



January 9, 2024

TO: Each Trustee,
Board of Investments

SUBJECT: Board of Investments Meeting on January 10, 2024 – Agenda Item XI. B.

Following you will find supplemental information regarding the below-mentioned item.

Trade Cost Analysis Education – Slide page number 8 added to the presentation.

Esmeralda V. del Bosque, Principal Investment Officer

Ron Senkandwa, Investment Officer

Adrian Gonzalez, Senior Investment Analyst

Vinod Pakianathan, Managing Director, Zeno AN Solutions

(Presentation) (Memo dated December 28, 2023)



December 28, 2023

TO: Each Member
Board of Investments

FROM: Esmeralda V. del Bosque *ESB*
Principal Investment Officer

Ron Senkandwa *RS*
Investment Officer

Adrian Gonzalez *AJG*
Senior Investment Analyst

FOR: January 10, 2024 Board of Investments Meeting

SUBJECT: Trade Cost Analysis Education

As part of LACERA's ongoing Operational Due Diligence ("ODD") efforts, the global equity team conducts various reviews related to investment manager monitoring, compliance, and operational matters. The frequency of the reviews (daily, monthly, quarterly, and annually) depends on the specific type of ODD being performed.

Trade cost analysis ("TCA") involves assessing the expenses incurred when investment managers buy and sell securities on behalf of LACERA. In today's presentation, the team will examine and discuss the significance of trade cost analysis ("TCA") within the context of ongoing ODD. This analysis is important because trade costs have a direct impact on the overall performance of each investment manager's portfolio.

LACERA currently uses Zeno AN Solutions ("Zeno AN") for TCA reporting on LACERA's equity mandates. Mr. Vinod Pakianathan, Zeno AN's TCA Consultant, will deliver an overview of the firm's approach to TCA and provide key statistics on LACERA's global equity portfolio. Mr. Pakianathan's biography is on slide 21 of the presentation.

The LACERA Trade Cost Analysis Education presentation is attached to facilitate the discussion.

Attachment

Noted and Reviewed:

Jonathan Grabel
Chief Investment Officer



ATTACHMENT

Trade Cost Analysis Education

January 10, 2024

Esmeralda del Bosque – Principal Investment Officer

Ron Senkandwa – Investment Officer

Adrian Gonzalez – Senior Investment Analyst

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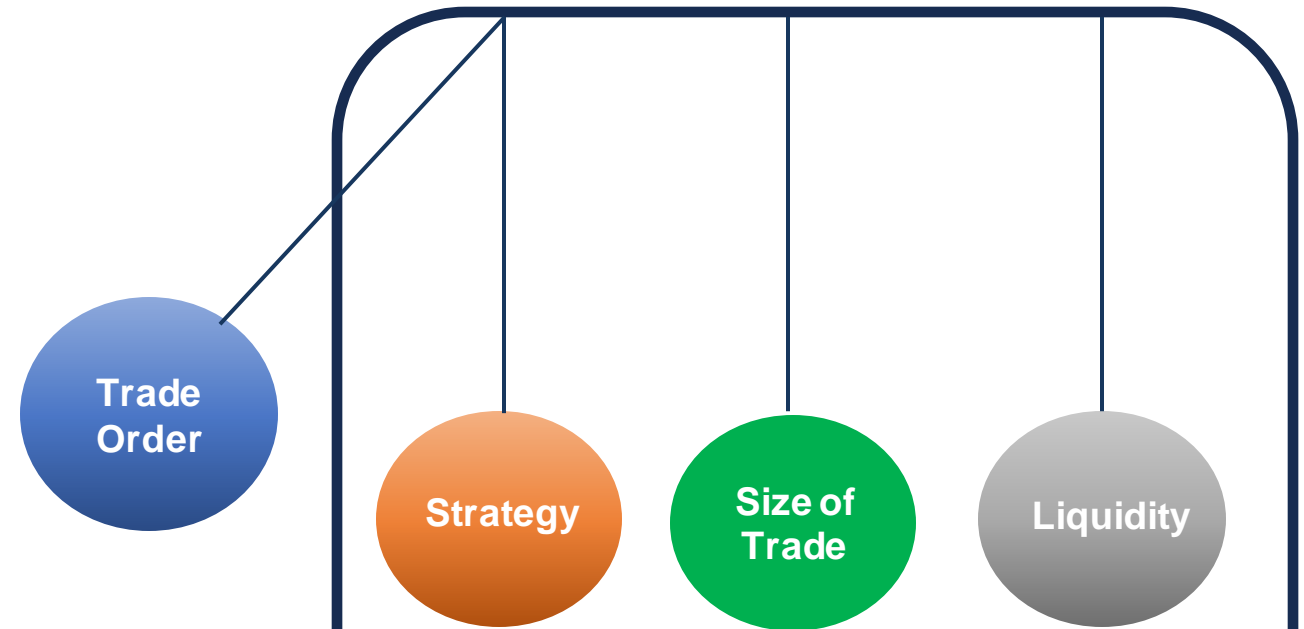
What is Trade Cost Analysis?



When investment managers buy and sell securities on LACERA's behalf, expenses are incurred

- Trade cost analysis (“TCA”) is the examination of various accumulated expenses when investments are bought and sold (i.e. traded)
- Trades are made through brokers, who serve as the intermediary for each investment transaction
- The cost of each transaction depends on a variety of factors including the size of the trade, type of strategy, and liquidity
- Monitoring trade costs is an important aspect of ongoing manager diligence

Cost Factors Influenced by Trades



Why TCA Matters: Benefits and Objectives



May Result in Better Performance and Increased Cost Savings

- Managing and minimizing trading costs may result in enhanced performance and increases the likelihood of achieving portfolio return objectives
 - May uncover unfavorable trading patterns that dilute best execution



Increased Transparency and Risk Management

- TCA is conducted for Separately Managed Accounts (“SMAs”) held at LACERA’s custodian bank
 - Transparency allows for detailed analysis of trading activity and costs incurred
- Provides additional insight into the operational efficacy of investment manager’s trading strategy



Compliance

- Facilitates active monitoring of trade costs and broker usage on an ongoing basis
- Supports good governance practices and provides insights into adherence of manager’s contracted investment guideline compliance

With all the benefits of TCA, it is not a perfect science; the review of each manager’s trading activity must account for various market and strategy nuances

TCA and LACERA's Strategic Initiatives



Monitoring TCA is aligned with LACERA's Strategic Initiatives

Strategic Asset Allocation



Strategic Initiatives



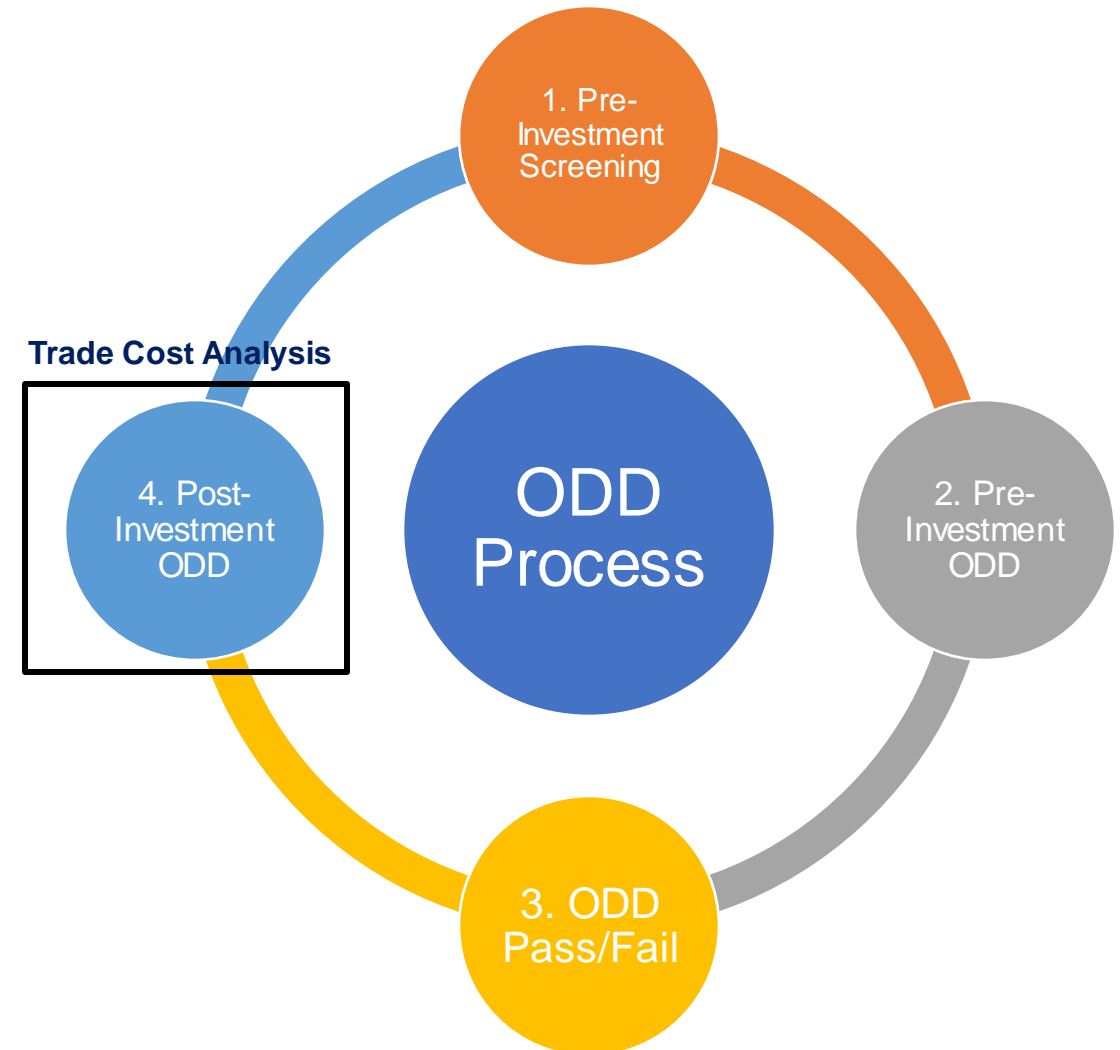
Mission: To produce, protect and provide the promised benefits to our members

LACERA's Operational Due-Diligence Process



TCA is an important component of LACERA's ongoing Operational Due Diligence

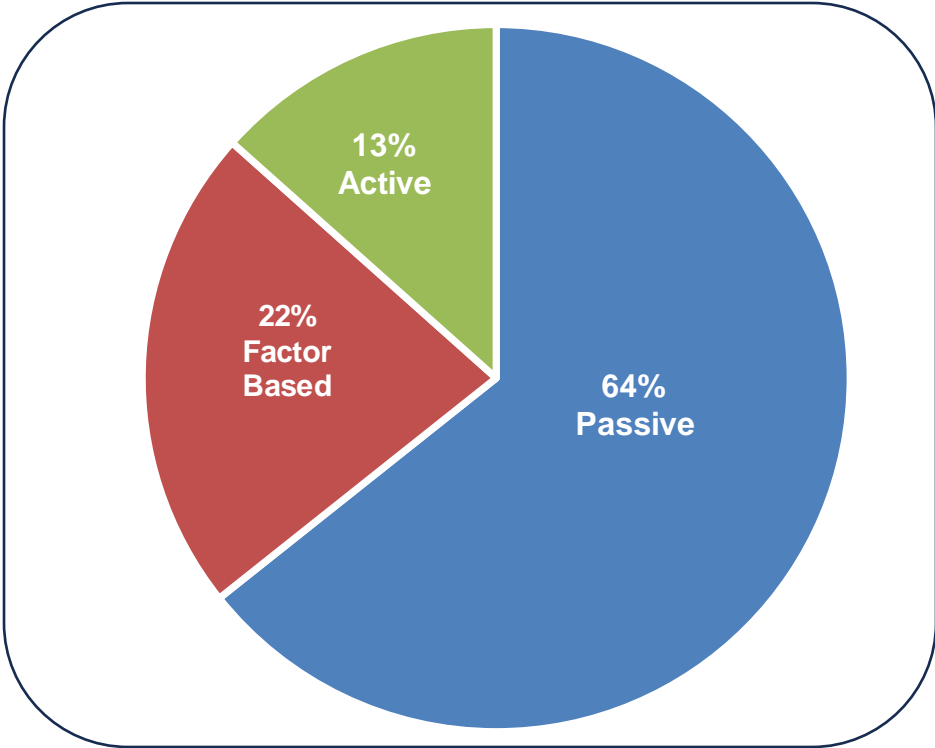
- Zeno AN Solutions is LACERA's TCA provider
- As part of the quarterly due diligence process, trade costs are reviewed by LACERA alongside Zeno AN
 - Any outliers are discussed directly with investment managers to ensure LACERA's interests are prioritized



TCA – LACERA’s Global Equity Portfolio



Global Equity - \$24.2B



Data as of November 30, 2023

The Global Equity portfolio comprises 32.7% of the total Fund and is among one of the most liquid and most frequently traded asset classes in the portfolio

TCA – LACERA’s Global Equity Portfolio cont...



The Global Equity portfolio is invested across 12 managers, with three managers allocated to passive and factor-based strategies and the remaining nine managers allocated to active strategies

Manager	% of Global Equity	Strategy	Investment Vehicle
Global Equity	100.0%		
Passive & Factor Strategies			
SSGA	64.3%	Passive	SMA
JP Morgan U.S.	19.8%	Factor	SMA
JP Morgan Non-U.S.	2.5%	Factor	SMA
Active Strategies			
BlackRock Euro Tilts	2.6%	Active	SMA
Acadian	2.5%	Active	SMA
Capital Group	1.7%	Active	SMA
Lazard	1.6%	Active	SMA
Frontier Capital	1.2%	Active	SMA
Systematic	0.8%	Active	SMA
Global Alpha	0.7%	Active	SMA
CornerCap EMP	0.3%	Active	SMA
Cevian*	2.0%	Active	Commingled Fund

TCA is conducted on 11 managers; 98% of the global equity portfolio

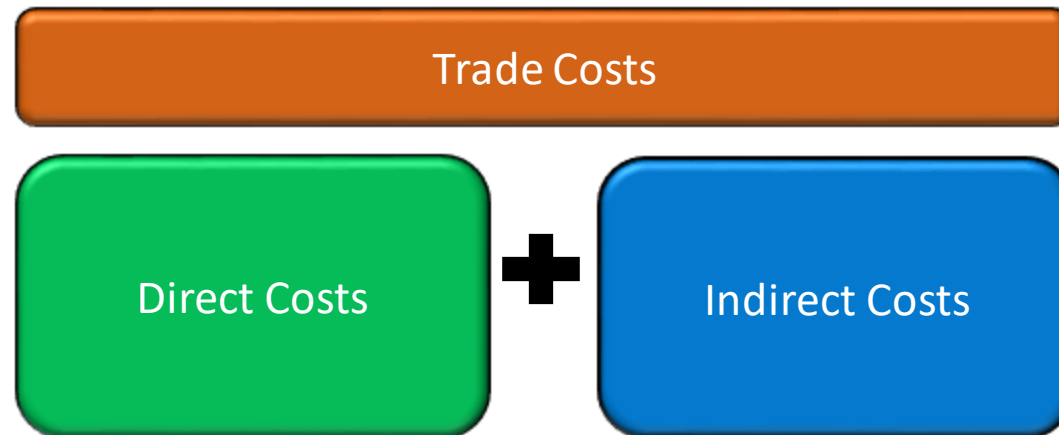
Data as of November 30, 2023

*Cevian is not structured as a Separately Managed Account and is not included in trade cost analysis reporting.

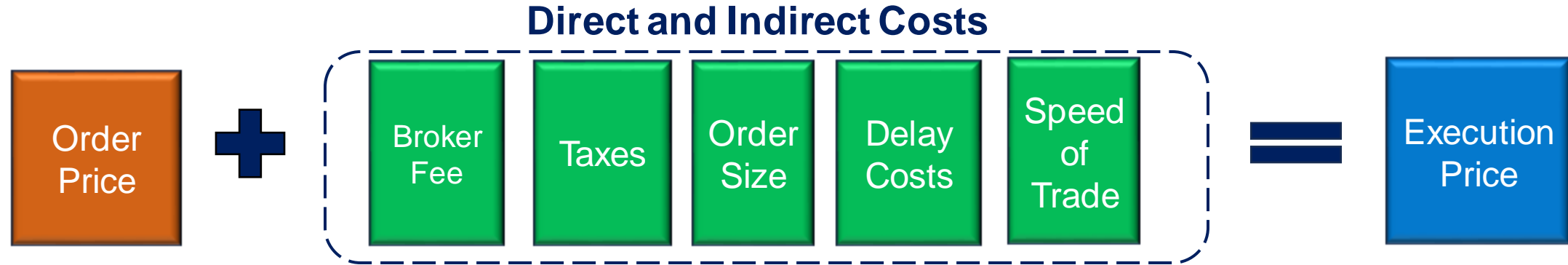
Components of TCA



- Trade costs include two sub-components: Direct and indirect costs
- By decomposing trade costs into individual sub-components, inquiries can be made to managers and brokers to address what factors are benefitting or hindering the portfolio's performance
- Trade costs can vary widely depending on the type of investment and strategy. However, aggregating similar trades helps to facilitate like-for-like comparisons



Components of TCA: Direct and Indirect Costs



Direct costs are costs that are directly charged and are the easiest and most straightforward to quantify

- Broker commission
- Taxes
- Exchange fees

Indirect costs are costs that are indirectly charged and the more difficult to measure

- Delay costs
- Bid-Ask Spread
- Market Impact Costs

TCA Benchmarking



- Strategies vary by risk and return characteristics. The success of a manager’s trading implementation relies heavily on characteristics that impact the costs incurred during a trade
- As part of the TCA process, universes are created by grouping the trading activity of managers with similar investment styles (region, market cap, investment approach). Aggregating average trade results across similar mandates is the means to create a TCA “benchmark”
 - With these benchmarks, we can compare the performance of each manager versus its universe
 - When results differ from the universe, we investigate deviations with the manager

	Order Price	Arrival Price	Shares	Broker Fee	Taxes	Other Direct & Indirect Fees	Execution Price	Total Return
Manager A	\$ 5.00	\$ 5.00	1,000	\$ (20.00)	\$ (10.00)	\$ (50.00)	\$ 5.05	-0.60%
Manager B	\$ 5.00	\$ 5.10	1,000	\$ (10.00)	\$ (11.00)	\$ (29.00)	\$ 5.10	-0.98%
Manager C	\$ 5.00	\$ 5.05	1,000	\$ (5.00)	\$ (10.00)	\$ (5.00)	\$ 5.25	3.56%
Average		\$ 5.05		\$ (11.67)	\$ (10.33)	\$ (28.00)	\$ 5.13	0.66%



Zeno AN Solutions

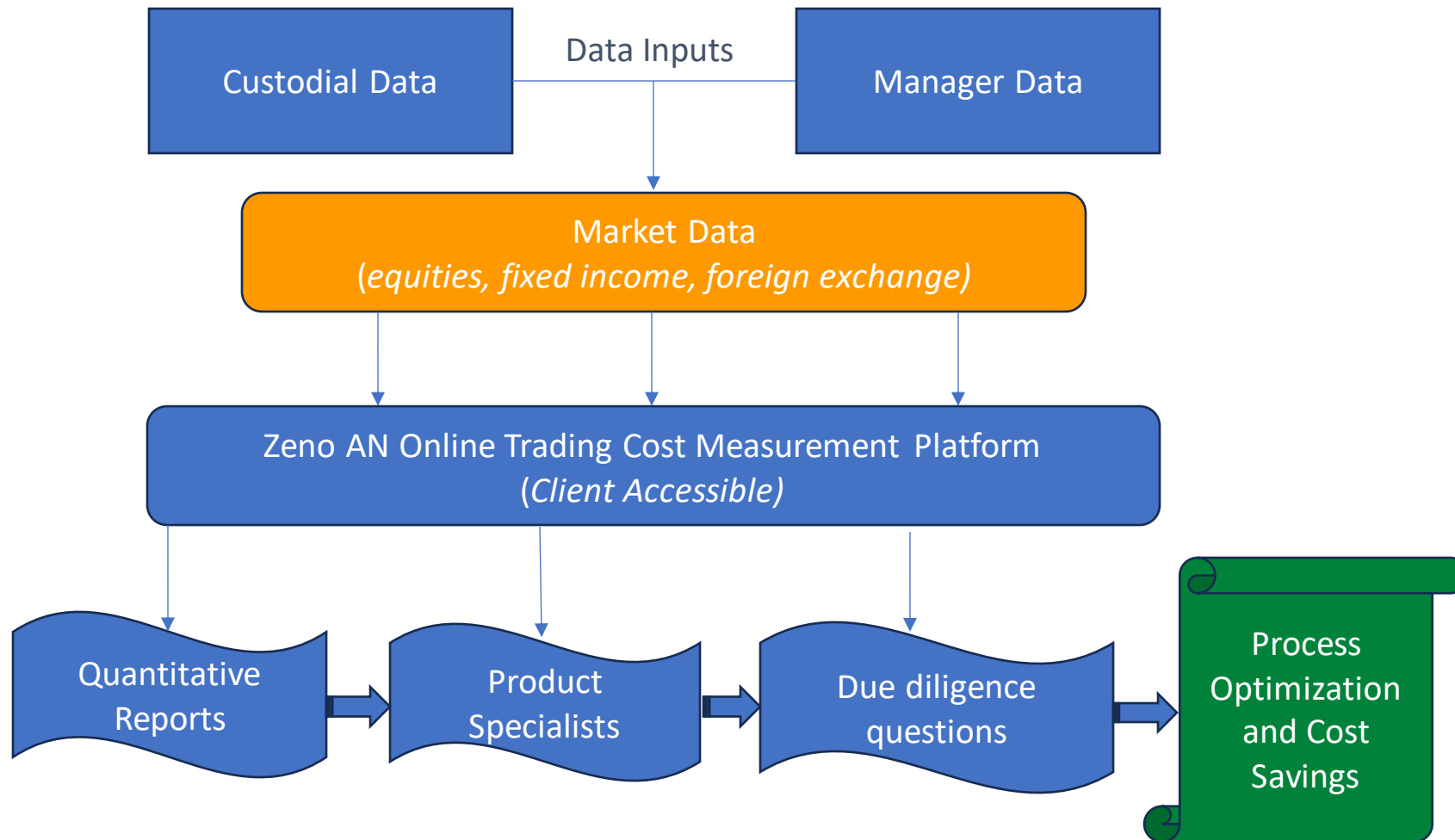
Zeno AN Solutions

Who is Zeno AN Solutions?

Offers a suite of TCA products available exclusively to asset owners and takes trade cost management to the next level.

- *Servicing over 250 Institutional Asset Owner Clients*
- Multi-Asset Class Analysis across Equity, Fixed Income, Foreign Exchange, Futures and Derivatives
- Stock Specific Peer Group Trade Universe, comprised of over \$7.2 trillion in Principal traded annually
- *Investment Mandate Peer Group Rankings* of over 2,000 Global Institutional Investment Mandates
- *Independent Consulting as a Registered Investment Advisor under the Investment Company Act of '40*

TCA - Reporting, Analytical and Consulting Framework



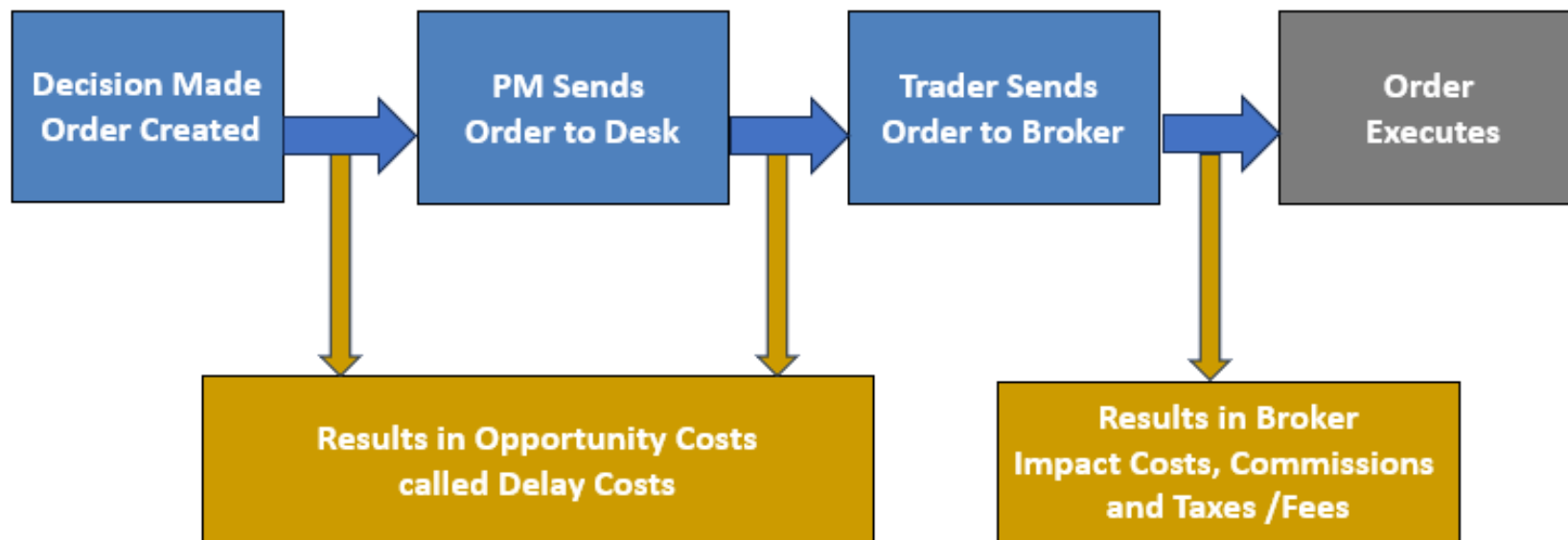
How does Zeno AN Measure TCA?

- Trade cost measurements employ:
 - Custodial data
 - Peer universes constructed by Zeno
 - Exchange level data and other sources of transaction data
 - Proprietary and industry-accepted statistical and/or quantitative trading cost benchmarks
- Implementation shortfall is the industry standard metric to measure the reasonableness of direct (explicit) and indirect (implicit) costs
 - Implementation shortfall directly relates to manager performance



Implementation Shortfall

Implementation Shortfall Costs
Separated according to actions by portfolio managers, trading desk and broker



TCA – Compensating for Trading Style

Manager Performance in relation to turnover and trading costs

The amount of portfolio turnover and trading value can have a significant impact on manager's performance and trading process

Manager's trading style

We account for a Manager's investment style in peer analyses to identify where their trading process may be misaligned. This misalignment can lead to process inefficiencies and higher costs.

Manager's stock picking style

Understanding a manager's stock-picking style often explains the level of transaction costs. For example a quantitative manager picks different stocks at different times than a Bottom-Up Fundamental manager

LACERA TCA – Universe Relative Results

	Total Trading Costs*				Impact on Performance*				
	Small Cap	Large Cap	Dev Mkts	Emg. Mkts	Small Cap	Large Cap	Dev Mkts	Emg. Mkts	
Universe Mean (Avg. Cost)	-101 bp	-40 bp	-33 bp	-52 bp	Universe Mean (Avg. Perf Imp)	-120 bp	-72 bp	-62 bp	-98 bp
LACERA Managers	-70 bp	-27 bp	-26 bp	-35 bp	75th Percentile (Most Impact)	-106 bp	-9 bp	-33 bp	-5 bp
Median Manager vs. LACERA	31 bp	13 bp	7 bp	17 bp	Median Manager vs. LACERA	14 bp	63 bp	29 bp	93 bp

Across all mandate types, LACERA’s portfolio outperforms the median trading cost compared to its peer universe. This positively impacts investment manager returns.



- TCA is an important tool for measuring investment manager best execution and performance
 - Transaction costs are a part of implementing any strategy, and although should be minimized, are a necessary part of any portfolio
- Trade cost analysis is not straightforward and often imperfect given the complexities of different markets, strategies, and managers
- LACERA and Zeno AN will continue to meet on a quarterly basis to review the global equity portfolio's TCA results to ensure costs are in-line with peers and we will actively follow up with managers when necessary



Term	Definition
Active Strategy	A strategy where a manager has the most discretion in security selection and allocation. These strategies typically aim to outperform a predetermined benchmark and trade most frequently
Bid-Ask Spread	The difference in price between the bid and ask prices of a security
Broker commission	The fee paid to the broker for their services
Delay costs	The change in price between when an order is submitted and when it reaches the market
Exchange fees	Charges incurred by investors and traders for buying and selling securities on an exchange platform
Factor Strategy	A strategy which aims to identify market factors that drive stock prices and invests in them. Factors will vary by security characteristics (ex. Value, momentum, growth, etc.)
Market Impact Costs	The adverse price impact on a security caused from trading an order
Passive Strategy	A strategy meant to closely track and replicate the performance and other characteristics of a specific market index
Taxes	Fees paid to federal and local governments when a security is traded

Biography

Vinod Pakianathan – Managing Director



Vinod heads up Abel Noser's Asset Owner group, including products that address the cost exposures and risks from trading Equities, Foreign Exchange Futures and Fixed Income instruments. He is a Senior Consultant to some of the largest Plan Sponsor and Fund Oversight Boards. In this role, he quantifies the risks arising from external and internal asset manager's trading of client's assets.

In addition to running the Asset Owner group, he has led a research team for the past five years.