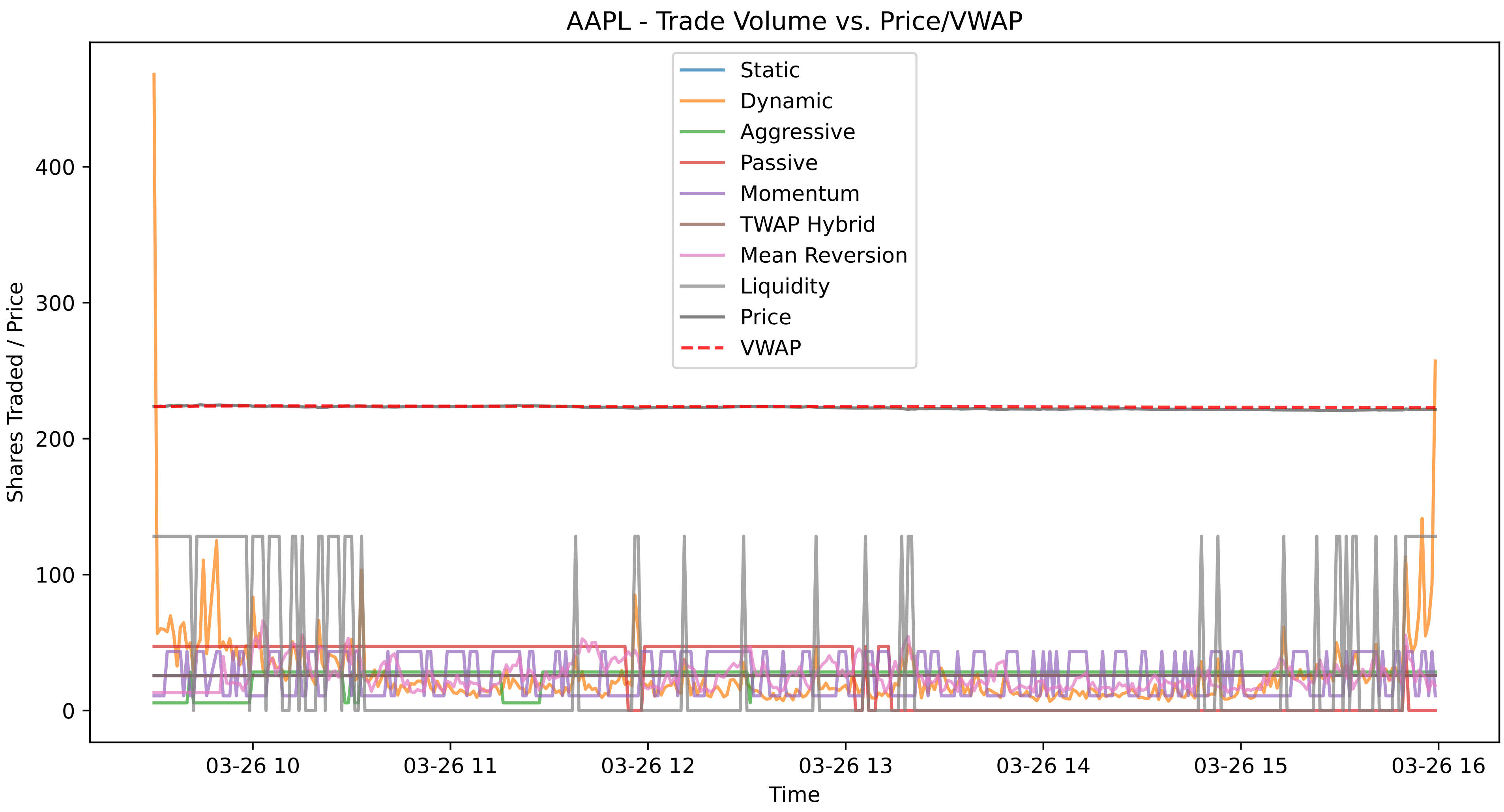
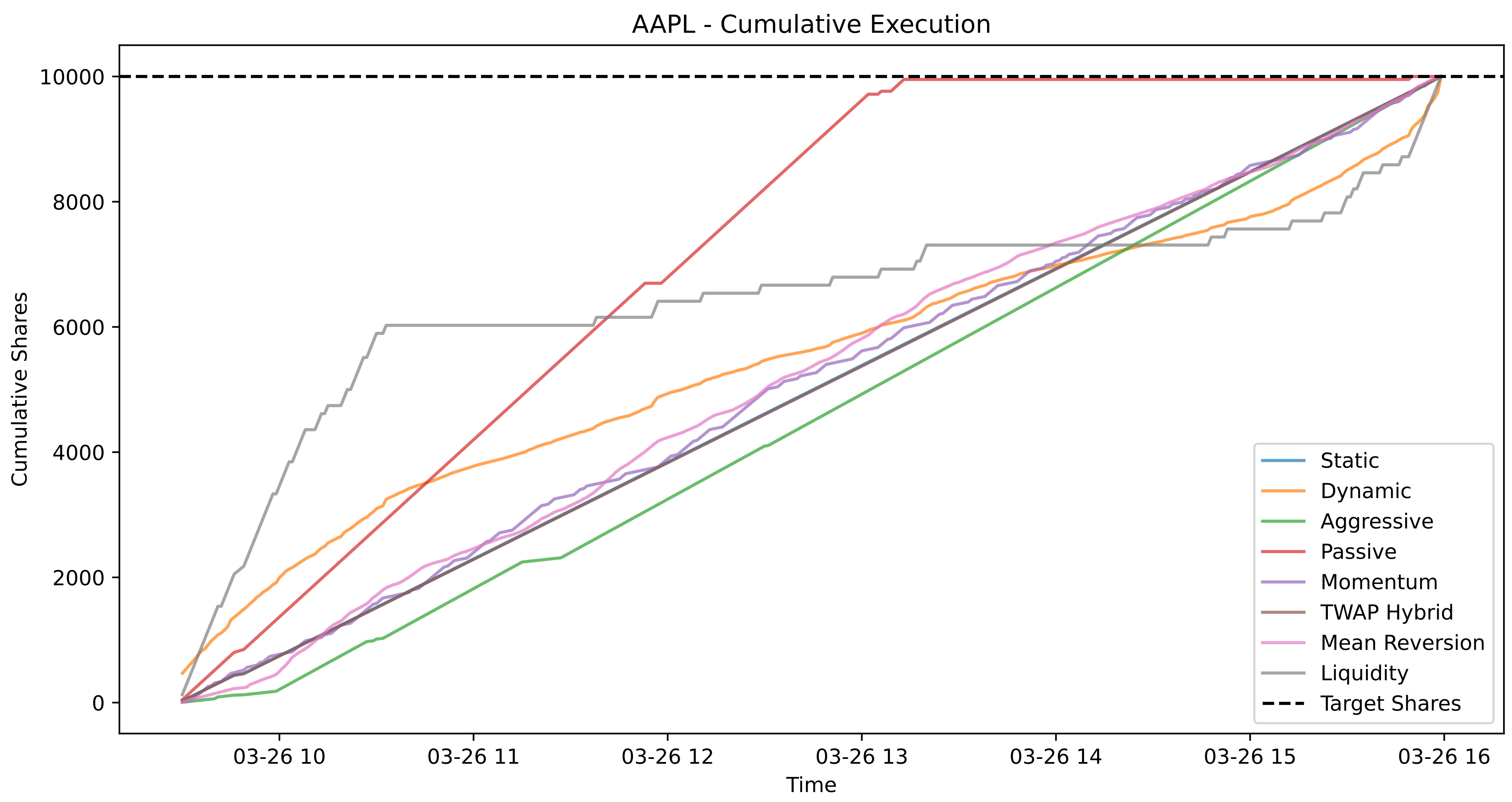
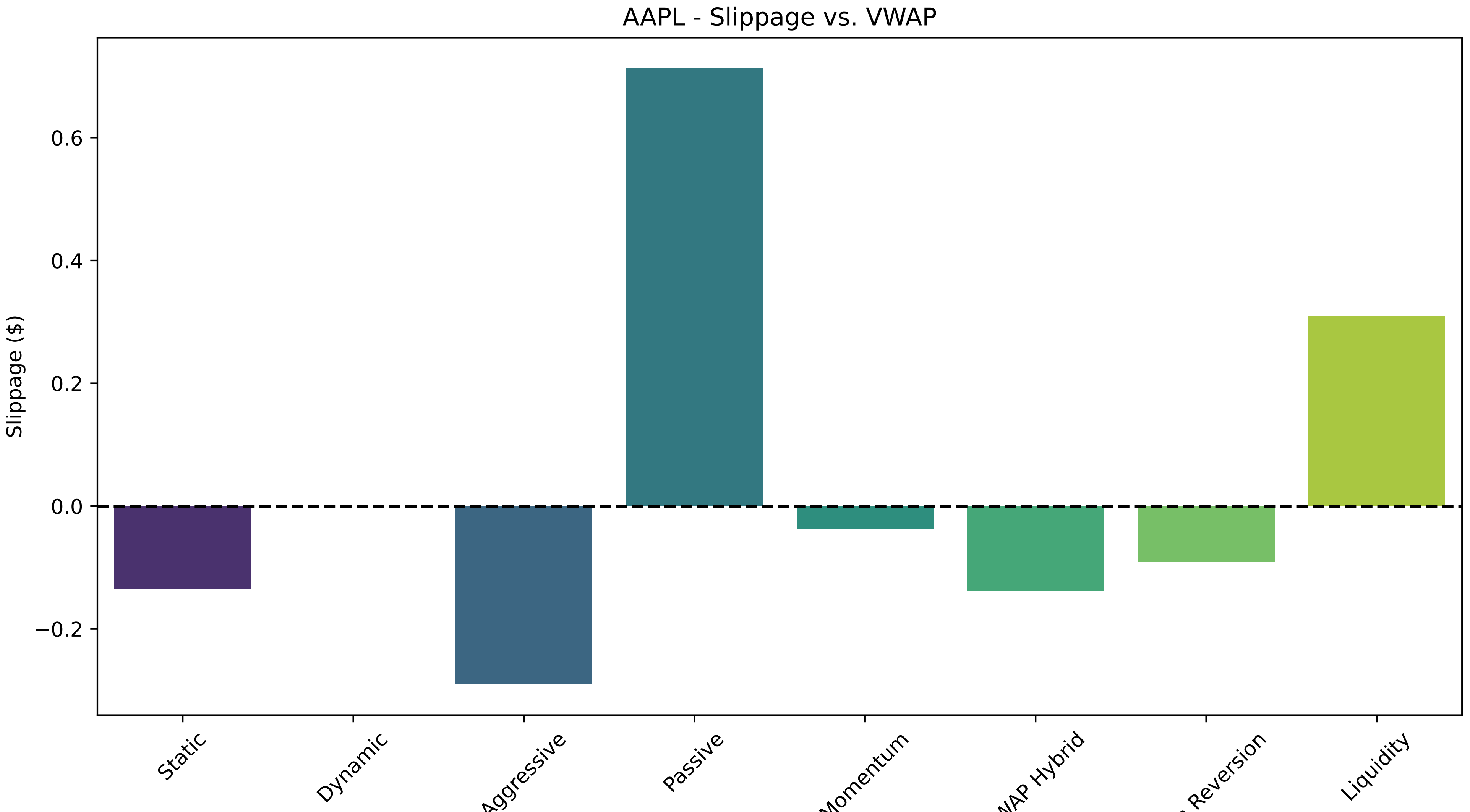
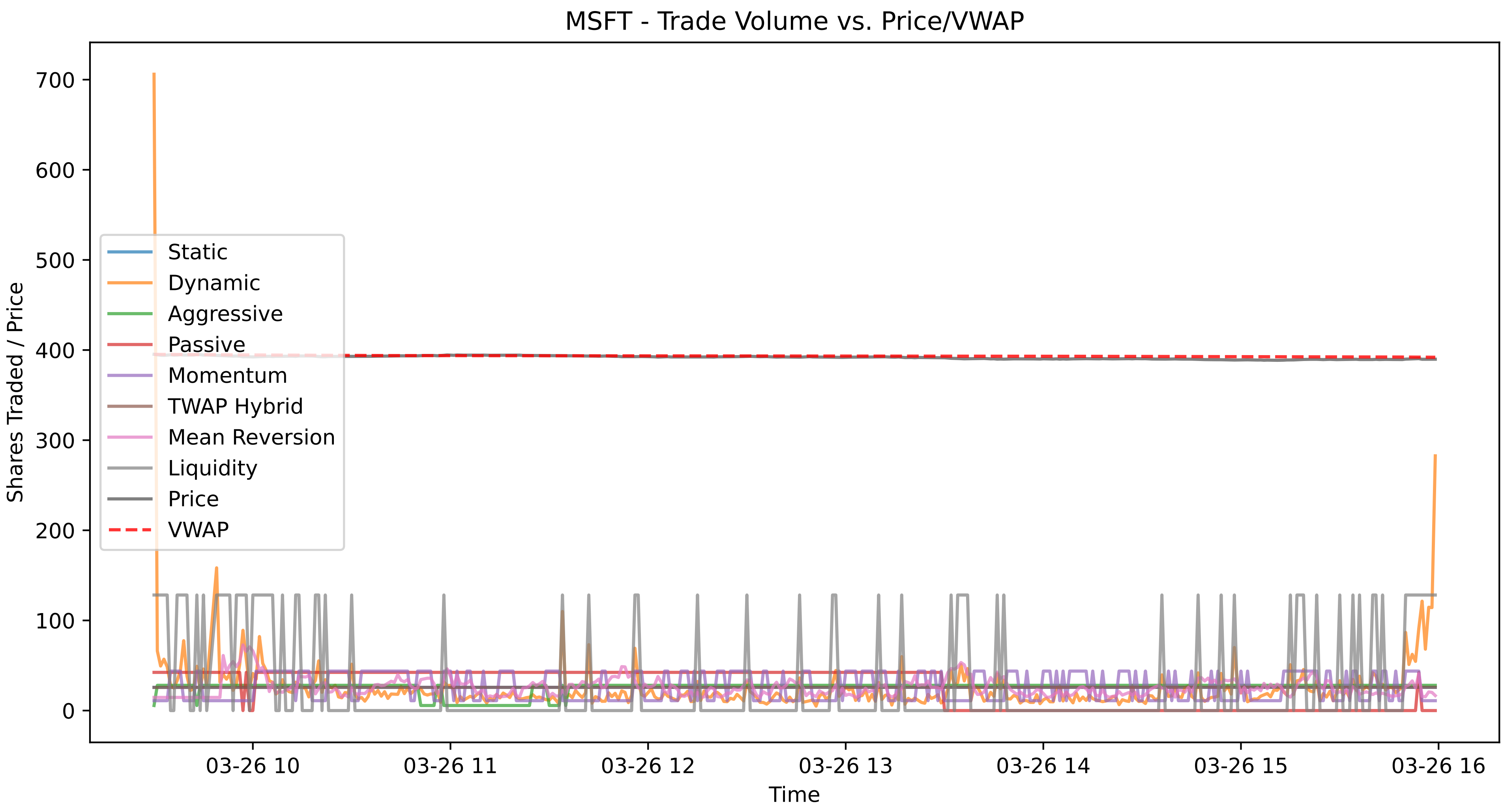

AAPL - Trade Volume vs. Price/VWAP
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Price
VWAP
Shares Traded / Price
0
100
200
300
400
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Time

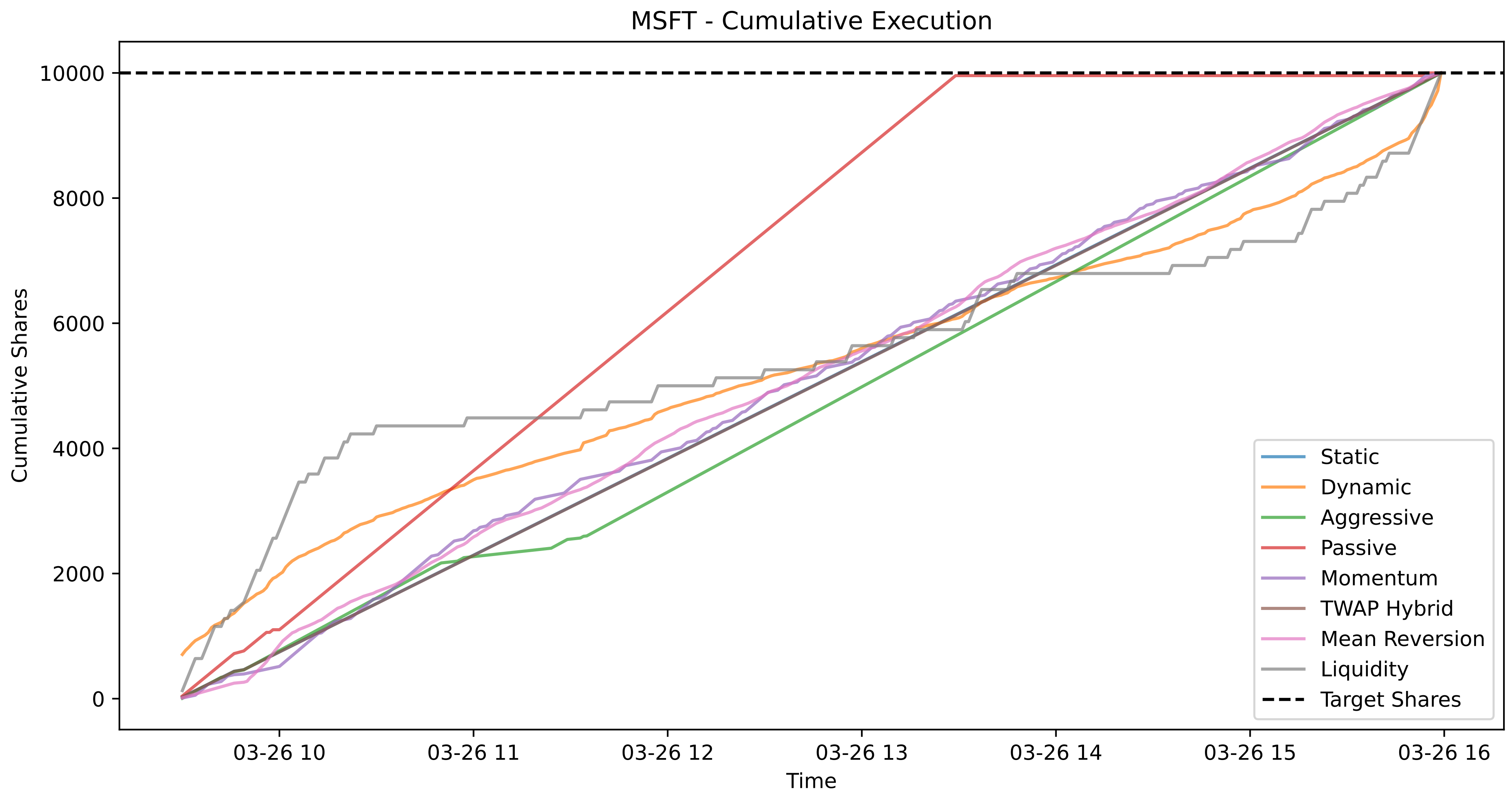

AAPL - Cumulative Execution
Cumulative Shares
Time
10000
8000
6000
4000
2000
0
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Target Shares

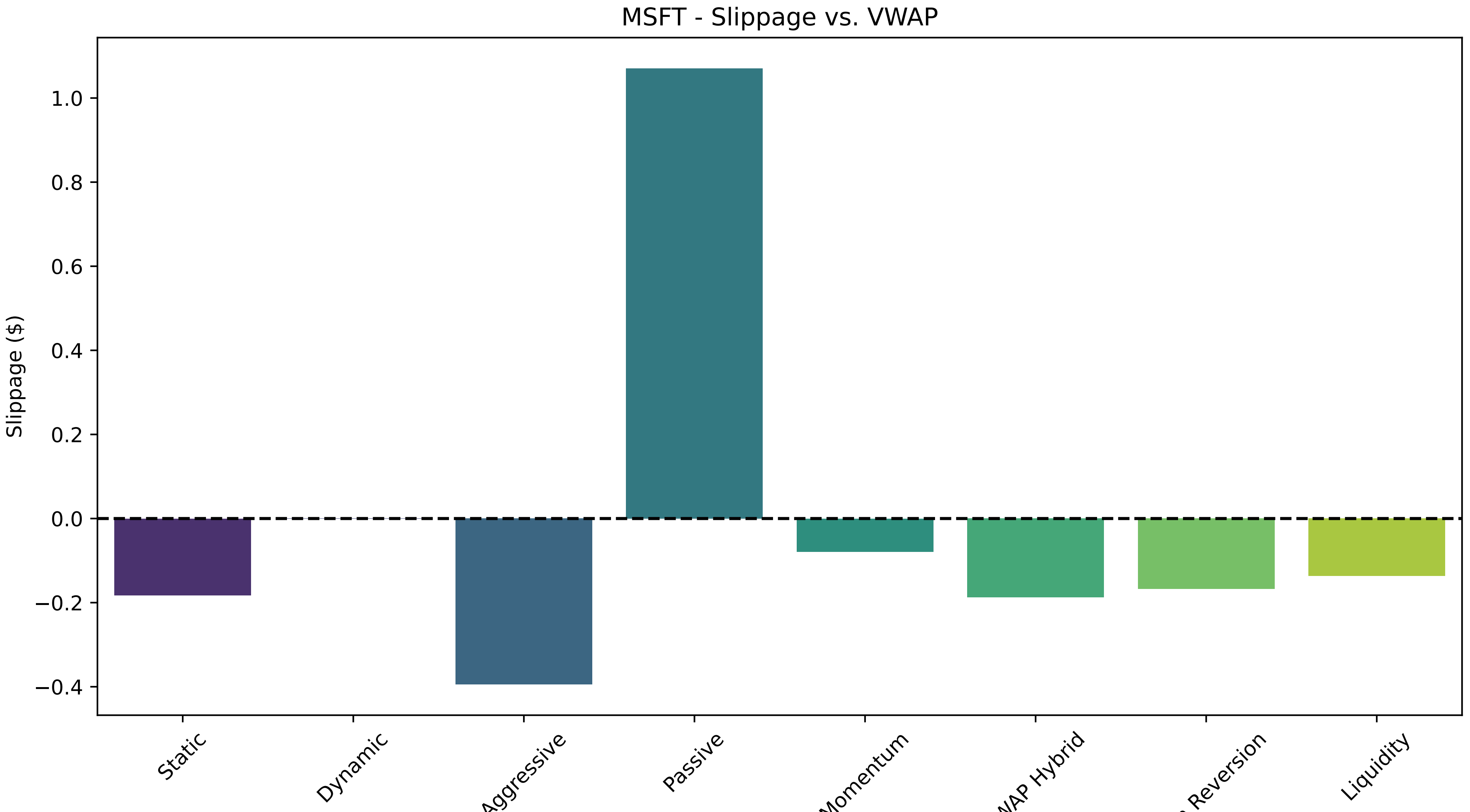

AAPL - Slippage vs. VWAP
Slippage ($)
0.6
0.4
0.2
0.0
−0.2
Static
Dynamic
Aggressive
Passive
Momentum
Liquidity

AAPL - Summary Stats

Strategy	Avg Price	Slippage
Static	222.65303590125643	-0.13467812250001998
Dynamic	222.78771402375642	-2.842170943040401e-14
Aggressive	222.49738057454425	-0.2903334492121985
Passive	223.50046913578822	0.7127551120317719
Momentum	222.75012711795964	-0.037586905796814 56
TWAP Hybrid	222.64948855883958	-0.1382254649168715
Mean Reversion	222.69652928755417	-0.09118473620227974
Liquidity	223.09674443954077	0.30903041578432067


MSFT - Trade Volume vs. Price/VWAP
Shares Traded / Price
Time
700
600
500
400
300
200
100
0
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Price
VWAP

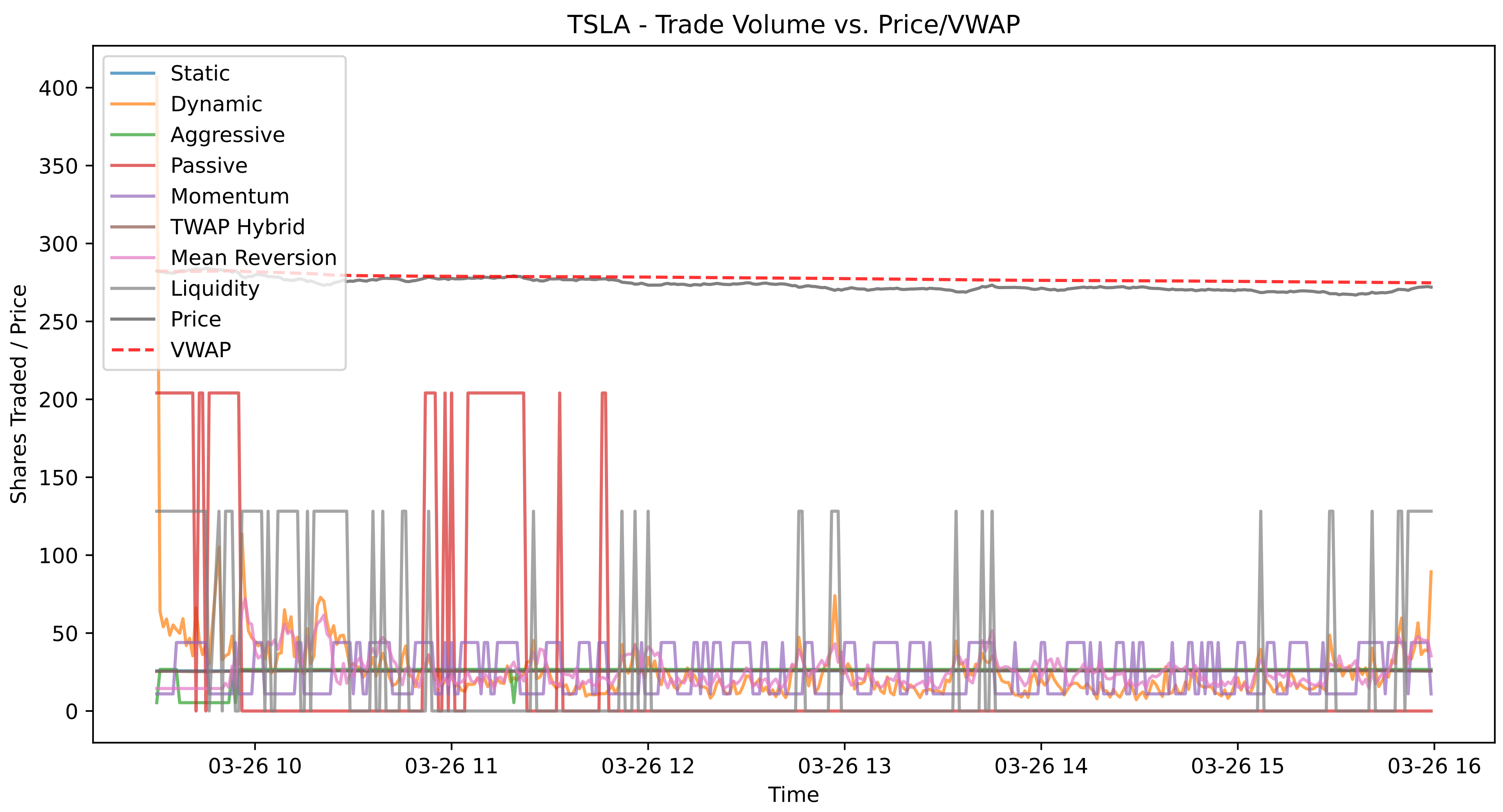

MSFT - Cumulative Execution
Cumulative Shares
Time
10000
8000
6000
4000
2000
0
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Target Shares



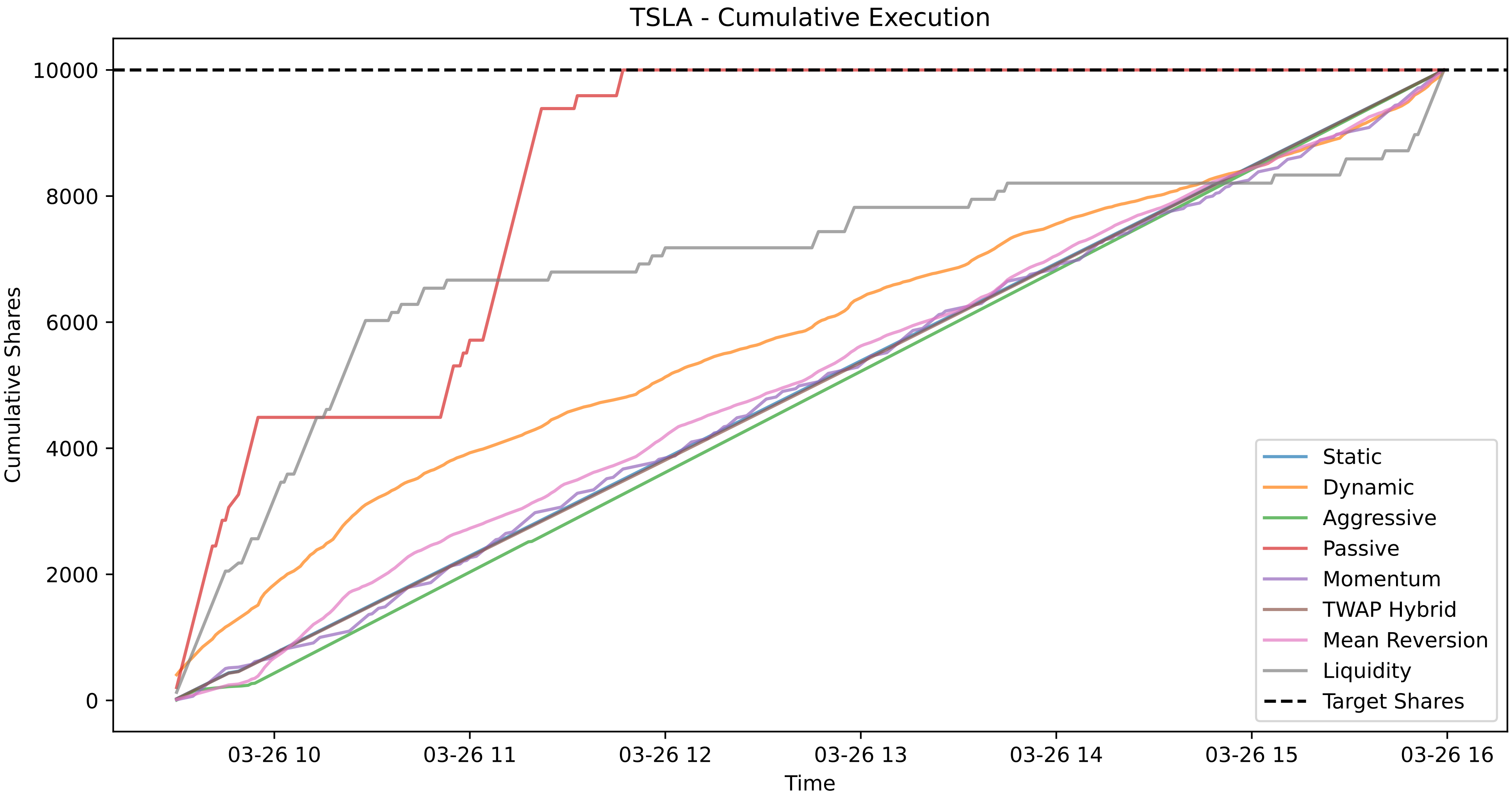
MSFT - Slippage vs. VWAP
Slippage ($)
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4
Static
Dynamic
Aggressive
Passive
Momentum
WAP Hybrid
Reversion
Liquidity

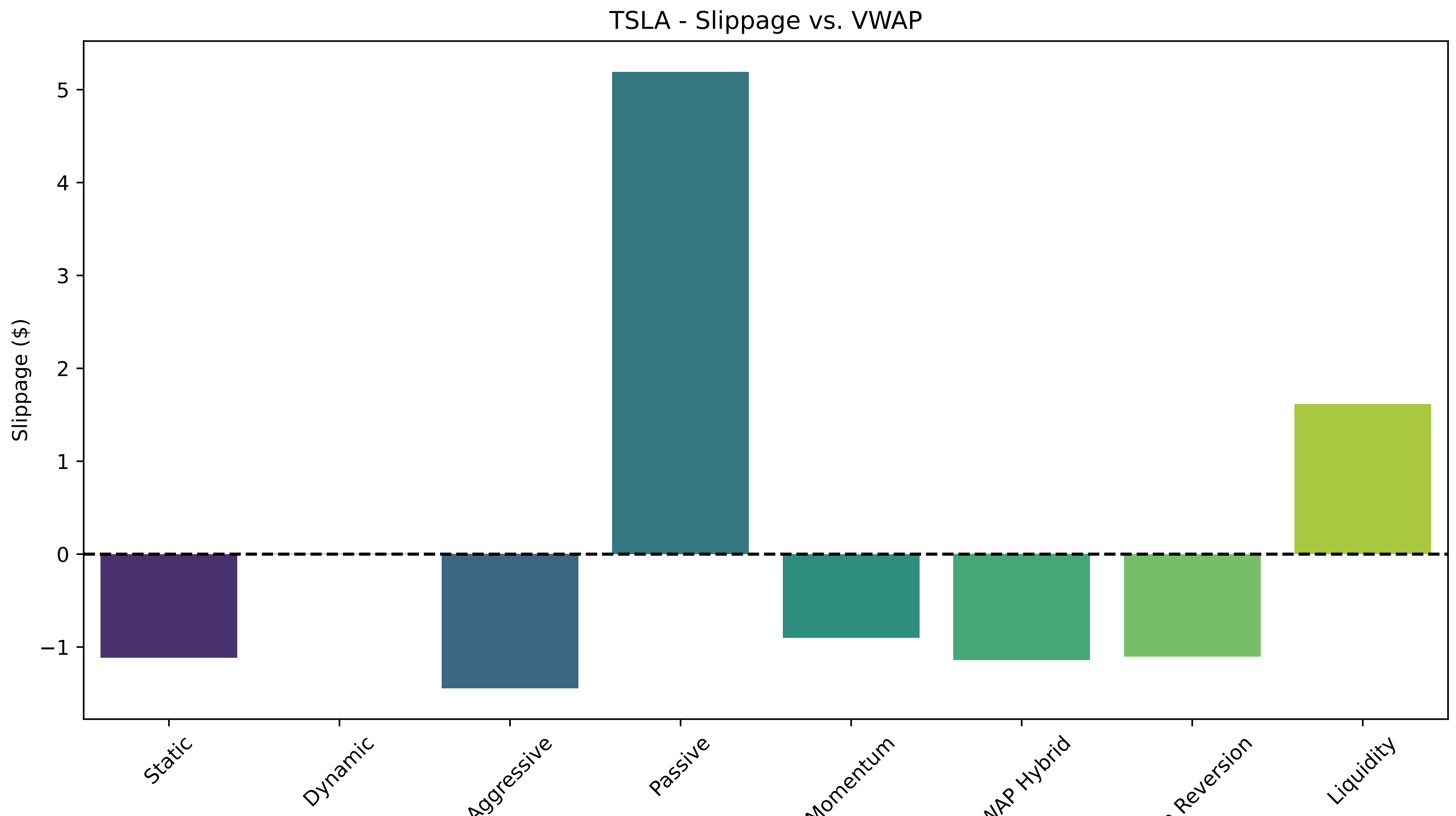
MSFT - Summary Stats

Strategy	Avg Price	Slippage
Static	391.82947225669	-0.1824672870520203
Dynamic	392.01193954374196	-5.684341886080802e-14
Aggressive	391.61749693524143	-0.394442608500583
Passive	393.08237198651835	1.0704324427763368
Momentum	391.9331546043905	-0.07878493935152164
TWAP Hybrid	391.8243480791697	-0.18759146457233555
Mean Reversion	391.8442662742894	-0.16767326945262084
Liquidity	391.8751283303285	-0.1368112134135231



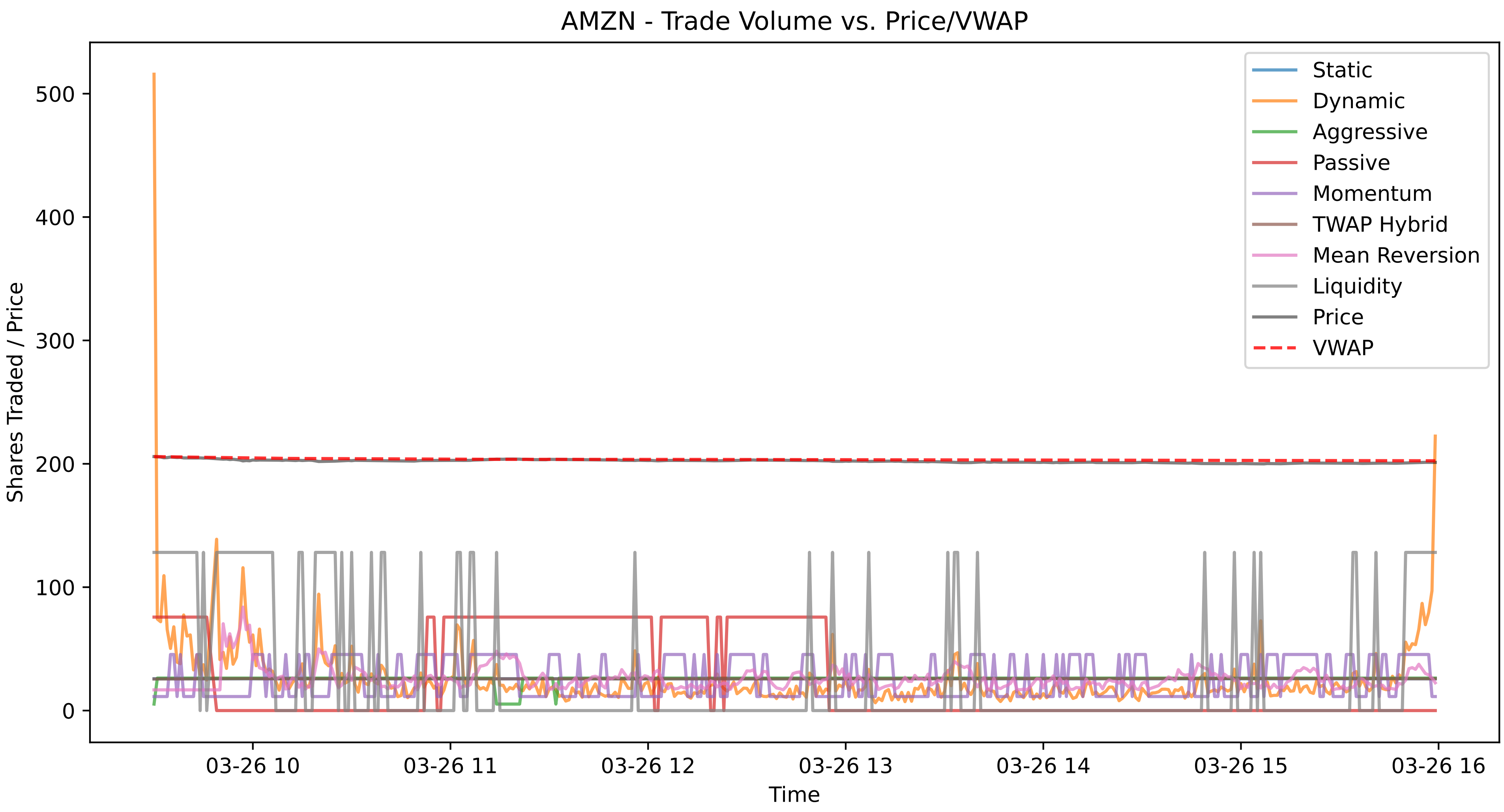
TSLA - Trade Volume vs. Price/VWAP
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Price
VWAP
Shares Traded / Price
0
50
100
150
200
250
300
350
400
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Time


TSLA - Cumulative Execution
Cumulative Shares
0
2000
4000
6000
8000
10000
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Time
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Target Shares

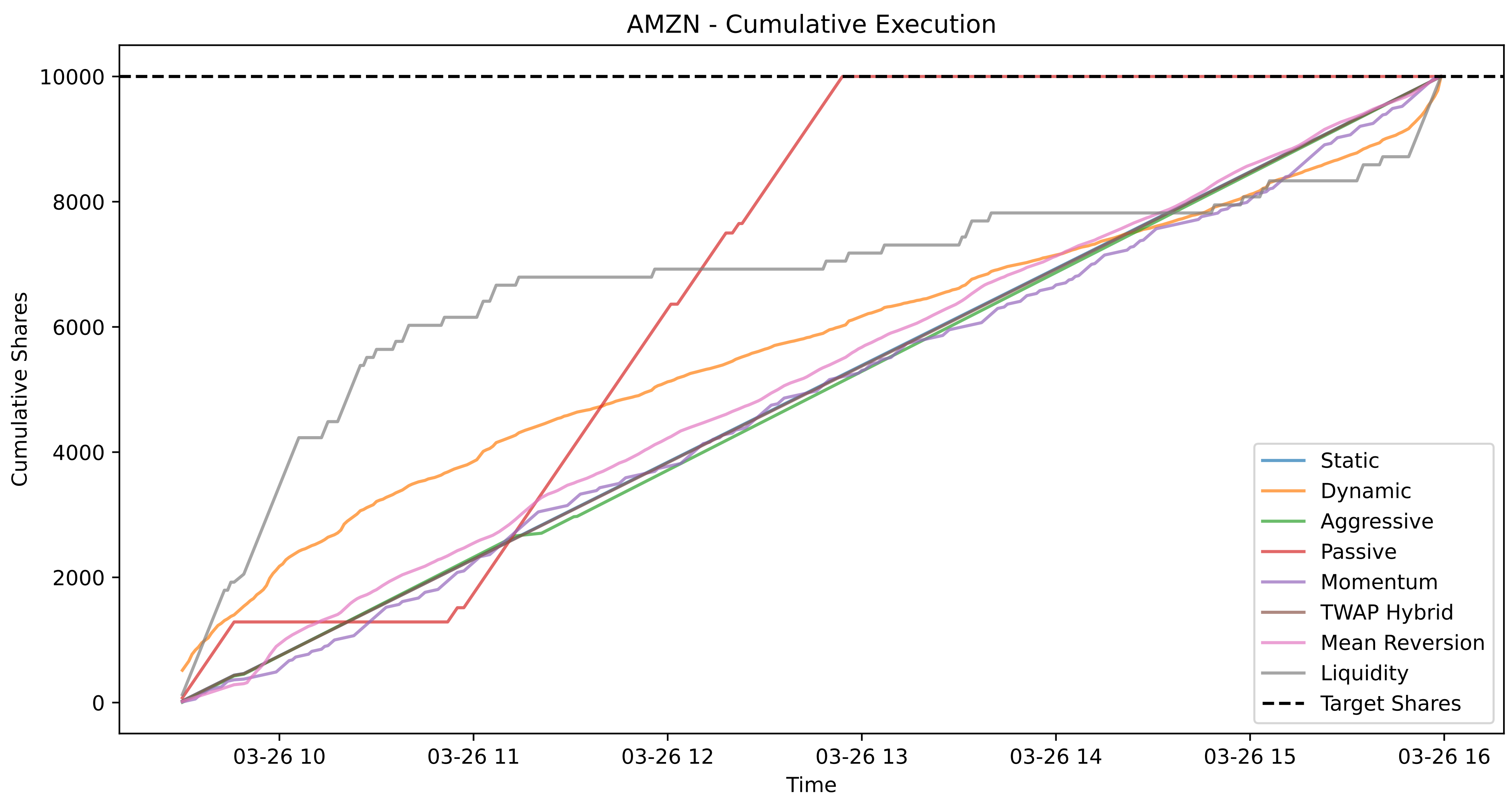

TSLA - Slippage vs. VWAP
Slippage ($)
5
4
3
2
1
0
−1
Static
Dynamic
Aggressive
Passive
Momentum
WAP Hybrid
Reversion
Liquidity

TSLA - Summary Stats

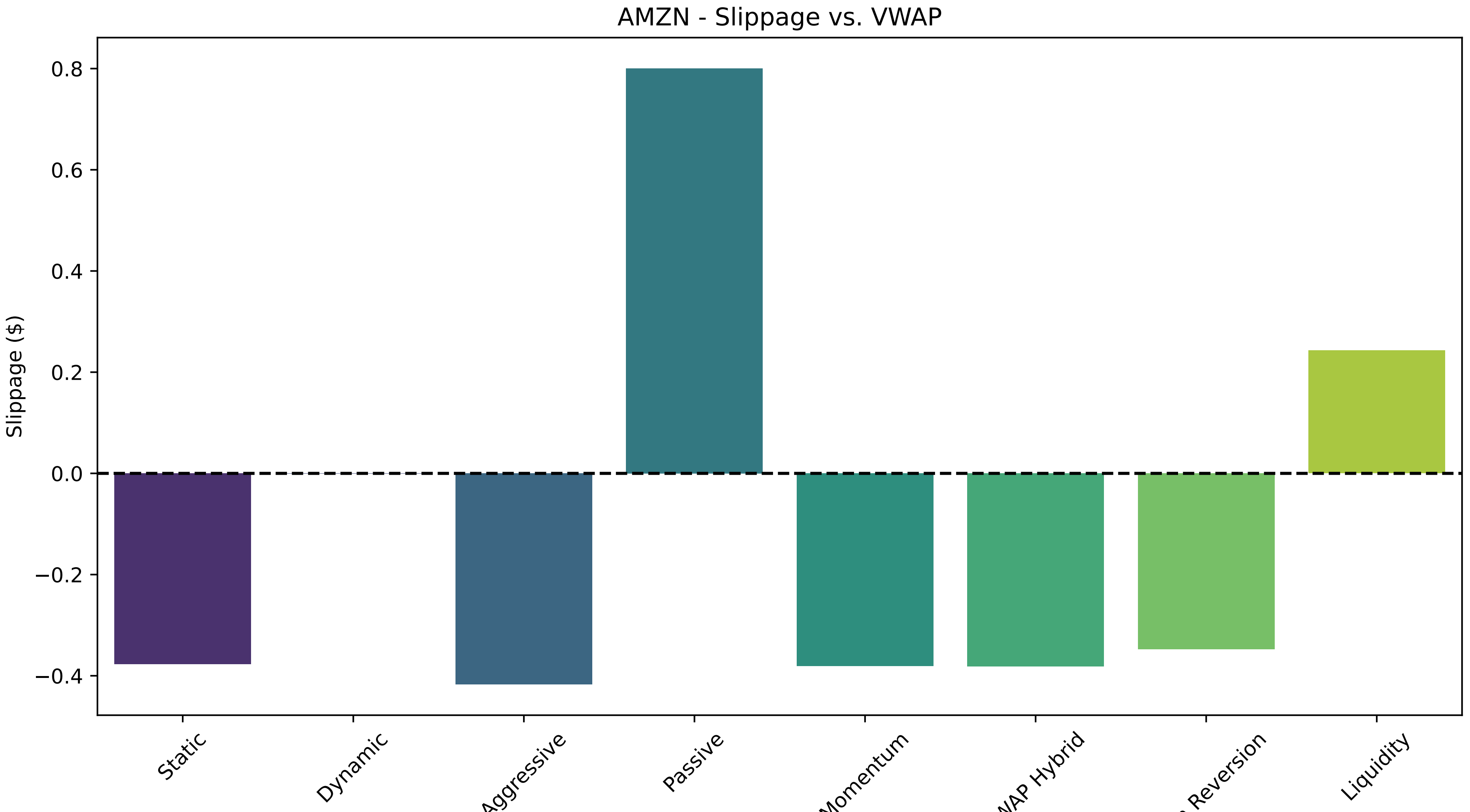
Strategy	Avg Price	Slippage
Static	273.66390881095964	-1.1121079879374065
Dynamic	274.7760167988971	5.684341886080802e-14
Aggressive	273.33169676299786	-1.4443200358991817
Passive	279.96720419124676	5.191187392349718
Momentum	273.8754570258842	-0.9005597730128443
TWAP Hybrid	273.6359830252268	-1.1400337736702681
Mean Reversion	273.67424276432104	-1.1017740345760103
Liquidity	276.39039259690503	1.614375798007984



AMZN - Trade Volume vs. Price/VWAP
Shares Traded / Price
Time
500
400
300
200
100
0
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Price
VWAP

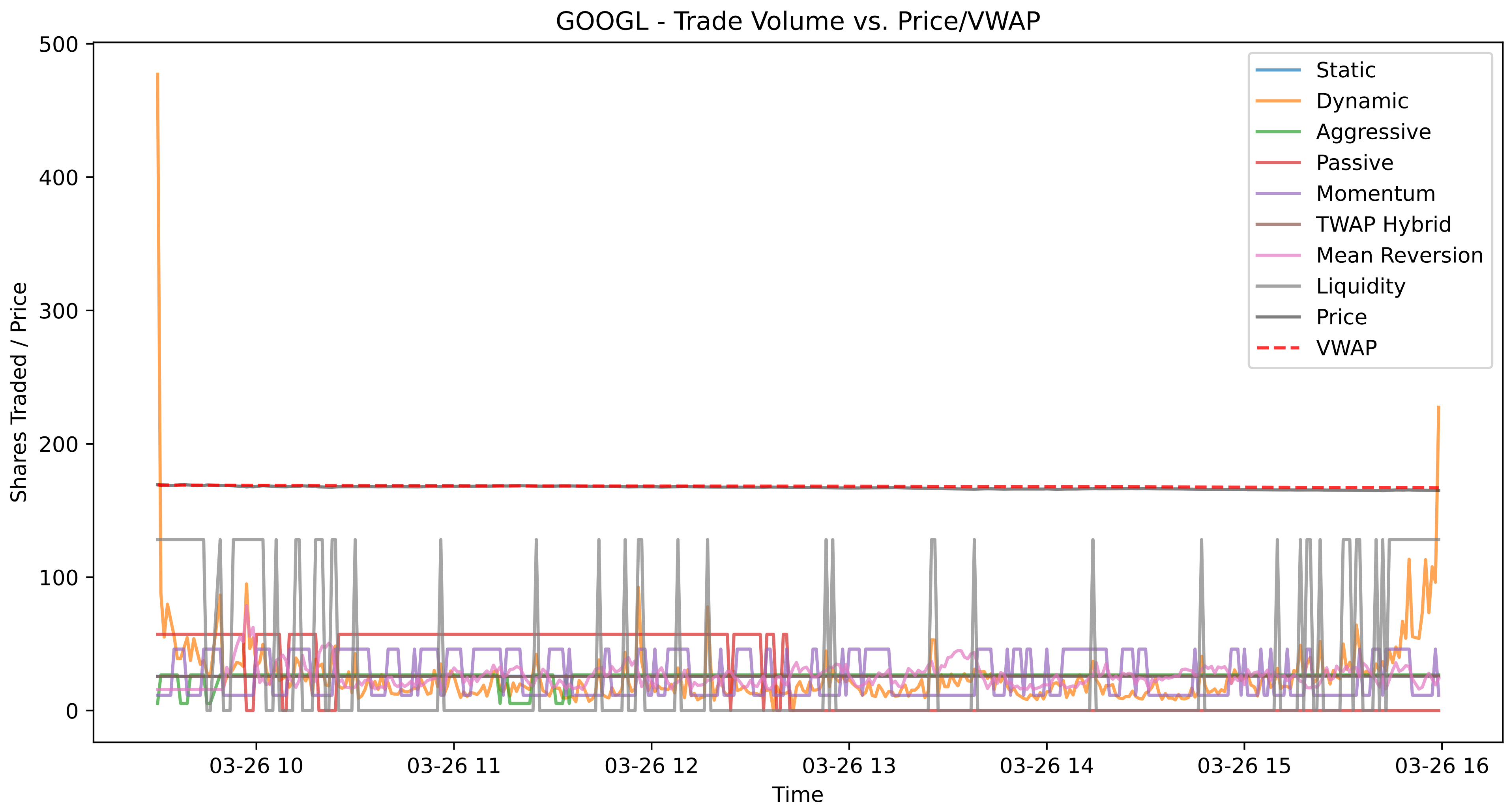


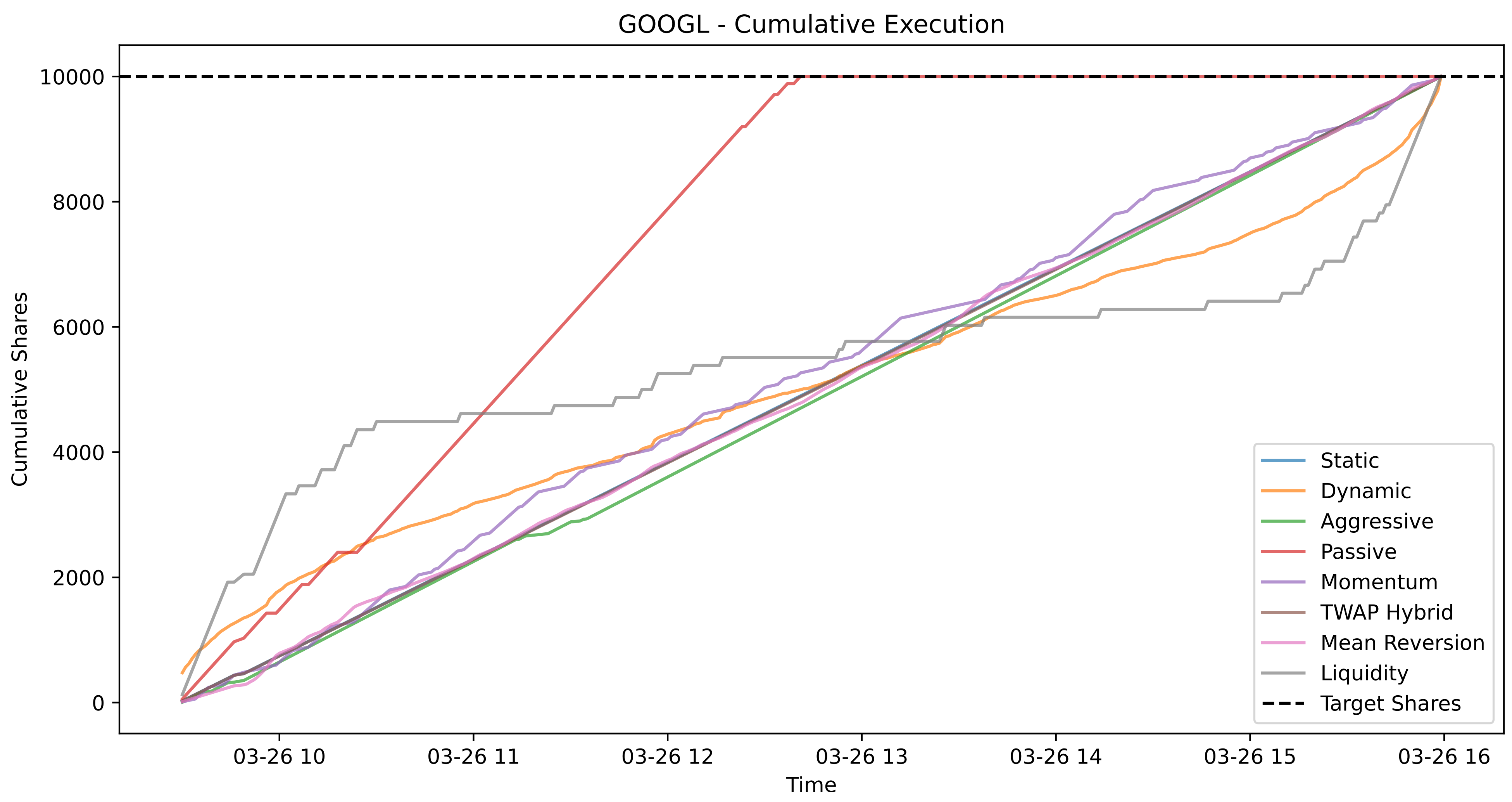
AMZN - Cumulative Execution
Cumulative Shares
Time
10000
8000
6000
4000
2000
0
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Target Shares


AMZN - Slippage vs. VWAP
Slippage ($)
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4
Static
Dynamic
Passive
Reversion
Liquidity

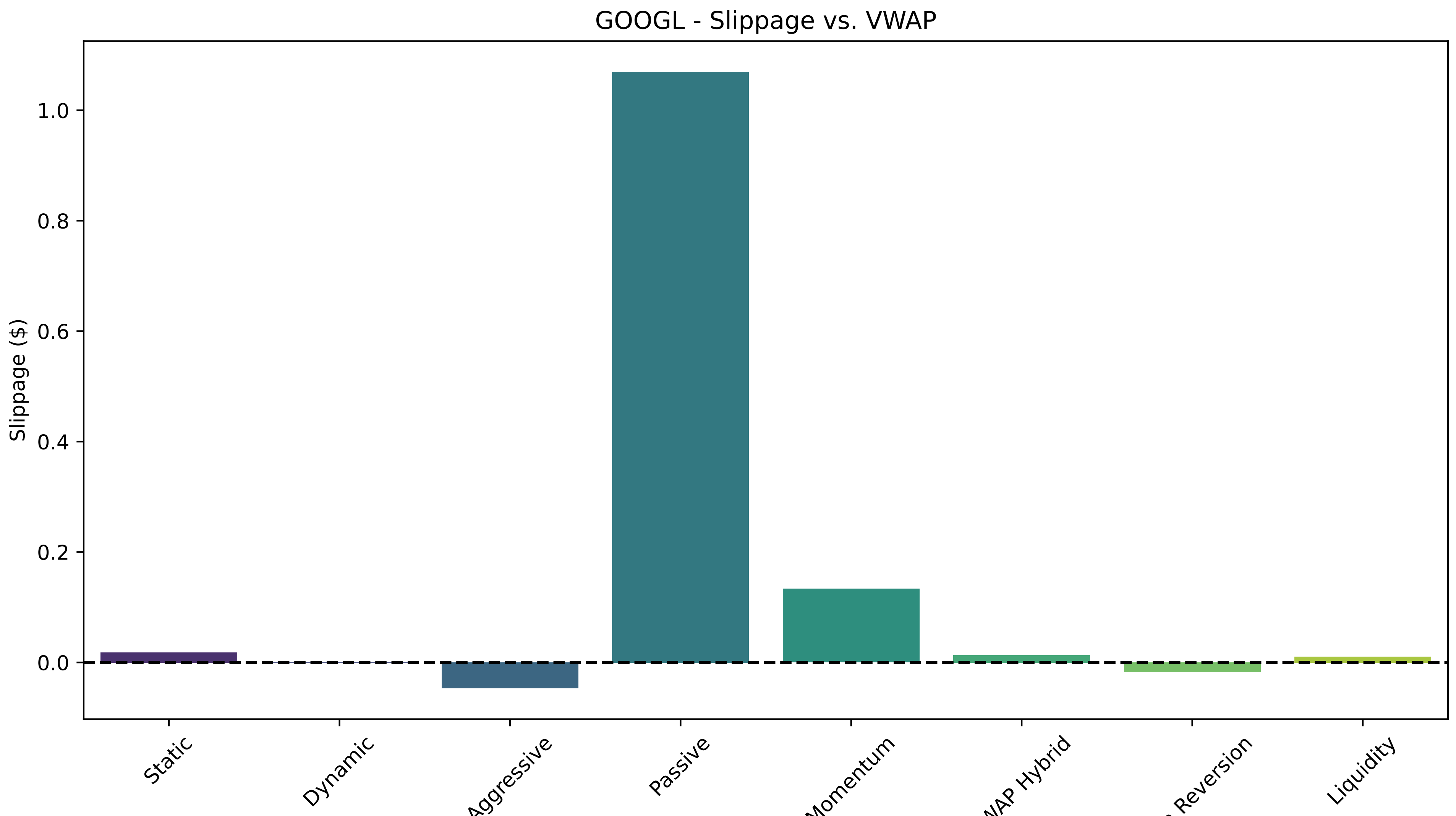
AMZN - Summary Stats

Strategy	Avg Price	Slippage
Static	202.08812957449058	-0.3772907837644084
Dynamic	202.465420358255	0.0
Aggressive	202.04835246839016	-0.4170678898648248
Passive	203.2657667217832	0.800346363528206
Momentum	202.08425157720396	-0.3811687810510307
TWAP Hybrid	202.08415290366975	-0.3812674545852417
Mean Reversion	202.11778505434543	-0.34763530390955566
Liquidity	202.7084507086338	0.2430303503788025


GOOGL - Trade Volume vs. Price/VWAP
Shares Traded / Price
Time
500
400
300
200
100
0
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Price
VWAP



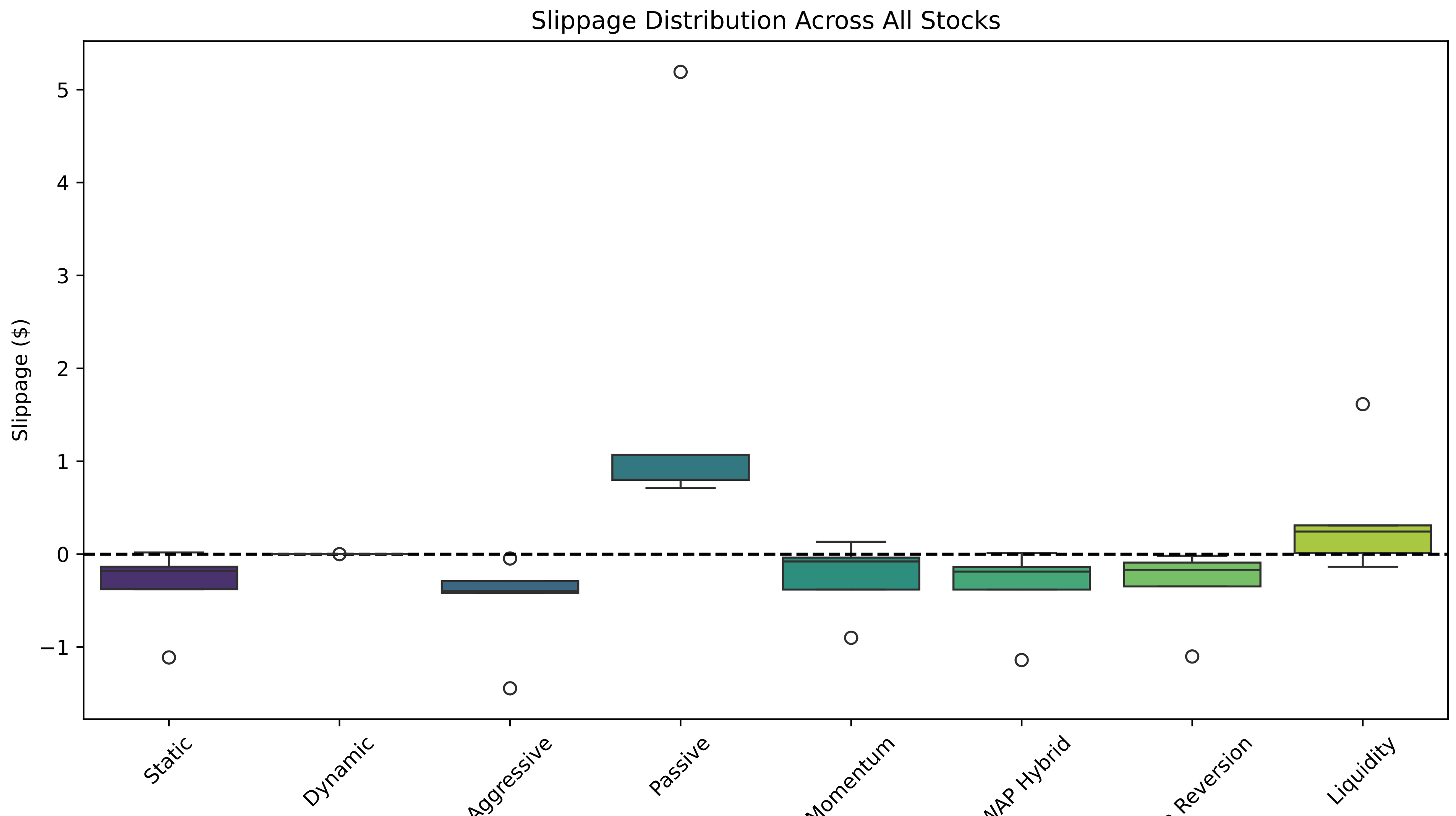
GOOGL - Cumulative Execution
Cumulative Shares
10000
8000
6000
4000
2000
0
03-26 10
03-26 11
03-26 12
03-26 13
03-26 14
03-26 15
03-26 16
Time
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
Target Shares



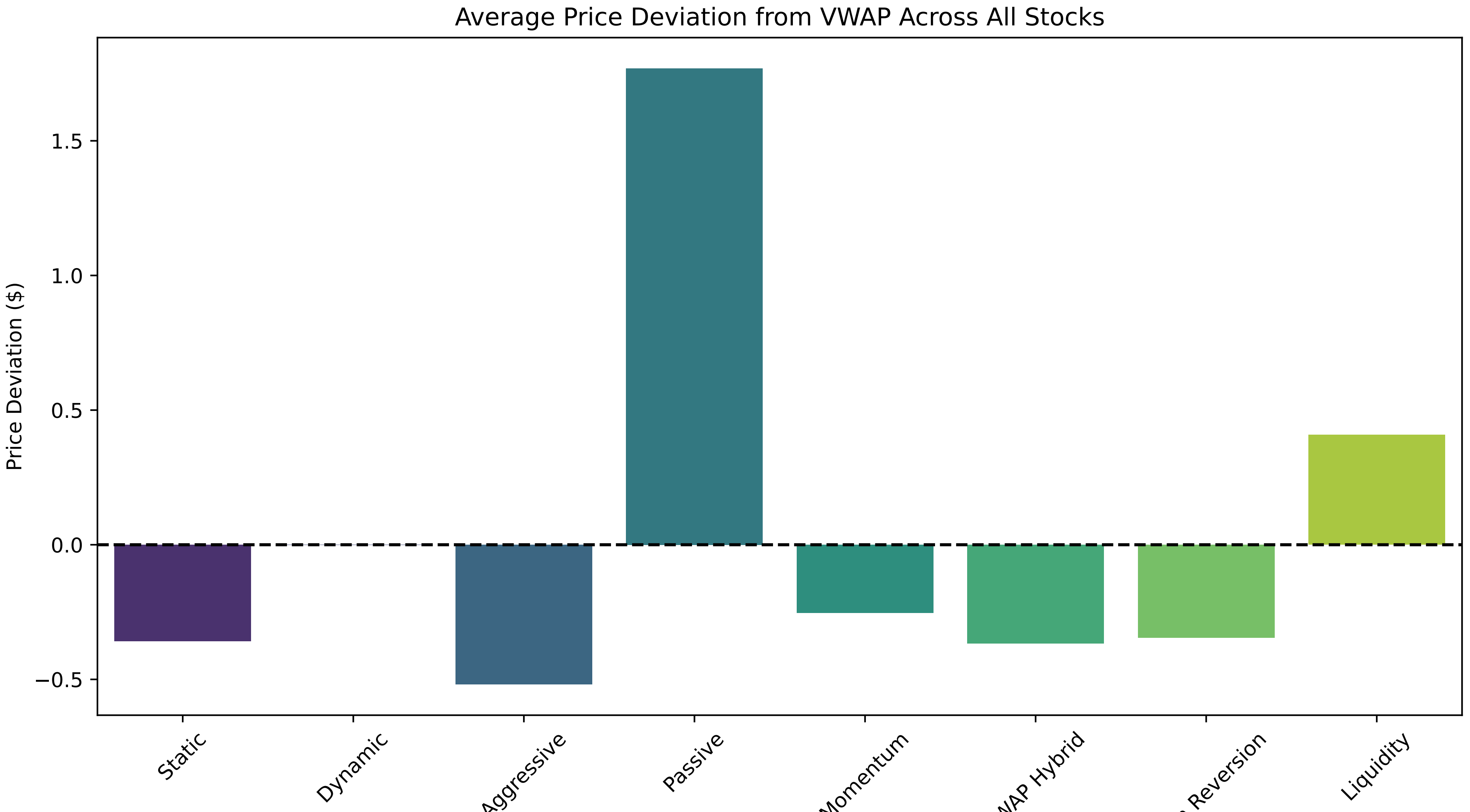
GOOGL - Slippage vs. VWAP
Slippage ($)
1.0
0.8
0.6
0.4
0.2
0.0
Static
Dynamic
Passive
Liquidity

GOOGL - Summary Stats

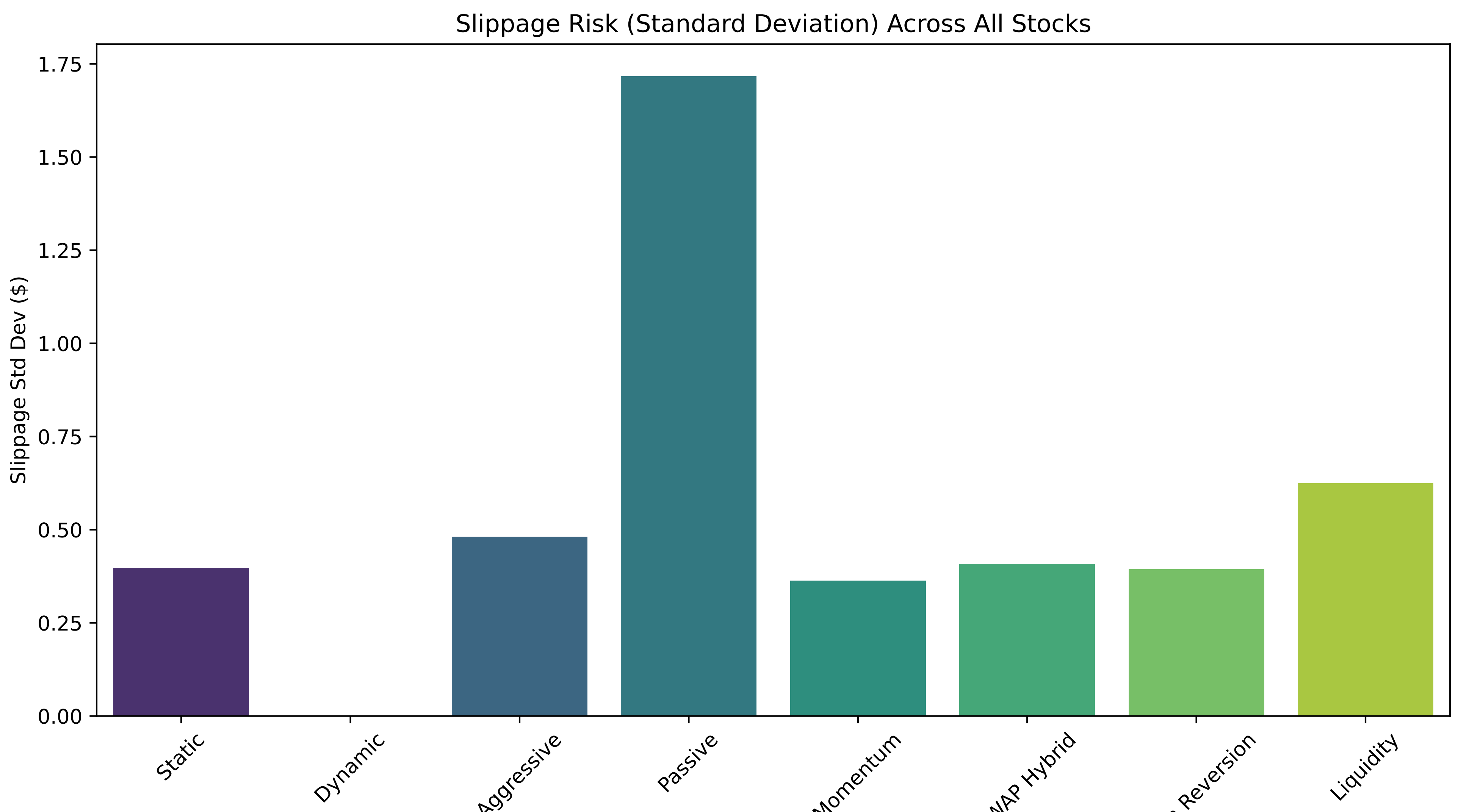
Strategy	Avg Price	Slippage
Static	167.06388292607573	0.018141115866228574
Dynamic	167.04574181020948	-2.842170943040401e-14
Aggressive	166.99889039686968	-0.04685141333982301
Passive	168.11522199358265	1.0694801833731447
Momentum	167.17911248273015	0.13337067252064116
TWAP Hybrid	167.05918824322586	0.013446433016355286
Mean Reversion	167.02781090323458	-0.017930906974925165
Liquidity	167.05644480387372	0.01070299366421068

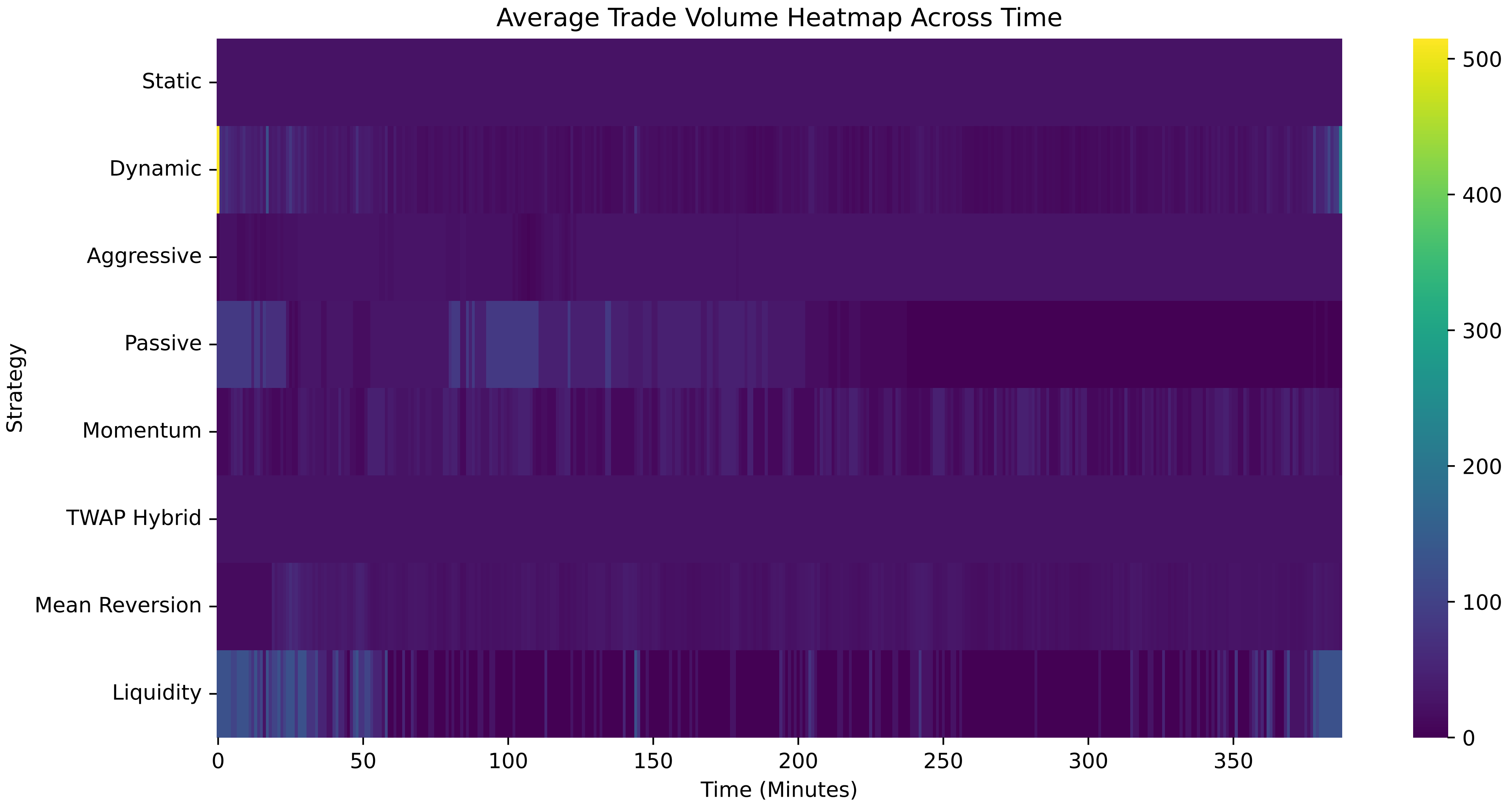


Slippage Distribution Across All Stocks
Slippage ($)
5
4
3
2
1
0
−1
Static
Dynamic
Aggressive
Passive
Momentum
WAP Hybrid
Reversion
Liquidity



Average Price Deviation from VWAP Across All Stocks
Price Deviation ($)
1.5
1.0
0.5
0.0
−0.5
Static
Dynamic
Aggressive
Passive
Momentum
Liquidity


Slippage Risk (Standard Deviation) Across All Stocks
Slippage Std Dev ($)
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
Static
Dynamic
Aggressive
Passive
Momentum
WAP Hybrid
Reversion
Liquidity


Average Trade Volume Heatmap Across Time
Strategy
Static
Dynamic
Aggressive
Passive
Momentum
TWAP Hybrid
Mean Reversion
Liquidity
0
50
100
150
200
250
300
350
Time (Minutes)
500
400
300
200
100
0

Strategy Tradeoffs Across All Stocks

Strategy	Avg Slippage	Std Slippage	Avg Price Dev	Tradeoffs
Aggressive	-0.5186030793633222	0.4811099166083869	-0.5186030793633222	Exploits dips, high reward, higher risk.
TWAP Hybrid	-0.3667343449456723	0.4067060662232288	-0.3667343449456723	Balanced, adaptive, moderate risk/reward.
Static	-0.3576806130775253	0.39779819383685067	-0.3576806130775253	Stable, low risk, but no price advantage.
Mean Reversion	-0.34523965022307834	0.39384127416754466	-0.34523965022307834	Reversion-focused, high activity, sensitive to VWAP20.
Momentum	-0.252945945338314	0.36381227756798346	-0.252945945338314	Chases trends, good in momentum, risky in choppy markets.
Dynamic	-1.1368683772161604e-14	3.855308240830066e-14	-1.1368683772161604e-14	Volume-driven, good in stable markets, risks missing dips.
Liquidity	0.40806566888435897	0.6240219031184482	0.40806566888435897	Liquidity-focused, low impact, misses low-volume opps.
Passive	1.7688402988118355	1.717127494247481	1.7688402988118355	Low impact, waits for stability, may miss volume.

Ranks by Avg Slippage. Tradeoffs: Price (Slippage), Risk (Std), Execution Style.