

## Pairs Trading Matrixes

April 24, 2015

Sturdivant & Co. conducts bottom-up fundamental analysis on a wide range of nearly 3,000 large and small cap US equities. Herein we present our exclusive Pairs Trading Matrixes utilizing Polaris, our innovative system for stock selection guidance. (System design overview for Polaris is attached separately.)

Polaris integrates proprietary analytics that are focused on valuation, catalytic and technical properties to rank and characterize stocks. The quantitative scores derived for each stock in our coverage universe can be used to identify pricing disparities among pairs of stocks. An exploitable pricing disparity is indicated by a wide spread between the respective quantitative scores for the long and short component of a pair of stocks selected from the same sector and industry.

Our Pairs Trading Matrixes provide investors with guidance by specifying long/short pair combinations that we find attractive based on the spread in quantitative scores among the components of each pair. A separate matrix for a large cap universe and a small cap universe is provided below in Tables 1 and 2.

The Sturdivant & Co. coverage universe is grouped into 16 economic sectors and approximately 200 different industries. We have identified pair combinations selected from the 10 industries that we believe have the greatest degree of pricing disparity based on our analysis. For each industry from which attractive pairs are identified, we select 1 to 4 long candidates and 1 to 4 short candidates. Consequently, there can be anywhere from 1 to 16 different pair combinations to select from for each industry. As an example, in Table 1 below, we have identified 3 pairs in the Retail-Food & Restaurants industry that merit investment consideration, including: (A1) SBUX-PNRA, (A2) SBUX-YUM and (A3) SBUX-MCD.

**Table 1: Large Cap Pairs Matrix**

LARGE CAP PAIRS (based on 04/22/2015 prices)

PAIR COMBINATIONS = A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, D1, D2, D3, D4

INDUSTRY	LONG SIDE of PAIR				SHORT SIDE of PAIR				Number of Pairs
	A	B	C	D	1	2	3	4	
1 OIL FIELD MACH & EQUIP	DRC				SPN				1
2 RETAIL-FOOD & RESTAURANTS	SBUX				PNRA	YUM	MCD		3
3 UTILITY-ELECTRIC POWER	PCG	XEL	WR	WEC	D	CPN	AES	FE	16
4 REIT-EQTY TRUST - RESID	ELS	EQR			AMH				2
5 INSURANCE-PROP/CAS/TITLE	PGR	AXS	FNFV		CNA	PRE			6
6 OIL REFINING & MARKETING	MPC	TSO	VLO		PSX				3
7 WIRELESS EQUIPMENT	MSI				JNPR				1
8 CHEMICALS-DIVERSIFIED	PPG				PX	CMP			2
9 FOOD-MISC/DIVERSIFIED	HAIN				SJM	MDLZ	K		3
10 BEVERAGES-ALCOHOLIC	STZ				TAP				1

TOTAL Number of PAIRS = **38**

**Table 2: Small Cap Pairs Matrix**

SMALL CAP PAIRS (based on 04/22/2015 prices)

PAIR COMBINATIONS = A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, D1, D2, D3, D4

<u>INDUSTRY</u>	LONG SIDE of PAIR				SHORT SIDE of PAIR				Number of Pairs
	A	B	C	D	1	2	3	4	
1 MEDICAL-DRUGS	USNA				PTLA	SPPI			2
2 UTILITY-ELECTRIC POWER	NWE	IDA			NYLD	PEGI	BKH		6
3 UTILITY-GAS DISTRIBUTION	OGS	SWX			CLNE				2
4 BUSINESS SERVICES	CORE				SCOR	CATM			2
5 WIRELESS NATIONAL	IQNT				GOGO				1
6 REIT-EQTY TRUST - OTHER	CUZ	HPP	SBRA	FR	HT				4
7 FOOD-MISC/DIVERSIFIED	UNFI				SVU				1
8 AUTO/TRUCK-ORIGINAL EQP	AXL	MTOR			THRM				2
9 COMPUTER-SOFTWARE	PRGS	BLOX			PRO	AZPN			4
10 MEDICAL-BIOMED/GENETICS	ARRY				RARE	DYAX	KYTH	EPZM	4

TOTAL Number of PAIRS = 28

In Tables 3 and 4 below we provide output from the Polaris analysis for the stocks in each of the matrixes (large cap and small cap, respectively). The stocks in each matrix are grouped first by sector, then industry. The overall attractiveness of a stock is indicated by the Polaris Score, or PSCORE, whereby long candidates will have a positive PSCORE and short candidates will have a negative PSCORE. The PSCORE is a proprietary factor that is based on our analysis of each stock's valuation, technical and catalytic properties. The difference in PSCORES between the long and short candidates of a pair is the metric that we use as an indication of pricing disparity, otherwise referred to as the spread. Descriptions for the column headings in Tables 3 and 4 are as follows:

COLUMN HEADINGS

XSECTOR – Sector Identification Number used in master database (1 thru 16)\*\*

DCOORD – Dimensional Coordinate used to characterize stocks in Polaris framework (1 thru 8)

**PSCORE – Polaris Score, (+) value is favorable, (-) value is unfavorable, (0) value is neutral**

VCAVG – Average calculated from VSCORE, TSCORE and CSCORE

VSCORE – Valuation Score, (+) value is favorable, (-) value is unfavorable, (0) value is neutral

TSCORE – Technical Score, (+) value is favorable, (-) value is unfavorable, (0) value is neutral

CSCORE – Catalytic Score, (+) value is favorable, (-) value is unfavorable, (0) value is neutral

\*\*Sector Identification Numbers

- |                          |                       |                          |                      |
|--------------------------|-----------------------|--------------------------|----------------------|
| 1 Consumer Staples       | 5 Autos/Tires/Trucks  | 9 Conglomerates          | 13 Finance           |
| 2 Consumer Discretionary | 6 Basic Materials     | 10 Computer & Technology | 14 Utilities         |
| 3 Retail/Wholesale       | 7 Industrial Products | 11 Aerospace             | 15 Transportation    |
| 4 Medical                | 8 Construction        | 12 Oils/Energy           | 16 Business Services |

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Table 3: Large Cap Pairs – Polaris Output (04/22/2015)

	COMPANY	X SECTOR	TICKER	PRICE	DIV YLD	DCOORD	PSCORE	VTCAVG	VSCORE	TSCORE	CSCORE	MKT CAP
<b>Consumer Staples</b>												
<b>BEVERAGES-ALCOHOLIC</b>												
A	Constellatn Brd	1	STZ	115.99	0.00	3.00	1.49	0.13	-0.96	0.60	0.75	22440.82
1	Molson Coors-B	1	TAP	75.53	2.17	6.00	-1.57	-0.68	0.17	-0.65	-1.55	14039.67
<b>FOOD-MISC/DIVERSIFIED</b>												
A	Hain Celestial	1	HAIN	61.74	0.00	3.00	1.49	0.44	-0.53	1.31	0.53	6279.95
3	Kellogg Co	1	K	63.98	3.06	6.00	-1.36	-0.28	0.34	-0.99	-0.18	22788.97
2	Mondelez Intl	1	MDLZ	36.83	1.63	8.00	-1.41	-0.62	-0.04	-1.53	-0.31	60750.35
1	Smucker Jm	1	SJM	117.94	2.17	8.00	-1.62	-1.13	-0.39	-2.13	-0.86	14113.05
<b>Retail-Wholesale</b>												
<b>RETAIL-FOOD &amp; RESTAURANTS</b>												
A	Starbucks Corp	3	SBUX	48.33	1.32	1.00	1.64	2.65	0.51	3.59	3.86	72483.17
3	Mcdonalds Corp	3	MCD	97.84	3.48	6.00	-1.57	-0.78	0.18	-1.87	-0.65	93840.99
2	Yum! Brands Inc	3	YUM	84.04	1.95	8.00	-1.62	-0.45	-0.03	-0.58	-0.74	36422.43
1	Panera Bread Co	3	PNRA	181.59	0.00	8.00	-1.67	-1.02	-0.93	-1.10	-1.04	4869.15
<b>Basic Materials</b>												
<b>CHEMICALS-DIVERSIFIED</b>												
A	Ppg Inds Inc	6	PPG	226.40	1.18	3.00	1.49	-0.02	-0.92	0.44	0.42	30880.28
2	Compass Minerals	6	CMP	88.49	2.98	6.00	-1.30	-0.29	0.53	-0.80	-0.58	2975.03
1	Praxair Inc	6	PX	121.26	2.36	8.00	-1.62	-0.56	-0.10	-0.93	-0.64	34997.09
<b>Computer and Technology</b>												
<b>WIRELESS EQUIPMENT</b>												
A	Motorola Solutn	10	MSI	61.59	2.21	1.00	1.64	0.58	0.80	0.58	0.36	13012.30
1	Juniper Netwrks	10	JNPR	24.39	1.64	6.00	-1.52	-0.20	0.81	-0.77	-0.65	9897.22
<b>Oils-Energy</b>												
<b>OIL FIELD MACH &amp; EQUIP</b>												
A	Dresser-Rand Gp	12	DRC	82.60	0.00	1.00	1.64	1.64	1.26	2.96	0.71	6332.61
1	Superior Energy	12	SPN	23.84	1.34	8.00	-1.67	-2.45	-1.52	-1.08	-4.74	3584.65
<b>OIL REFINING &amp; MARKETING</b>												
A	Marathon Petrol	12	MPC	102.13	1.96	1.00	1.59	1.18	0.31	1.67	1.54	27880.06
B	Tesoro Corp	12	TSD	89.53	1.90	1.00	1.59	0.71	0.19	1.39	0.54	11258.04
C	Valero Energy	12	VLO	59.35	2.70	3.00	1.54	0.36	-0.24	0.76	0.56	30558.60
1	Phillips 66	12	PSX	80.92	2.47	6.00	-1.57	-0.44	0.06	-0.72	-0.64	43885.10
<b>Finance</b>												
<b>INSURANCE-PROP/CAS/TITLE</b>												
A	Progressive Cor	13	PGR	26.71	2.57	1.00	1.64	0.63	0.60	0.52	0.75	15686.78
B	Axis Cap Hldgs	13	AXS	51.67	2.24	1.00	1.59	0.63	0.36	0.54	1.00	5210.35
C	Fnlv Group	13	FNFV	14.75	0.00	3.00	1.49	1.68	-0.47	3.92	1.60	1362.97
2	Partnerre Ltd	13	PRE	129.50	2.16	8.00	-1.41	-2.39	-0.17	-6.73	-0.26	6139.34
1	Cna Finl Corp	13	CNA	40.46	2.47	6.00	-1.52	-0.33	1.52	-1.74	-0.79	10927.28
<b>REIT-EQTY TRUST - RESID</b>												
A	Equity Lifestyl	13	ELS	54.55	2.75	1.00	1.64	1.15	0.68	0.92	1.86	4595.29
B	Equity Resident	13	EQR	76.25	2.90	3.00	1.54	0.25	-0.36	0.53	0.58	27739.60
1	American Hm 4 R	13	AMH	17.10	1.17	8.00	-1.67	-1.28	-0.77	-2.32	-0.75	3605.57
<b>Utilities</b>												
<b>UTILITY-ELECTRIC POWER</b>												
A	Pg&E Corp	14	PCG	51.85	3.51	1.00	1.64	0.85	0.48	0.95	1.13	24787.67
B	Xcel Energy Inc	14	XEL	34.31	3.73	1.00	1.64	0.64	0.51	0.71	0.71	17383.51
C	Westar Energy	14	WR	38.28	3.76	1.00	1.59	1.14	0.27	2.13	1.04	5059.31
D	Wisc Energy Cp	14	WEC	50.28	3.36	3.00	1.54	0.32	-0.06	0.58	0.43	11337.99
4	Firstenergy Cp	14	FE	35.50	4.06	8.00	-1.41	-0.46	-0.09	-0.91	-0.40	14980.47
3	Aes Corp	14	AES	13.56	2.95	6.00	-1.52	-0.56	0.92	-1.76	-0.86	9535.45
2	Calpine Corp	14	CPN	22.63	0.00	6.00	-1.57	-0.52	0.46	-0.88	-1.13	8493.31
1	Dominion Res Va	14	D	72.52	3.57	8.00	-1.67	-1.09	-1.07	-0.94	-1.25	42669.03

Table 4: Small Cap Pairs – Polaris Output (04/22/2015)

	COMPANY	SECTOR	TICKER	PRICE	DIV YLD	DCOORD	PSCORE	VTCAVG	VSCORE	TSCORE	CSCORE	MKT CAP
<b>Consumer Staples</b>												
<b>FOOD-MISC/DIVERSIFIED</b>												
A	Utd Natural Fds	1	UNFI	71.29	0.00	1.00	1.60	0.90	0.10	1.07	1.54	3569.85
1	Supervalu Inc	1	SVU	11.01	0.00	8.00	-1.62	-0.61	-0.51	-0.63	-0.68	2876.84
<b>Medical</b>												
<b>MEDICAL-BIOMED/GENETICS</b>												
A	Array Biopharma	4	ARRY	7.25	0.00	3.00	1.55	0.47	-0.14	0.69	0.87	1012.80
4	Epizyme Inc	4	EPZM	19.45	0.00	8.00	-1.62	-1.29	-0.29	-1.70	-1.88	787.39
3	Kythera Biophm	4	KYTH	49.94	0.00	8.00	-1.67	-0.93	-0.65	-0.93	-1.20	1282.76
2	Dyax Corp	4	DYAX	28.12	0.00	8.00	-1.67	-1.00	-1.19	-1.07	-0.74	3855.65
1	Ultragenyx Phar	4	RARE	66.96	0.00	8.00	-1.67	-1.43	-1.76	-1.40	-1.13	2383.51
<b>MEDICAL-DRUGS</b>												
A	Usana Hlth Sci	4	USNA	123.36	0.00	1.00	1.65	1.64	2.66	0.64	1.61	1561.61
2	Spectrum Pharma	4	SPPI	5.98	0.00	8.00	-1.62	-0.69	-0.05	-1.14	-0.87	399.89
1	Portola Pharma	4	PTLA	38.48	0.00	8.00	-1.67	-1.64	-0.99	-1.23	-2.70	1972.60
<b>Auto-Tires-Trucks</b>												
<b>AUTO/TRUCK-ORIGINAL EQP</b>												
A	Amer Axle & Mfg	5	AXL	24.66	0.00	1.00	1.65	0.97	0.68	1.49	0.75	1868.46
B	Meritor Inc	5	MTOR	12.73	0.00	1.00	1.65	0.82	0.61	1.50	0.35	1256.92
1	Gentherm Inc	5	THRM	52.19	0.00	8.00	-1.62	-0.86	-0.37	-0.65	-1.56	1870.68
<b>Computer and Technology</b>												
<b>COMPUTER-SOFTWARE</b>												
A	Progress Softwa	10	PRGS	25.79	0.00	1.00	1.65	1.19	0.34	1.76	1.48	1304.87
B	Infoblox Inc	10	BLOX	24.25	0.00	3.00	1.49	0.68	-0.50	1.96	0.58	1374.01
2	Aspen Tech Inc	10	AZPN	40.78	0.00	6.00	-1.35	-0.90	0.11	-2.64	-0.17	3597.73
1	Pros Holdings	10	PRO	23.09	0.00	8.00	-1.62	-0.67	-0.35	-0.57	-1.10	681.02
<b>WIRELESS NATIONAL</b>												
A	Inteliquent Inc	10	IQNT	18.03	3.33	1.00	1.65	0.53	0.32	0.62	0.64	603.73
1	Gogo Inc	10	GOGO	22.01	0.00	8.00	-1.67	-1.50	-1.58	-1.79	-1.14	1877.74
<b>Finance</b>												
<b>REIT-EQTY TRUST - OTHER</b>												
A	Cousin Prop Inc	13	CUZ	10.20	3.14	1.00	1.60	0.87	0.19	1.49	0.93	2244.85
B	Hudson Pac Ppty	13	HPP	31.84	1.57	3.00	1.55	1.18	-0.46	0.79	3.20	2819.02
C	Sabra Healthcr	13	SBRA	31.11	5.01	3.00	1.55	0.78	-0.19	1.67	0.85	1842.77
D	First Indl Rlty	13	FR	20.19	2.53	3.00	1.55	0.71	-0.51	1.83	0.82	2235.60
1	Hersha Hosppty	13	HT	6.61	4.24	8.00	-1.40	-0.81	-0.23	-1.99	-0.21	1314.31
<b>Utilities</b>												
<b>UTILITY-ELECTRIC POWER</b>												
A	Northwestern Cp	14	NWE	52.73	3.64	1.00	1.65	1.07	0.43	2.15	0.63	2480.26
B	Idacorp Inc	14	IDA	62.22	3.02	1.00	1.44	0.54	0.61	0.92	0.10	3132.65
3	Black Hills Cor	14	BKH	50.33	3.22	6.00	-1.56	-0.41	0.22	-0.77	-0.67	2255.84
2	Pattern Energy	14	PEGI	29.82	4.59	8.00	-1.62	-1.89	-0.37	-2.54	-2.77	2059.43
1	Nrg Yield Inc-A	14	NYLD	51.04	3.06	8.00	-1.67	-1.55	-2.20	-1.56	-0.88	3946.62
<b>UTILITY-GAS DISTRIBUTION</b>												
A	One Gas Inc	14	OGS	42.39	2.83	1.00	1.65	1.04	0.49	2.18	0.46	2229.29
B	Southwest Gas	14	SWX	57.19	2.55	1.00	1.60	0.62	0.26	1.10	0.49	2667.28
1	Clean Egv Fuels	14	CLNE	7.16	0.00	8.00	-1.67	-1.02	-1.55	-0.72	-0.78	647.11
<b>Business Services</b>												
<b>BUSINESS SERVICES</b>												
A	Core-Mark Hldg	16	CORE	55.42	0.94	3.00	1.55	0.59	-0.23	1.25	0.74	1282.47
2	Cardtronics Inc	16	CATM	37.67	0.00	6.00	-1.51	-0.23	0.60	-0.73	-0.56	1689.65
1	Comscore Inc	16	SCOR	53.33	0.00	8.00	-1.67	-1.14	-1.85	-0.82	-0.76	1819.57

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