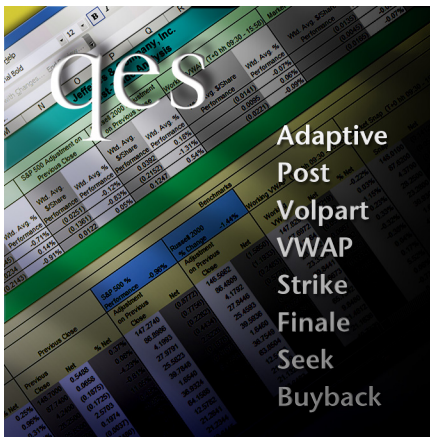


Jefferies Quantitative Execution Strategies (QES) Comparison Sheet

A listing of Jefferies QES single-stock and specialty algorithmic trading strategies and their common uses



Jefferies Quantitative Execution Strategies (QES) are algorithmic trading strategies provided through Jefferies & Company, Inc.

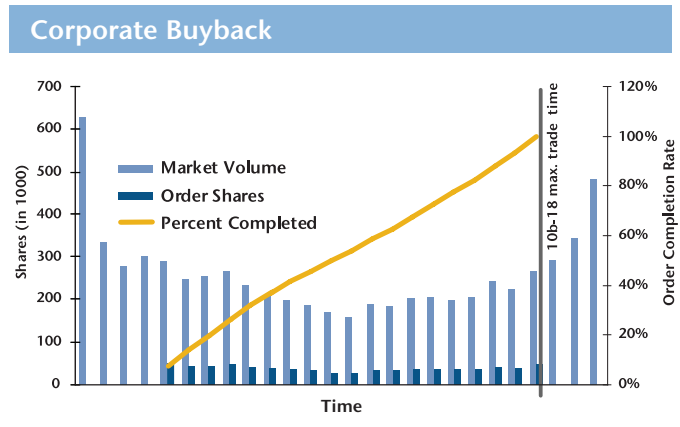
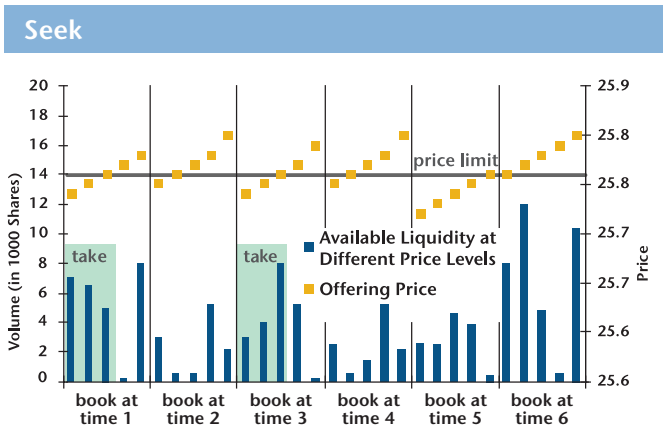
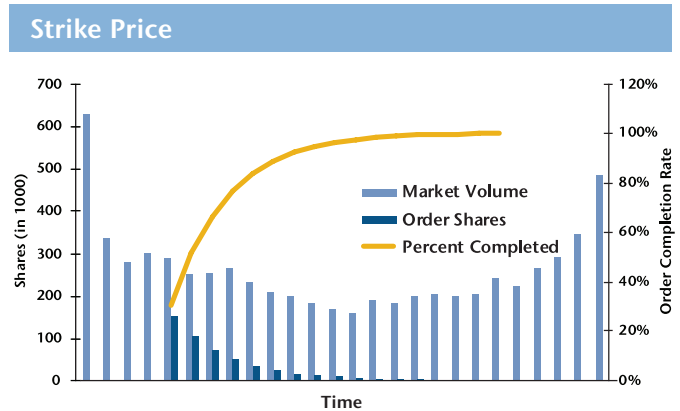
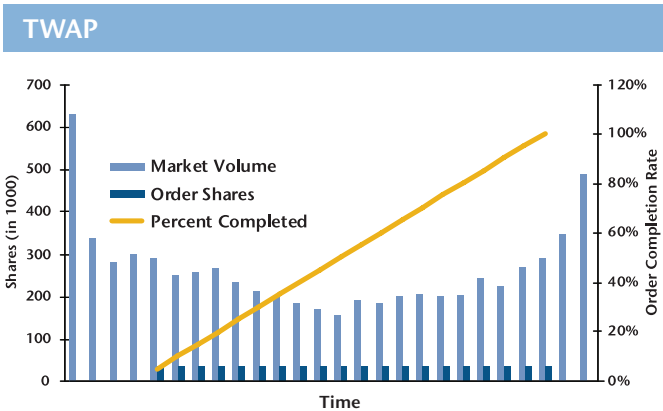
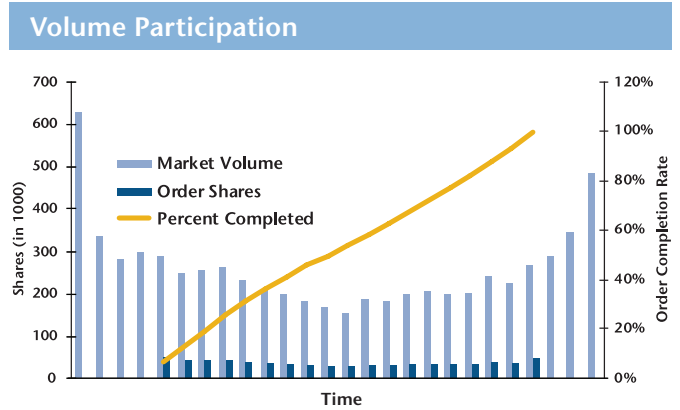
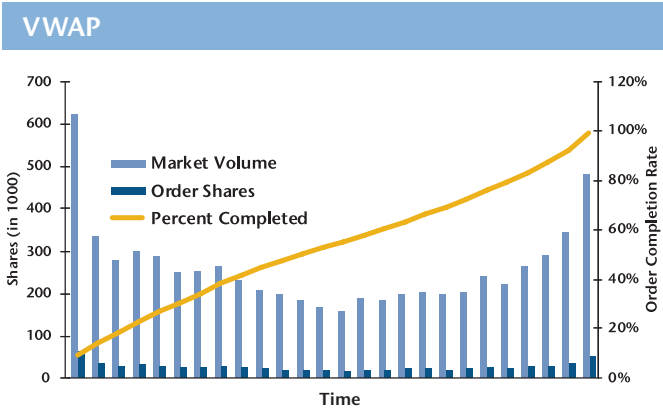
Single-Stock Trading Algorithms			
	Adaptive Arrival	Strike Price	VWAP
Objective	React in real time to changing market conditions while tracking the arrival price	Balance volatility and market impact risk to achieve best execution while tracking the arrival price	Match VWAP over specified time frame
How it works	Employs a dynamic order placement strategy designed to capture price improvement and limit impact	Considers order size, liquidity characteristics, volatility, and risk tolerance to create an optimal trading schedule	Participates proportionally with the expected volume pattern
Suitability	Entire liquidity spectrum	Liquid names or orders representing under 30% of interval volume	Liquid names or orders representing under 30% of interval volume
Considerations	Depending upon market conditions, Adaptive Arrival may not complete the order.	In the absence of a volume or price limit, Strike Price will complete the order, so traders should either limit order sizes to reasonable levels or apply volume and/or price limits to mitigate trading impact.	In the absence of a volume or price limit, VWAP will complete the order, so traders should either limit order sizes to reasonable levels or apply volume and/or price limits to mitigate trading impact.
Typical client instruction	"I like where the stock is trading now. Work it in line and try not to push it around."	"I like where the stock is trading now. Be sure I'm done over the next hour."	"Work the order to try to match VWAP."
Price	Price limit	Price limit	Price limit
Volume	Target volume	Volume limit	Volume limit
Duration	Choose Start or End Time, or a Duration in minutes.	Choose Start or End Time, or a Duration in minutes.	Choose Start or End Time, or a Duration in minutes.
Urgency	Choose Passive, Active, or Aggressive to control how the algorithm interacts with the market.	Choose Passive, Active, or Aggressive to specify a risk-tolerance level.	N/A
Optional setting	WoW (Would or Work) option allows the algorithm to attempt immediate completion if sizable quotes or crossing opportunities appear.	WoW (Would or Work) option allows the algorithm to attempt immediate completion if sizable quotes or crossing opportunities appear.	WoW (Would or Work) option allows the algorithm to attempt immediate completion if sizable quotes or crossing opportunities appear.

QES Comparison Sheet (continued)

Single-Stock Trading Algorithms (continued)				
	TWAP	Volume Participation	Seek	Dark Seek
Objective	Trade uniformly over a specified time frame	Trade in line with printed volume	Uncover liquidity opportunities in both hidden and displayed market centers	Uncover liquidity opportunities in hidden market centers only
How it works	Spreads executions evenly over the designated period, employing a large number of smaller orders	Provides liquidity while tracking the user-specified volume target	Participates in “dark” liquidity pools while scanning the market for execution opportunities	Participates in “dark” liquidity pools
Suitability	Liquid names or orders representing under 30% of interval volume	The entire liquidity spectrum; the volume target specified will dictate market impact.	The entire liquidity spectrum; the price limit and minimum share size settings will restrict market impact.	The entire liquidity spectrum
Considerations	In the absence of a volume or price limit, TWAP will complete the order, so traders should either limit order sizes to reasonable levels or apply volume and/or price limits to mitigate trading impact.	The trading impact will be directly linked to the volume target, so care should be taken in selecting the volume target.	Seek does not maintain a presence in the marketplace and will execute only when the limit price is marketable.	Dark Seek will participate only in “dark” liquidity pools, and therefore, execution rates are correspondingly low.
Typical client instruction	“Slice the order out over the next hour.”	“Trade in line with volume. I’m looking to be 10% of the tape.”	“I want to be done at my limit, so get aggressive and execute as much as you can.”	“Try to find a match in the dark pools.”
User Settings				
Price	Price limit	Price limit	Price limit	Price limit
Volume	Volume limit	Target volume	Minimum order size	N/A
Duration	Choose Start or End Time, or a Duration in minutes.	Choose Start or End Time, or a Duration in minutes.	Choose Start or End Time, or a Duration in minutes.	Choose Start or End Time, or a Duration in minutes.
Urgency	N/A	N/A	N/A	N/A
Optional setting	WoW (Would or Work) option allows the algorithm to attempt immediate completion if sizable quotes or crossing opportunities appear.	N/A	N/A	N/A

Single-Stock Trading Algorithms (continued)			Specialty Algorithms	
	Post	Finale	Buyback	Master
Objective	Participate in the markets under specified pricing schemes	Balance volatility and impact concerns while tracking the market close price	Execute corporate repurchase plans in adherence to SEC rule 10b-18	Choose the best execution plan for a given order
How it works	Places smaller-sized working orders in the market; executes within the NBBO spread	Balances order size, volatility, and market impact risk to construct an optimal trajectory trading into the close	Trades in a passive fashion to enforce timing, pricing, and volume restrictions of SEC rule 10b-18	Considers order size, liquidity characteristics, volatility, and risk tolerance to select the optimal algorithm for execution of the order
Suitability	Ideal when simple market participation is desired. The Urgency setting controls what price point the algorithm tracks.	Liquid names	Ideal for corporate repurchase orders	Master will choose an algorithm that best matches the liquidity and volatility profiles of the order.
Considerations	The Urgency level controls the price point at which the algorithm interacts in the market: Passive for inside NBBO, Active for midpoint, and Aggressive for opposite side of the NBBO.	Although Finale is designed to track the close price, because the algorithm works into the close, there may be shortfall from the benchmark.	Buyback adheres to the intraday trading rules under SEC rule 10b-18. However, any blocks done outside of the algorithm need to be accounted for by the trader in adjusting maximum permitted order size.	When the trader has a specific benchmark in mind, the algorithm that best matches that benchmark should be employed.
Typical client instruction	“Sell 45,000 shares. Stay on the offer, and let the stock come our way.”	“Work the order into the close.”	“Buy 30,000 shares, and adhere to the 10b-18 safe-harbor rules.”	“I want to sell 40,000 shares. Trade it best way.”
User Settings				
Price	Price limit	Price limit	Price limit	Price limit
Volume	Volume limit and order size	Volume limit	Target volume	Volume limit
Duration	Choose Start or End Time, or a Duration in minutes.	Choose Start Time	Choose Start or End Time; maximum End Time is automatically restricted to adhere to rule 10b-18.	Choose Start or End Time, or a Duration in minutes.
Urgency	Choose Passive, Active, or Aggressive mode to control how the algorithm interacts with the market	N/A	N/A	N/A
Optional setting	WoW (Would or Work) option allows the algorithm to attempt immediate completion if sizable quotes or crossing opportunities appear.	N/A	N/A	WoW (Would or Work) option allows the algorithm to attempt immediate completion if sizable quotes or crossing opportunities appear.

Graphical Comparison of Jefferies QES



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