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## **Global Trading Analytics (a part of ACA Group)**

**Executive Summary**

**Trading Cost Analysis – Q3 '24 to Q2 '25**

**FX - Full Day - Tick Weighted Average Price (TWAP) Benchmark**

**Prepared for:**

**San Jose Police and Fire Department Retirement Plan**

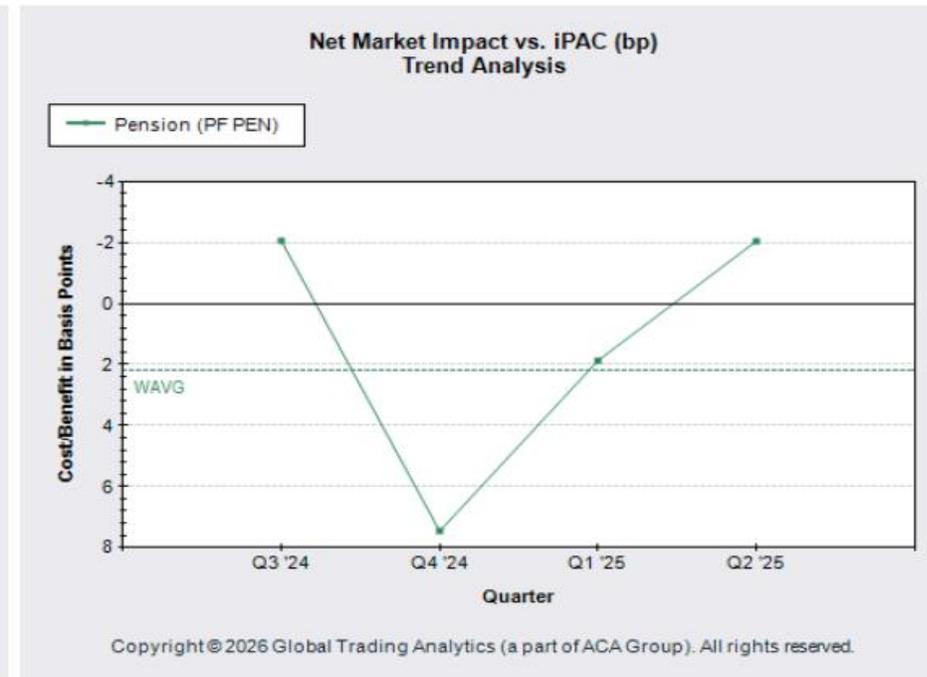
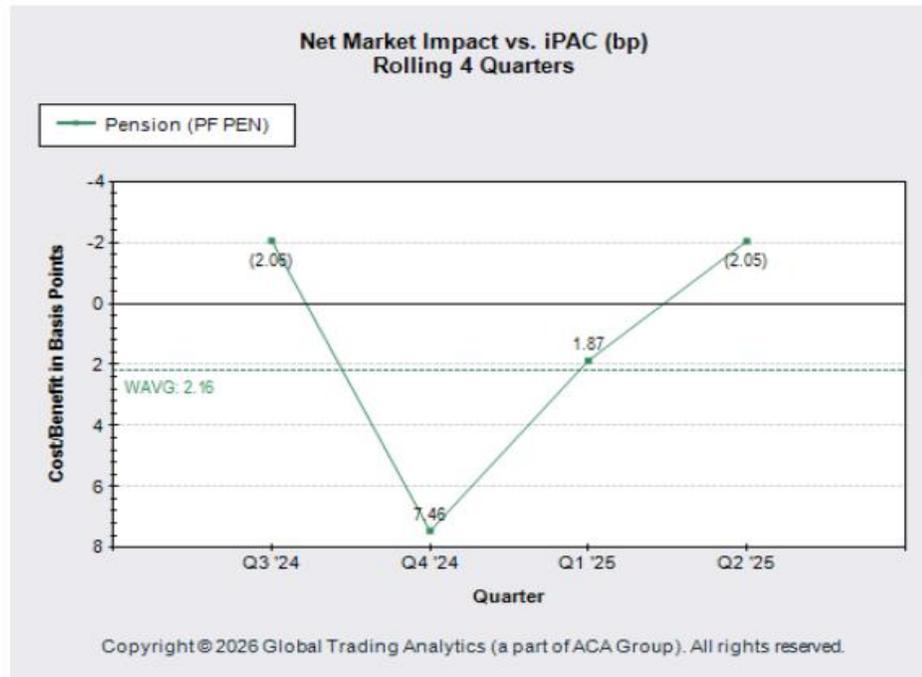
FX - Full Day - Tick Weighted Average Price (TWAP) Benchmark

Executive Summary for Pension (PF PEN)

Overall Results (Q3 '24 to Q2 '25)

- Principal traded during the four quarters analyzed: \$200.6 million
- Trades executed during the four quarters analyzed: 1,306
- Net market impact benefit (vs. iPAC) in basis points: 2.16
- Total benefit in dollars: \$43,424

**Conclusion:** A Net Market Impact Benefit - Which Exceeds Expectations



FX - Full Day - Tick Weighted Average Price (TWAP) Benchmark

Pension (PF PEN) Results (bp)

	Q3 '24	Q4 '24	Q1 '25	Q2 '25	Rolling 4 Quarters
Market Impact (bp) ⓘ	(2.23)	6.78	1.62	(1.60)	1.96
iPAC (bp) ⓘ	(0.17)	(0.68)	(0.25)	0.44	(0.21)
Net Market Impact (bp) ⓘ	(2.06)	7.46	1.87	(2.05)	2.16
Degree of Cost/Benefit ⓘ					
Total Cost/Benefit (000's) ⓘ	(\$6)	\$50	\$10	(\$10)	\$43
RPM Universe ⓘ	46%	59%	52%	50%	53%
Peer Universe Quartile Ranking ⓘ	3	1	1	3	2
Universe Volatility ⓘ	0.18%	0.19%	0.20%	0.24%	0.20%
Universe Market Differential ⓘ	0.01%	0.01%	0.02%	0.02%	0.02%
Universe Liquidity Factor ⓘ	100%	100%	100%	100%	100%
Cost/Benefit Contribution Factor ⓘ	(58.04%)	59.68%	61.11%	(60.66%)	60.02%
Principal Traded (000's)	\$30,504	\$67,126	\$52,795	\$50,182	\$200,606
Percent of Total Principal ⓘ	61.90%	59.31%	60.10%	60.67%	60.24%
Number of Trades	265	312	380	349	1,306
	Export Trades				

FX - Full Day - Tick Weighted Average Price (TWAP) Benchmark

Accounts Net Market Impact (bp) Summary for Pension (PF PEN)

Accounts	Q3 '24	Q4 '24	Q1 '25	Q2 '25	Rolling 4 Quarters	GTA Factor <sup>?</sup> ▲	Univ Volatility <sup>?</sup>	Univ Market Diff <sup>?</sup>	Univ Liqdty Factor <sup>?</sup>	Cost/ Benefit Contrib. <sup>?</sup>	Total Cost/ Benefit (000's) <sup>?</sup>	Principal Traded (000's)	Percent Total Principal <sup>?</sup>	No. Trades
SAN JOSE PF PEN MORGAN STANLEY INT	(2.18)	3.20	22.29	(5.03)	1.31		0.18%	0.02%	100%	5.51%	\$2	\$18,234	9.09%	112
SAN JOSE PF PEN OBERWEIS INTL OP	(2.87)	3.33	3.13	(3.73)	0.48		0.21%	0.02%	100%	12.39%	\$5	\$112,220	55.94%	1,000
SAN JOSE PF PEN ARTISAN GL VALUE	0.17	10.82	(7.21)	1.32	5.08		0.17%	0.01%	99%	82.11%	\$36	\$70,152	34.97%	194

**Peer Universe Ranking**

San Jose PE Pen Artisan GL Value : First Quartile  
 San Jose PF Pen Morgan Stanley Int : Second Quartile  
 San Jose PF Pen Oberweis Intl OP : Second Quartile

**Commentary:**

San Jose PE Pen Artisan GL Value, San Jose PF Pen Morgan Stanley Int, and San Jose PF Pen Oberweis Intl OP all returned a benefit over the rolling four quarter period.



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## **Global Trading Analytics (a part of ACA Group)**

**Executive Summary**

**Trading Cost Analysis – Q3 '24 to Q2 '25**

**Equity - Full Day - Volume Weighted Average Price (VWAP) Benchmark**

**Prepared for:**

**San Jose Police and Fire Department Retirement Plan**

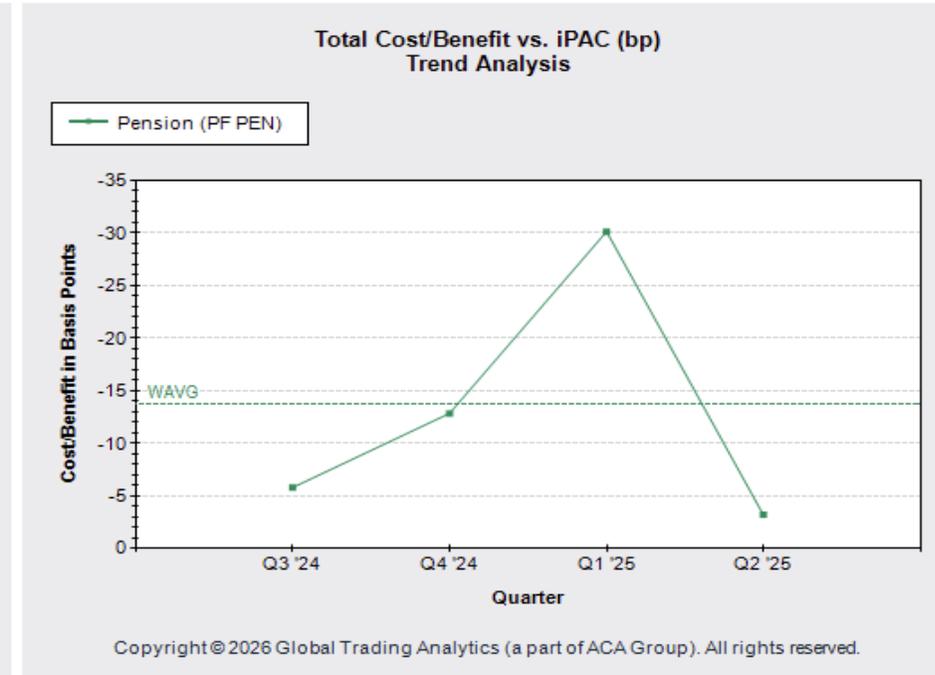
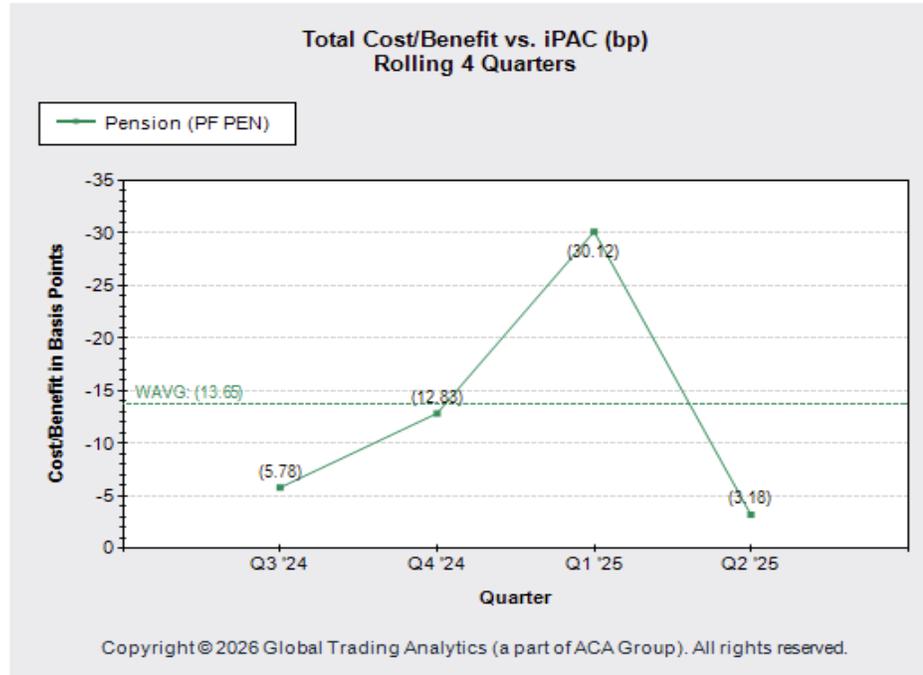
Equity - Full Day - Volume Weighted Average Price (VWAP) Benchmark

**Executive Summary for Pension (PF PEN)**

Overall Results (Q3 '24 to Q2 '25)

- Principal traded during the four quarters analyzed: \$296.9 million
- Trades executed during the four quarters analyzed: 3,578
- Net market impact cost (vs. iPAC) in basis points: (11.38)
- Net commission cost (vs. Commission Universe) in basis points: (2.27)
- Total cost, net market impact plus net commission, in basis points: (13.65)
- Total cost, net market impact plus net commission, in dollars: (\$405,280)

**Conclusion:** A High Total Cost outside the Acceptable Range



Equity - Full Day - Volume Weighted Average Price (VWAP) Benchmark

Pension (PF PEN) Results (bp)

	Q3 '24	Q4 '24	Q1 '25	Q2 '25	Rolling 4 Quarters
Market Impact (bp) ⓘ	(5.06)	(11.95)	(26.00)	(0.77)	(11.67)
iPAC (bp) ⓘ	(0.34)	0.45	(0.96)	(0.73)	(0.29)
Net Market Impact (bp) ⓘ	<b>(4.73)</b>	<b>(12.39)</b>	<b>(25.04)</b>	<b>(0.04)</b>	<b>(11.38)</b>
Degree of Cost/Benefit ⓘ					
Commission (bp) ⓘ	(6.62)	(4.99)	(10.17)	(7.73)	(7.14)
Commission Universe (bp) ⓘ	(5.57)	(4.55)	(5.09)	(4.59)	(4.86)
Net Commission Cost/Benefit (bp) ⓘ	<b>(1.05)</b>	<b>(0.44)</b>	<b>(5.08)</b>	<b>(3.14)</b>	<b>(2.27)</b>
Total Cost/Benefit (bp) ⓘ	<b>(5.78)</b>	<b>(12.83)</b>	<b>(30.12)</b>	<b>(3.18)</b>	<b>(13.65)</b>
Total Cost/Benefit (000's) ⓘ	(\$29)	(\$138)	(\$216)	(\$21)	(\$405)
Statistical Universe ⓘ	(5.92%)	(28.58%)	(27.67%)	1.55%	(17.74%)
RPM Universe ⓘ	48%	42%	44%	52%	46%
Peer Universe Quartile Ranking ⓘ	4	4	4	2	4
Universe Volatility ⓘ	0.60%	0.74%	0.74%	0.83%	0.73%
Universe Market Differential ⓘ	0.19%	0.21%	0.20%	0.20%	0.20%
Universe Liquidity Factor ⓘ	100%	100%	100%	100%	100%
Cost/Benefit Contribution Factor ⓘ	(64.76%)	(61.05%)	(59.61%)	(48.12%)	(59.69%)
Principal Traded (000's)	\$50,698	\$107,926	\$71,812	\$66,485	\$296,922
Percent of Total Principal ⓘ	61.44%	58.96%	59.84%	60.97%	60.03%
Number of Trades	730	738	1,114	996	3,578
	Export Trades	Export Trades	Export Trades	Export Trades	Export Trades



Equity - Full Day - Volume Weighted Average Price (VWAP) Benchmark

Accounts Total Cost/Benefit (bp) Summary for Pension (PF PEN)

Accounts	Q3 '24	Q4 '24	Q1 '25	Q2 '25	Rolling 4 Quarters	GTA Factor <sup>?</sup> ▲	Univ Volatility <sup>?</sup>	Univ Market Diff <sup>?</sup>	Univ Liqdtly Factor <sup>?</sup>	Cost/Benefit Contrib. <sup>?</sup>	Total Cost/Benefit (000's) <sup>?</sup>	Principal Traded (000's)	Percent Total Principal <sup>?</sup>	No. Trades
SAN JOSE PF PEN OBERWEIS INTL OP	(12.22)	(34.15)	(31.83)	(23.82)	(27.18)		0.83%	0.21%	100%	(90.84%)	(\$403)	\$148,184	49.91%	2,459
SAN JOSE PF PEN MORGAN STANLEY INT	(3.01)	(36.06)	(39.18)	5.87	(13.93)		0.55%	0.19%	100%	(9.16%)	(\$41)	\$29,158	9.82%	280
SAN JOSE PF PEN ARTISAN GL VALUE	3.56	(0.31)	(20.52)	23.47	3.19		0.51%	0.18%	100%	100.00%	\$38	\$119,580	40.27%	839

**Peer Universe Ranking**

San Jose PE Pen Artisan GL Value : Second Quartile  
 San Jose PF Pen Morgan Stanley Int : Fourth Quartile  
 San Jose PF Pen Oberweis Intl OP : Fourth Quartile

**Commentary:**

San Jose PF Pen Oberweis Intl OP incurred a cost that warrants a second look.  
 San Jose PF Pen Morgan Stanley Int incurred a cost that did not warrant a second look.  
 San Jose PE Pen Artisan GL Value returned a benefit.