



Commentary

Interesting Fact: Every constituent in the SPADE Defense Index was positive during the month of December 2010. This is the first time this has ever happened.

End of Year Summary

If the goal of an investor is to beat the benchmark, which for the aerospace and defense sector is the SPADE Defense Index (NYSE: DXS), then in 2010 most investors failed. Investors who wanted to gain exposure to the defense sector by simply buying one of the large prime contractors – Lockheed Martin (NYSE: LMT), General Dynamics (NYSE: GD), Raytheon (NYSE: RTN), L-3 (NYSE: LLL), etc. were proven wrong as the mid- and small-caps dominated gains in 2010. The exception was Boeing (NYSE: BA) which had a year marked by ups and downs but finished substantially higher and Northrop Grumman (NYSE: NOC) whose announcement to sell its shipbuilding operation was met favorably.

Overall, investors who purchased shares of a sector ETF, like the Powershares Aerospace & Defense ETF (NYSE: PPA) which gained 9.6% during the year, benefited from the added diversification that it provides.

	2010	Alpha from SPADE Defense Index
L-3 Communications	[18.93%]	[25.55%]
Raytheon	[10.05%]	[19.67%]
Lockheed Martin	[7.22%]	[16.84%]
General Dynamics	4.09%	[5.53%]
Northrop Grumman	15.99%	+6.37%
Boeing	20.56%	+10.94

Overall, the sector trailed the Dow by 1.4% and the S&P500 by 3.17%, the first notable underperformance since the index was launched in 1998. However, considering the negative news cycle on defense, in particular relating to an anticipated decline in the defense budget in the face of mounting federal deficits, and the fact that the defense sector still managed nearly double digit gains, the gains likely surprised some financial analysts. With the exception of August, which saw the sector underperform by nearly 4% (on no specific news), the aerospace & defense sector would have outperformed the market.

Top Ten Performers in 2010

Ladish Co.	223.06%	L-1 Identity	59.01%
Applied Signal	96.52%	GeoEye	52.04%
Triumph Group	85.31%	Transdigim	51.63%
Mercury Computer	66.94%	CPI International	46.15%
Ceradyne	64.05%	Esterline Tech	43.71%

SPADE Defense Index Statistics

12/31/10 Close: 2127.41
 All-time Close: 2747.67
 Date of all-time close: 9 October 2007

	SPADE Defense	S&P500
December	5.22%	6.53%
4Q10	8.74%	10.20%
2010	9.62%	12.78%

Ten Worst Performers in 2010

Elbit Systems	[18.32%]	Computer Sciences	[13.78%]
NCI Information	[16.85%]	Raytheon	[10.05%]
SAIC	[16.26%]	FLIR Systems	[9.10%]
Alliant Techsyst.	[15.68%]	Aerovironment	[7.74%]
Mantech Int'l	[14.50%]	Lockheed Martin	[7.22%]

Mergers & Acquisition

As companies seek to position themselves, nearly 20% of the SPADE Defense Index was acquired or is pending acquisition during 2010. Statistically, the sector saw several hundred deals although most were smaller sized. Multi-billion deals were few. Index constituents that were acquired: Argon ST (STST), Cogent (COGT), Dyncorp (DCP), ICX Technologies (ICXT), and Stanley (SXE). Companies whose acquisition were announced but are pending include: L1 Identity (ID), Applied Signal (APSG), Ladish (LDSH), and CPI International (CPII).

Forecast for 2011

The sector's 9.62% gain in 2010 should not be a surprise to those that follow the sector considering the underlying fundamentals and technicals which have seen the index consistently above the 50-day and 200-day moving averages. Defense companies end the year with a record amount of cash on hand and have been making acquisitions to position themselves into higher growth areas of their business or into adjacent areas that can generate revenues and profits in the coming years. Combined with an economy that has been rebounding since the 2008-2009 lows -- which has led to increased manufacturing activity, increased exports, the beginnings of a multi-year expansion in the commercial aerospace segment, and a high level of global security issues -- and the companies operating in the sector remain in a position where the strengths may counteract the negatives. In fact, a number of executives in the most recent quarterly reporting period issued positive comments for 2011 and several analysts have forecasted that companies such as Lockheed Martin, which underperformed in 2010, should see a rebound in their shares later in 2011 and 2012.

Dec 2010 Top Gainers

1	Kratos Defense	24.60%
2	Oshkosh Truck	22.79%
3	Ceradyne	19.34%
4	Key W Holdings	17.36%
5	TASER	16.63%
6	Applied Signal	15.31%
7	ELBIT Systems	13.53%
8	ITT Industries	13.28%
9	AAR Corp	11.85%
10	Computer Sciences	11.14%

Dec 2010 Laggards

1	Raytheon	0.19%
2	CPI International	0.21%
3	L-3 Communications	0.23%
4	L-1 Identity	0.68%
5	Alliant Techsystems	0.70%
6	Precision Castparts	0.83%
7	Boeing	2.34%
8	Harris Corp	2.40%
9	Goodrich Corp	2.68%
10	Lockheed Martin	2.75%

2010 Top Gainers

1	Ladish	233.06%
2	Applied Signal	96.52%
3	Triumph Group	85.31%
4	Mercury Comp	66.94%
5	Ceradyne	64.05%
6	L-1 Identity	59.01%
7	Argon ST	58.77%
8	GeoEye	52.04%
9	Transdigm	51.63%
10	CPI International	46.15%

2010 Laggards

1	Elbit Systems	[18.23%]
2	NCI Information	[16.85%]
3	SAIC	[16.26%]
4	Alliant Techsystems	[15.68%]
5	Mantech Int'l	[14.50%]
6	Computer Sciences	[13.78%]
7	Raytheon	[10.05%]
8	FLIR Systems	[9.10%]
9	AeroVironment	[7.74%]
10	Lockheed Martin	[7.22%]



**ETFStatistics (NYSEarca: PPA)
Powershares Aerospace & Defense**

Exchange / Ticker Symbol: NYSE / PPA
 Fee: 60 basis
 Assets (12/31/10): \$ 110.4M
 Closing Price (12/31/10): \$18.71
 Yield (12-month yield): 1.03%
 December 10 Volume: 517,000
 Turnover: 9%

source: Yahoo Finance

Portfolio Price / Earnings	13.03
Portfolio Price / Book	2.30
Portfolio Price / Sales	0.78
Portfolio Price / Cash Flow	7.63
Earnings Growth Rate	10.26%
3 month average volume	27,517

Yahoo Finance

Powershares Aerospace & Defense ETF (NYSE: PPA)

Modern Portfolio Theory (vs the S&P500)

Beta (3 month): 1.12
 Alpha (3 month): (0.88)
 R-squared (3 month): 88.01

Yahoo! Finance 11/30/10

The average payout of the S&P500 in 2000s was 32.3%, down from the 45%-48% range from the 1970s to the 1990s. - courtesy of Forbes

	Yield	5 Year Dividend Growth Rate	Payout Ratio
Lockheed Martin	4.3%	21.1%	34%
Raytheon	3.3%	9.4%	28%
Northrop Grumman	2.9%	12.1%	26%
Boeing	2.6%	11.7%	36%
General Dynamics	2.4%	14.4%	25%
Honeywell	2.3%	8.5%	46%
L-3 Communications	2.3%	25.0%	20%
Rockwell Collins	1.6%	16.4%	27%
Goodrich	1.3%	6.4%	26%

Largest Defense Prime Contractors

	December	2010
Lockheed Martin	2.75%	[7.22%]
Boeing	2.34%	20.56%
General Dynamics	7.37%	[10.05%]
Northrop Grumman	5.03%	15.99%
Raytheon	0.19%	4.09%

Year	SPADE	S&P500
2010	9.62%	12.78%
2009	21.71%	23.45%
2008	[38.03%]	[38.49%]
2007	22.17%	3.53%
2006	19.33%	13.62%
2005	5.30%	3.00%
2004	20.47%	8.99%
2003	37.27%	26.38%
2002	[2.87%]	[23.37%]
2001	0.94%	[13.04%]
2000	4.98%	[10.14%]
1999	15.31%	19.53%
1998	6.63%	26.67%

Commentary (continued)

It is our belief that the sector is much more stable than it is given credit for and while issues equate defense sector cuts with deficit reduction will likely impact the perceptions among the investor universe and impact some companies more than others, a long-term structural impact similar to the 1990s is unlikely. We base this belief on the following:

1. Forecasted cuts in the defense budget are not likely to begin and take effect until October 2011 with the FY-12 budget; although there is an extremely low outside chance that the FY-11 budget (which has still not been passed) may see some changes when the incoming Congress arrives in January. Going forward, while the deficit and the national debt remain high priorities in the rhetoric of the campaign trail and on Capitol Hill, the reality is that Congress has become increasingly partisan in recent years. The likelihood that dramatic deficit reduction changes to the budget will take place is far from guaranteed and would mean the two parties actually cooperating on a very sensitive issue -- namely how much should be spent on national security. Is there waste that can be cut? Absolutely. Can we expect to see some restructuring in how DoD spends its money. Absolutely. The real question is what the impact of these changes will have on companies operating in the sector.

2. We've Seen this Picture Before.... Fundamentally, the sector remains in a much stronger position than it did during the spending decline that took place in the early 1990s following the end of the Cold War. Many firms operating at that time were caught off guard a bit as the changes took place rapidly. This led to significant declines in the share prices of many companies and the mergers or acquisition between them as the defense industrial base found it necessary to reshape itself over the next decade. The current batch of sector executives worked in the sector at the time and saw the impact of what the cuts meant. The lessons learned from the period are still fresh in their minds.

Knowledge that the defense budget, in or around FY-11, was set to peak has been known for the past several years, giving industry executives the time to build-up their balance sheets, make acquisitions, and restructure their operations. Aerospace and defense companies today, as a whole, have historic levels of cash on hand and extremely low debt levels.

Firms have also been repositioning for the new defense environment by acquiring or expanding into commercial and non-defense adjacent markets -- markets that often have higher margins and hence increased profitability as compared to defense weapons systems. Commercial aircraft, helicopters; air, sea, and land robotics, and IT services; to name but a few.

3. Increased marketing to global customers is being pushed by the White House who supported marketing aerospace products overseas and making long overdue changes to export licensing procedures. This is highlighted by the recent \$60 billion deal to sell defense products to Saudi Arabia. Dozens of other multi-billion dollar deals have

also been announced, approved by Congress, or are in process.

4. Most defense firms are highly diversified, participating in numerous defense and commercial programs. Individual programs typically account for less than 5% of overall revenues; so cuts may impact a firm but not cause its collapse. Most of the firms in the SPADE Defense Index report that they receive less than 5% of their revenues from the war effort.

Challenges

The \$100 billion a year reduction being floated is a big number. What has yet to be decided though are the specifics of where it will come from. A number of forecasts indicate that a large percentage could come from savings in health care, pensions, and staff/support reductions. The likelihood that a large weapons system will be cancelled is high--if nothing more than as a symbolic measure. The likelihood that some systems in development are contracted or their schedules delayed to save money and that it is contracted to one of the big five prime contractors is also very high. However, *investors will need to estimate what the budget decline means versus the sector's positives* (ie. the expansion in their commercial operations where they have increased margins and their entry into new higher-growth activities).

This is the big challenge to investors in 2011 and 2012. Can revenues, earnings, and margins overcome the negative budget news cycle? How well have the individual firms executed their strategy and how easy will they move through this period with less bumps than the early 90s?

A key is to not let those who talk about defense cycles influence your thinking. Today IS different. Past cycles have been defined by the development and the use of systems or war/post-war budgets. The U.S. may be exiting wars in Iraq and Afghanistan but previous declines have been marked by a more peaceful climate. The 1990s "peace dividend" followed the Cold War and the early 70s decline was post-Vietnam, etc. While enemies in the world remained (ie. Soviet Union in the late-1940s to early-1950s, post WWII) the immediate threat was less than the one we just faced. Today, that is not true. Terrorism still exists. Iraq, North Korea, and others are developing and flexing their nuclear muscles. China is a growing unknown. The threat today is equal or greater than what we've just faced. Doubt it? Just listen to the number of analysts on CNBC who predict 2011 will see a major cyberterrorist attack.

So what should investor's do? It is my belief that 2% - 5% of one's domestic allocation be in the defense sector -- at the high level it reflects the U.S. GDP share of the aerospace and defense sector, at the low, the amount the S&P500 underweights the sector. Consider it as insurance that since 1998 has beaten or equalled the broader market or, in the case of last year, provided nearly a double digit gain in what was considered a down year for the sector.

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Jan-10		57 SPADE Defense Index					Market	Forward	Price/	Price/	PEG	
Company	Ticker	Float %	Price	Price	% Ch	% Ch	Cap	P/E	Sales	Book	5 yr	Div Yld
		31-Dec-10	30-Nov-10	31-Dec-10	YTD	MTD	intraday	(ttm)	ttm	mrq	expected	forward %
AAR Corp	AIR	0.51%	24.56	27.47	19.54%	11.85%	1.05	12.84	0.68	1.34	1.33	
Applied Signal Technology	APSG	0.24%	32.86	37.89	96.52%	15.31%	0.51	29.60	2.34	3.46	2.09	1.30%
American Science & Engineering	ASEI	0.36%	80.62	85.23	12.38%	5.72%	0.77	17.39	2.97	3.22	1.48	1.40%
Alliant Techsystems	ATK	1.16%	73.91	74.43	-15.68%	0.70%	2.48	8.66	0.51	2.47	2.00	
AeroVironment	AVAV	0.28%	24.70	26.83	-7.74%	8.62%	0.58	22.55	2.26	2.56	0.94	
Boeing Co	BA	6.92%	63.77	65.26	20.56%	2.34%	47.87	14.28	0.73	10.70	1.81	2.60%
Booz Allen & Hamilton	BAH	1.26%	19.45	19.43	-0.10%	-0.10%	2.44	17.50	0.47	3.67		
Ball Corp	BLL	2.82%	65.88	68.05	31.62%	3.29%	6.01	12.74	0.76	3.81	1.56	0.60%
Caci Intl	CACI	0.76%	50.33	53.80	10.13%	6.89%	1.62	12.48	0.50	1.36	1.12	
Comtech	CMTL	0.36%	29.66	27.76	-20.78%	-6.41%	0.76	19.14	0.93	1.10	0.40	3.60%
Rockwell Collins	COL	4.01%	56.06	58.23	5.18%	3.87%	9.14	12.95	1.95	6.15	1.55	1.60%
CPI International	CPII	0.15%	19.31	19.35	46.15%	0.21%	0.33		0.90	1.77	1.24	
Ceradyne Inc	CRDN	0.37%	26.42	31.53	64.05%	19.34%	0.79	21.90	1.97	1.22	5.80	
Computer Sciences	CSC	3.60%	44.63	49.60	-13.78%	11.14%	7.66	8.76	0.48	1.10	1.13	1.60%
Cubic Corp	CUB	0.59%	45.63	47.15	26.41%	3.33%	1.26	16.90	1.09	2.65	2.06	0.40%
Ducommun	DCO	0.11%	22.38	21.78	16.41%	-2.68%	0.23	9.95	0.55	0.92	0.89	1.30%
Digital Globe	DGI	0.69%	29.53	31.71	31.03%	7.38%	1.46	90.6	4.62	2.89	34.59	
EMS Tech	ELMG	0.14%	18.59	19.78	36.41%	6.40%	0.30	16.48	0.87	1.20	1.10	
Esterline Technologies	ESL	0.98%	58.88	58.59	43.71%	-0.49%	2.07	13.77	1.35	1.46	1.29	
Elbit Systems	ESLT	1.06%	46.80	53.13	-18.32%	13.53%	2.27	10.84	0.87	2.40	1.16	2.20%
Flir Systems	FLIR	2.22%	26.81	29.75	-9.10%	10.97%	4.72	17.10	3.76	3.30	1.29	
Force Protection	FRPT	0.18%	5.14	5.51	5.76%	7.20%	0.38	14.89	0.53	1.24	2.55	
General Dynamics	GD	5.64%	66.09	70.96	4.09%	7.37%	26.80	10.01	0.84	1.97	1.40	2.40%
GeoEye	GEOY	0.44%	39.86	42.39	52.04%	6.35%	0.94	22.55	2.93	2.27	1.51	
Goodrich Corp	GR	4.03%	85.77	88.07	37.07%	2.68%	11.04	16.78	1.61	3.33	1.66	1.30%
Gencorp	GY	0.14%	4.91	5.17	-26.14%	5.30%	0.31	17.23	0.35			
Honeywell Intl	HON	6.83%	49.71	53.16	35.61%	6.94%	41.47	14.41	1.28	4.00	1.84	2.30%
Harris Corp	HRS	2.73%	44.24	45.30	-4.73%	2.40%	5.81	9.28	1.08	2.50	1.56	2.20%
L-1 Identity Solutions	ID	0.52%	11.83	11.91	59.01%	0.68%	1.11	297.75	1.73	1.52		
Integral Systems	ISYS	0.08%	9.12	9.91	14.43%	8.66%	0.17		1.02	1.56	2.07	
Itt Indus	ITT	4.01%	46.00	52.11	4.76%	13.28%	9.57	10.99	0.87	2.21	1.12	1.90%
KEY W Holding	KEYW	0.17%	12.50	14.67		17.36%	0.37	36.67	4.28	2.97	1.34	
Kratos Defense & Security	KTOS	0.11%	10.57	13.17	24.83%	24.60%	0.24	23.11	0.68	1.49	0.38	
Ladish Co	LDSH	0.36%	46.94	48.62	223.06%	3.58%	0.77	25.59	2.01	3.19	3.36	
L-3 Communications Hldgs	LLL	3.75%	70.33	70.49	-18.93%	0.23%	7.98	8.47	0.51	1.16	1.04	2.30%
LMI Aerospace	LMIA	0.09%	16.27	15.99	20.23%	-1.72%	0.18	10.8	0.82	1.25	1.37	
Lockheed Martin	LMT	5.30%	68.04	69.91	-7.22%	2.75%	25.18	10.66	0.53	6.31	1.22	4.30%
Mantech International'a'	MANT	0.71%	39.92	41.33	-14.50%	3.53%	1.50	11.26	0.62	1.64	1.23	
Moog Inc.	MOGA	0.85%	36.86	39.80	36.16%	7.98%	1.81	12.76	0.85	1.59	1.25	
Mercury Computer Sys	MRCY	0.21%	17.81	18.38	66.94%	3.20%	0.45	27.43	2.23	2.34	3.18	
NCI Information Technology	NCIT	0.15%	21.97	22.99	-16.85%	4.64%	0.31	12.49	0.57	2.12	0.92	
Northrop Grumman	NOC	4.51%	61.68	64.78	15.99%	5.03%	18.91	9.37	0.54	1.43	0.90	2.90%
Orbital Sciences Corp	ORB	0.47%	16.30	17.13	12.25%	5.09%	0.99	20.39	0.81	1.84	2.28	
Osi Systems	OSIS	0.32%	34.87	36.36	33.28%	4.27%	0.68	16.60	1.16	2.08	1.00	
Oshkosh Truck	OSK	1.50%	28.70	35.24	-4.83%	22.79%	3.20	9.35	0.32	2.39	0.76	
Precision Castparts	PCP	4.48%	138.07	139.21	26.15%	0.83%	19.85	16.30	3.44	3.07	1.87	0.10%
Raytheon Co	RTN	4.58%	46.25	46.34	-10.05%	0.19%	16.89	9.48	0.67	1.66	1.26	3.30%
SAIC	SAI	2.77%	15.32	15.86	-16.26%	3.52%	5.90	11.17	0.54	2.39	1.30	
Sra International'a'	SRX	0.55%	19.62	20.45	7.07%	4.23%	1.17	13.45	0.71	1.50	0.96	
TASER International Inc.	TASR	0.14%	4.03	4.70	7.31%	16.63%	0.29	52.22	3.00	2.52		
Transdigm	TDG	1.67%	68.50	72.01	51.63%	5.12%	3.56	15.86	4.28	5.97	3.83	
Teledyne Technologies	TDY	0.75%	40.22	43.97	14.62%	9.32%	1.60	13.74	0.90	2.12	2.20	
Triumph Group	TGI	1.02%	84.13	89.41	85.31%	6.28%	2.16	11.83	1.18	1.53	2.91	0.20%