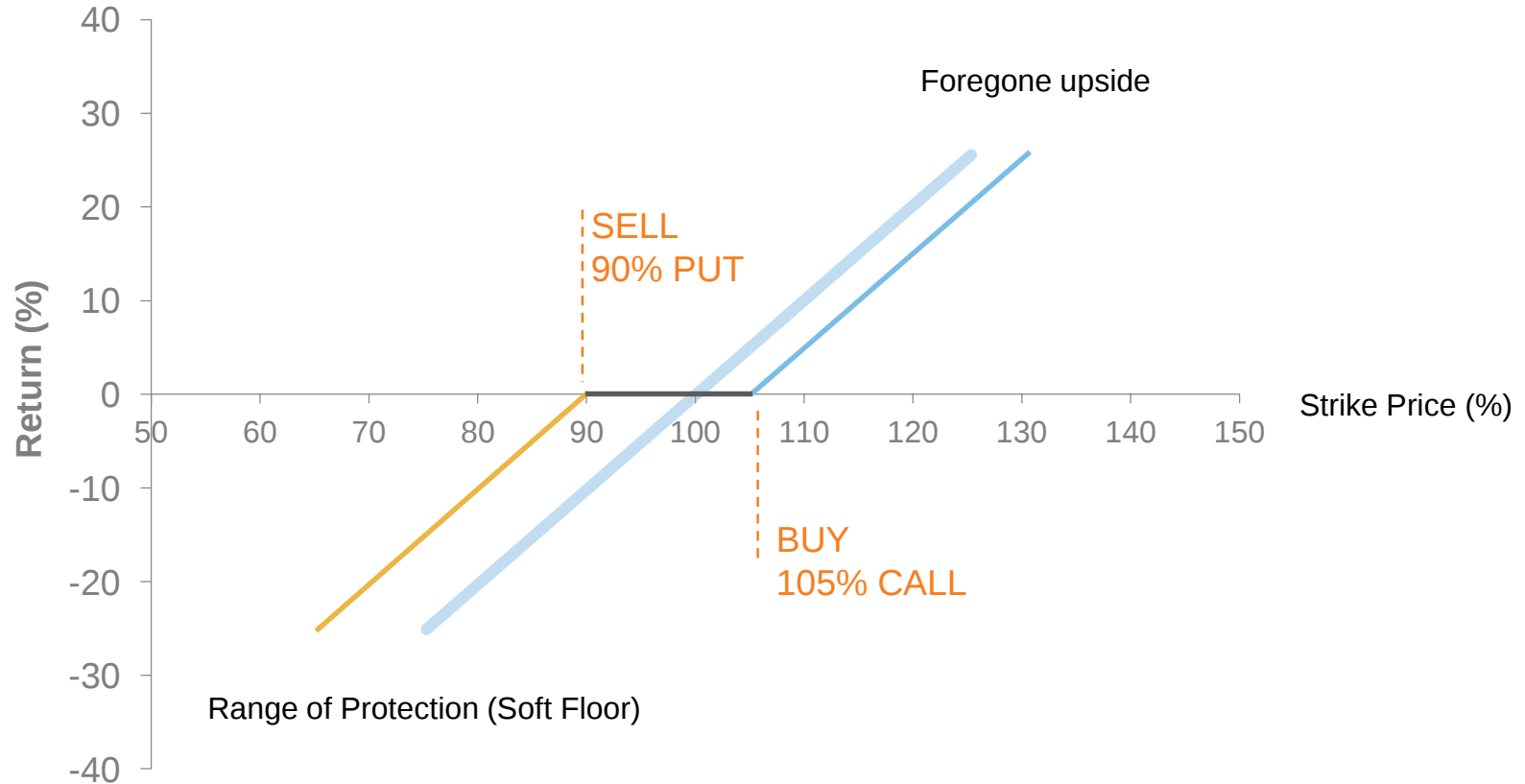


- > Historically roughly one third of the return comes from harvesting the implied to realized volatility premium (by selling puts).
- > The other two thirds of the return come from the market return (or beta).

For illustrative purposes only.

What is a Risk Reversal?

Soft Floor



$$\text{Equity} = \text{Cash} - \text{Put} + \text{Call}$$

For illustrative purposes only.

Biography



Gregory S. Nordquist, CFA

Director, Overlay Strategies

Russell Investments Implementation Services, LLC

Greg Nordquist is a director, overlay strategies on the overlay services team for Russell Investments.

This team manages custom overlays for large institutional investors. Assignments include equitization, policy implementation, portable alpha, and liability-based solutions as well as client-directed hedges. Through these assignments, Russell Investments strives to improve the implementation of existing investment strategies by reducing slippage inherent in most portfolios and provide an efficient platform for implementing newer strategies such as portable alpha and interest rate hedging. From 1996 to 2006 Greg was with Russell Investments' U.S. consulting group, the final eight years as a consultant. In that role Greg provided advice to large institutional fund clients on all aspects of their investment programs including governance, asset allocation, investment structure, manager selection and performance monitoring. Greg was also involved in researching global tactical asset allocation strategies, a team leader on U.S. and international equity strategy and served on Russell Investments' index content committee.

Greg joined Russell Investments' trust operations in 1990 as a technical assistant. In 1993 Greg moved to the firm's investment management group as a portfolio specialist, where his responsibilities included executing trades for money market funds, short-term investment funds and various custom assignment fixed income funds.

Greg served as a member of FTSE America's Regional Index Committee from 2002 to 2006.

Greg is a director, overlay strategies for overlay services of Russell Investments Implementation Services, LLC, Russell Investments' global trading firm. Russell Investments Implementation Services, LLC is an SEC registered investment adviser and FINRA member firm.

BB.A., Finance and Accounting, University of Puget Sound
CFA Charterholder, CFA Institute, 1997

Biography



Karl Sahlin

Senior Portfolio Manager

Russell Investments Implementation Services, LLC

Karl Sahlin is a portfolio manager for Russell Investments' implementation services business. With over 20 years of investment management and trading experience, Karl works with a broad range of institutional investors providing implementation advice and strategy development. His primary responsibilities are to design, implement, and manage portfolios for Russell Investments' overlay services clients.

Karl's investment background, which includes market making at the Chicago Board Options Exchange, is a unique blend of skills within a broad range of derivative instruments and securities. In addition to implementing equitization, liability hedging, synthetic rebalancing, and portable alpha strategies, Karl has focused his efforts developing customized options and downside protection solutions for our clients.

Another significant Russell Investments role played by Karl was manager of portfolio trading where he led the global derivatives trading and strategy team. His ten years on this team involved formulating and implementing portfolio strategies as they relate to cash equitization and other equity, fixed income and currency derivatives trading. Responsibilities also included monitoring of money manager investment activity across Russell

Investments' funds.

His early Russell Investments experience includes four years within the fund administration group with a highlight being his work implementing Russell Investments' fund and money manager compliance program.

Russell Investments Implementation Services, LLC is an SEC registered investment adviser and FINRA member firm

Karl is a senior portfolio manager of Russell Investments Implementation Services, LLC, Russell Investments' global trading firm. Russell Investments Implementation Services, LLC is an SEC registered investment adviser and member FINRA/SIPC.

B.A., Economics/Accounting & Psychology, Claremont McKenna College
Certified Public Accountant, Washington State Board of Accountancy License

Important information and disclosures

Nothing contained in this material is intended to constitute legal, tax, securities, or investment advice, nor an opinion regarding the appropriateness of any investment, nor a solicitation of any type. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

Copyright© 2020 Russell Investments. All rights reserved. This material is proprietary and may not be reproduced, transferred, or distributed in any form without prior written permission from Russell Investment. It is delivered on an “as is” basis without warranty.

Securities products and services offered through Russell Investments Implementation Services, LLC, part of Russell Investments, a SEC Registered investment adviser and broker-dealer, member FINRA, SIPC. Russell Investments Implementation Services, LLC is a wholly owned subsidiary of Russell Investments US Institutional HoldCo.

Russell Investments' ownership is composed of a majority stake held by funds managed by TA Associates with minority stakes held by funds managed by Reverence Capital Partners and Russell Investments' management.

Frank Russell Company is the owner of the Russell trademarks contained in this material and all trademark rights related to the Russell trademarks, which the members of the Russell Investments group of companies are permitted to use under license from Frank Russell Company. The members of the Russell Investments group of companies are not affiliated in any manner with Frank Russell Company or any entity operating under the “FTSE RUSSELL” brand.

The Russell Investments' logo is a trademark and service mark of Russell Investments.

Standard & Poor's Corporation is the owner of the trademarks, service marks, and copyrights related to its indexes.

Indexes and/or benchmarks are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment.

Unless otherwise noted, source for the data in this presentation is Russell Investments Implementation Services, LLC.

This material is a product of Russell Investments Implementation Services, LLC, a registered investment advisor and broker-dealer, member FINRA, SIPC.

Date of first use: October 2020

RIIS-03968-2020-10-05

Recognized as an industry leader

Currency manager of the year (2019 European Pensions): Russell Investments was named the winner of the “Currency Manager of the Year” at the 2019 European Pensions Awards. Chosen among 12 finalists in this category, Pensions Age and European Pensions cited Russell Investments’ “excellent commitment to improving outcomes for both its clients and the wider industry, with its unrivalled ability to manage currency risk, as well as reducing execution cost.”

Top Tier Broker (2011-2020 P&I-Tradewatch Report): In 32 out of 36 most recent quarters, Russell Investments Implementation Services, LLC has been ranked as a top-tier broker in Pensions & Investments’ Tradewatch report based on the quality of its trade execution (most recently in P&I’s September 2020 issue). Rankings are based on best-performing brokers as measured by the difference in cost/savings against the universe of Elkins/McSherry, a State Street company. The Elkins/McSherry universe is based on the top 50 brokers in each category by U.S. dollar volume. This is a quarterly ranking based on the previous four-quarters as of June 30, 2020.

Transition Management Firm of the Year (2018 European Pensions Awards): Russell Investments was named the winner of the “Transition Management Firm of the Year” at the 2018 *European Pensions Awards*. Chosen among five finalists in this category, Pensions Age and European Pensions cited Russell Investments’ understanding of clients’ needs and the firm’s demonstrated performance and innovation.

