

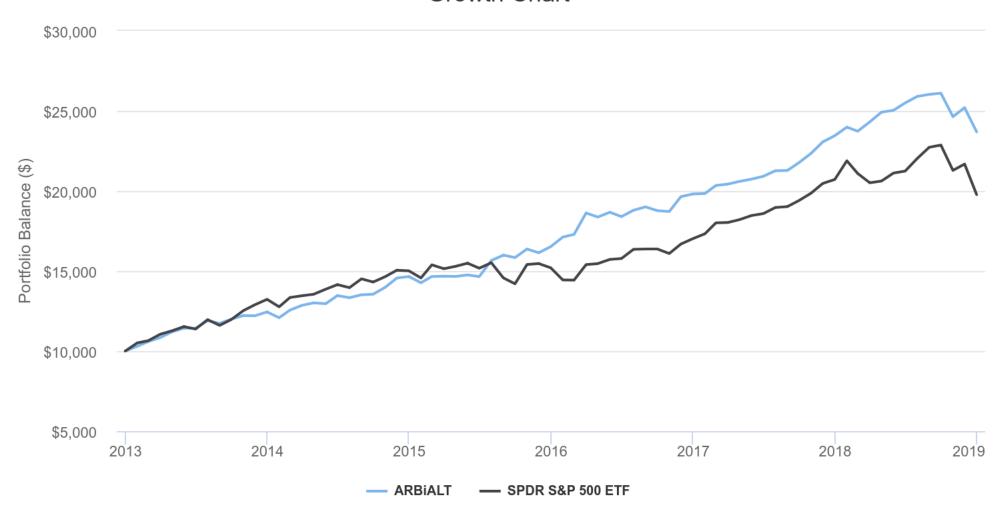
### Fund Information (Jan 2013 - Dec 2018)

Field		Value
Ticker	ARBIAL	Т
Name	ARBiAL	Т

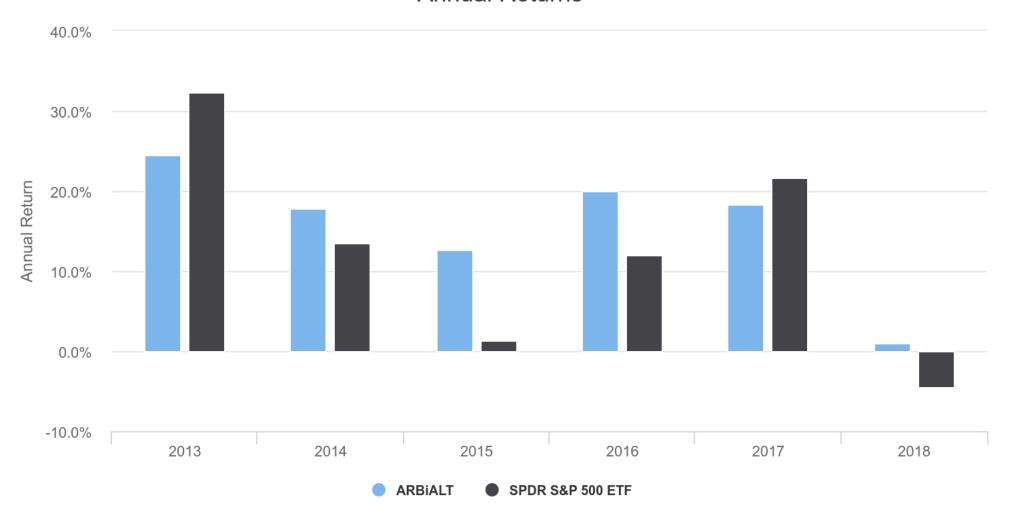
### **Fund Performance Summary**

Metric	ARBIALT	SPDR S&P 500 ETF
Start Balance	\$10,000	\$10,000
End Balance	\$23,694	\$19,774
End Balance (inflation adjusted)	\$21,653	\$18,071
CAGR	15.46%	12.03%
CAGR (inflation adjusted)	13.74%	10.37%
Stdev	7.93%	10.72%
Best Year	24.45%	32.31%
Worst Year	1.02%	-4.56%
Max. Drawdown	-9.24%	-13.52%
Sharpe Ratio	1.79	1.07
Sortino Ratio	3.49	1.72
US Stock Market Correlation	0.66	0.99

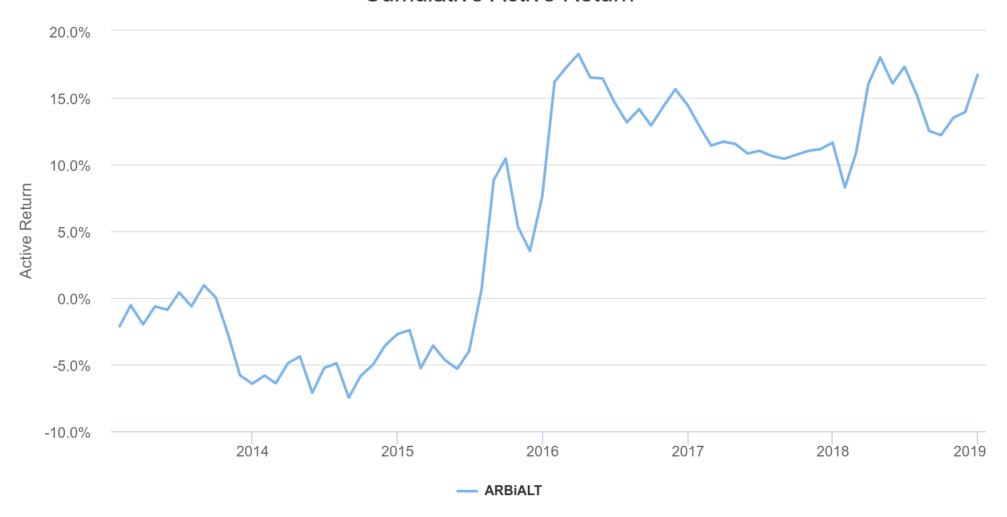
# **Growth Chart**



# **Annual Returns**



# **Cumulative Active Return**





### **Risk and Return Metrics**

Metric	ARBIALT	SPDR S&P 500 ETF
Arithmetic Mean (monthly)	1.23%	1.00%
Arithmetic Mean (annualized)	15.81%	12.67%
Geometric Mean (monthly)	1.21%	0.95%
Geometric Mean (annualized)	15.46%	12.03%
Volatility (monthly)	2.29%	3.09%
Volatility (annualized)	7.93%	10.72%
Downside Deviation (monthly)	1.16%	1.91%
Max. Drawdown	-9.24%	-13.52%
US Market Correlation	0.66	0.99
Beta (*)	0.49	1.00
Alpha (annualized)	8.88%	-0.00%
R Squared	44.13%	100.00%
Sharpe Ratio	1.79	1.07
Sortino Ratio	3.49	1.72
Treynor Ratio (%)	29.10	11.52
Calmar Ratio	1.38	0.68
Information Ratio	0.35	N/A
Skewness	-0.37	-0.64
Excess Kurtosis	1.98	1.14
Historical Value-at-Risk (5%)	-2.75%	-5.37%
Analytical Value-at-Risk (5%)	-2.54%	-4.09%
Conditional Value-at-Risk (5%)	-4.84%	-7.27%
Upside Capture Ratio (%)	74.91	100.00
Downside Capture Ratio (%)	19.13	100.00
Sustainable Withdrawal Rate	27.88%	26.21%
Positive Periods	54 out of 72 (75.00%)	53 out of 72 (73.61%)
Gain/Loss Ratio	1.36	0.81

<sup>(\*)</sup> SPDR S&P 500 ETF is used as the benchmark for calculations. Value-at-risk metrics are based on monthly values.



#### **ARBIALT Returns**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2013	2.98%	2.84%	2.37%	3.27%	2.12%	-0.04%	4.13%	-1.42%	2.25%	1.87%	-0.11%	1.96%	24.45%
2014	-2.91%	3.97%	2.35%	1.19%	-0.40%	3.91%	-0.98%	1.37%	0.26%	3.19%	4.16%	0.61%	17.75%
2015	-2.65%	2.76%	0.12%	-0.09%	0.62%	-0.69%	6.84%	2.15%	-0.95%	3.38%	-1.44%	2.37%	12.75%
2016	3.62%	0.98%	7.74%	-1.37%	1.64%	-1.46%	2.16%	1.11%	-1.23%	-0.30%	4.97%	0.85%	19.92%
2017	0.14%	2.54%	0.42%	0.82%	0.69%	0.84%	1.67%	0.08%	2.31%	2.66%	3.18%	1.69%	18.37%
2018	2.28%	-1.06%	2.44%	2.50%	0.47%	1.83%	1.59%	0.50%	0.28%	-5.61%	2.29%	-6.00%	1.02%

#### SPDR S&P 500 ETF Returns

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2013	5.12%	1.28%	3.80%	1.92%	2.36%	-1.34%	5.17%	-3.00%	3.17%	4.63%	2.96%	2.59%	32.31%
2014	-3.52%	4.55%	0.83%	0.70%	2.32%	2.06%	-1.34%	3.95%	-1.38%	2.36%	2.75%	-0.26%	13.46%
2015	-2.96%	5.62%	-1.57%	0.98%	1.29%	-2.03%	2.26%	-6.10%	-2.54%	8.51%	0.37%	-1.72%	1.25%
2016	-4.98%	-0.08%	6.72%	0.39%	1.70%	0.35%	3.65%	0.12%	0.01%	-1.73%	3.68%	2.03%	12.00%
2017	1.79%	3.93%	0.13%	0.99%	1.41%	0.64%	2.06%	0.29%	2.01%	2.36%	3.06%	1.21%	21.70%
2018	5.64%	-3.64%	-2.74%	0.52%	2.43%	0.58%	3.70%	3.19%	0.59%	-6.91%	1.85%	-8.79%	-4.56%

### **Drawdowns for ARBiALT (worst 10)**

Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Oct 2018	Dec 2018	3 months				-9.24%
2	Jan 2014	Jan 2014	1 month	Feb 2014	1 month	2 months	-2.91%
3	Jan 2015	Jan 2015	1 month	Feb 2015	1 month	2 months	-2.65%
4	Sep 2016	Oct 2016	2 months	Nov 2016	1 month	3 months	-1.52%
5	Jun 2016	Jun 2016	1 month	Jul 2016	1 month	2 months	-1.46%
6	Nov 2015	Nov 2015	1 month	Dec 2015	1 month	2 months	-1.44%
7	Aug 2013	Aug 2013	1 month	Sep 2013	1 month	2 months	-1.42%
8	Apr 2016	Apr 2016	1 month	May 2016	1 month	2 months	-1.37%
9	Feb 2018	Feb 2018	1 month	Mar 2018	1 month	2 months	-1.06%
10	Jul 2014	Jul 2014	1 month	Aug 2014	1 month	2 months	-0.98%



### **Drawdowns for SPDR S&P 500 ETF (worst 10)**

Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Oct 2018	Dec 2018	3 months				-13.52%
2	Aug 2015	Sep 2015	2 months	May 2016	8 months	10 months	-8.48%
3	Feb 2018	Mar 2018	2 months	Jul 2018	4 months	6 months	-6.28%
4	Jan 2014	Jan 2014	1 month	Feb 2014	1 month	2 months	-3.52%
5	Dec 2014	Jan 2015	2 months	Feb 2015	1 month	3 months	-3.21%
6	Aug 2013	Aug 2013	1 month	Sep 2013	1 month	2 months	-3.00%
7	Jun 2015	Jun 2015	1 month	Jul 2015	1 month	2 months	-2.03%
8	Oct 2016	Oct 2016	1 month	Nov 2016	1 month	2 months	-1.73%
9	Mar 2015	Mar 2015	1 month	May 2015	2 months	3 months	-1.57%
10	Sep 2014	Sep 2014	1 month	Oct 2014	1 month	2 months	-1.38%

### **ARBIALT Factor Regression**

Model	MKT-RF	SMB	HML	MOM	RMW	CMA	Annualized Alpha	R Squared
Fama-French 3-factor model	0.45	-0.06	0.11				9.73%	38.22%
Carhart 4-factor model	0.46	-0.06	0.17	0.08			9.37%	39.00%
Fama-French 5-factor model	0.46	0.02	0.08		0.26	0.06	9.47%	41.02%

Factor regression from Jan 2013 to Nov 2018

### SPDR S&P 500 ETF Factor Regression

Model	MKT-RF	SMB	HML	MOM	RMW	CMA	Annualized Alpha	R Squared
Fama-French 3-factor model	0.98	-0.13	-0.01				-0.09%	99.48%
Carhart 4-factor model	0.98	-0.13	-0.01	0.00			-0.10%	99.48%
Fama-French 5-factor model	0.99	-0.12	-0.02		0.04	0.05	-0.14%	99.58%

Factor regression from Jan 2013 to Nov 2018

### **Portfolio Returns Based Style Analysis**

Style Category	ARBIALT	SPDR S&P 500 ETF
Large-cap Value	28.79%	46.67%
Large-cap Growth	18.30%	53.21%
Mid-cap Value	0.00%	0.00%
Mid-cap Growth	0.72%	0.00%
Small-cap Value	7.41%	0.00%
Small-cap Growth	2.48%	0.00%
Global ex-US Developed Markets	0.00%	0.00%
Emerging Markets	0.00%	0.00%
Corporate Bonds	0.00%	0.00%
Long-Term Treasuries	6.24%	0.12%
Intermediate-Term Treasuries	0.00%	0.00%
Short-Term Treasuries	36.06%	0.00%
R Squared	36.47%	99.94%

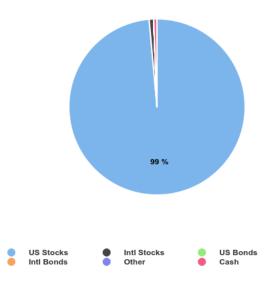
Style analysis is based on monthly returns from Jan 2013 to Dec 2018 and uses total portfolio return with monthly rebalancing.

### **Exposures for SPDR S&P 500 ETF**

Ticker	Name	Category	ER	Weight
SPY	SPDR S&P 500 ETF	Large Blend	0.09%	100.00%

#### Asset Allocation for SPDR S&P 500 ETF

	Category	Weight
US Stocks		98.57%
Intl Stocks		0.84%
US Bonds		0.00%
Intl Bonds		0.00%
Other		0.00%
Cash		0.59%



### **Equity Market Capitalization for SPDR S&P 500 ETF**

Category	Weight
Large Cap	89.94%
Mid Cap	10.05%
Small Cap	0.01%

#### Stock Sectors for SPDR S&P 500 ETF

Category	Weight
Basic Materials	2.56%
Consumer Cyclical	11.83%
Financial Services	15.86%
Real Estate	2.40%
Consumer Defensive	7.85%
Healthcare	15.45%
Utilities	3.33%
Communication Services	3.58%
Energy	5.32%
Industrials	9.92%
Technology	21.90%

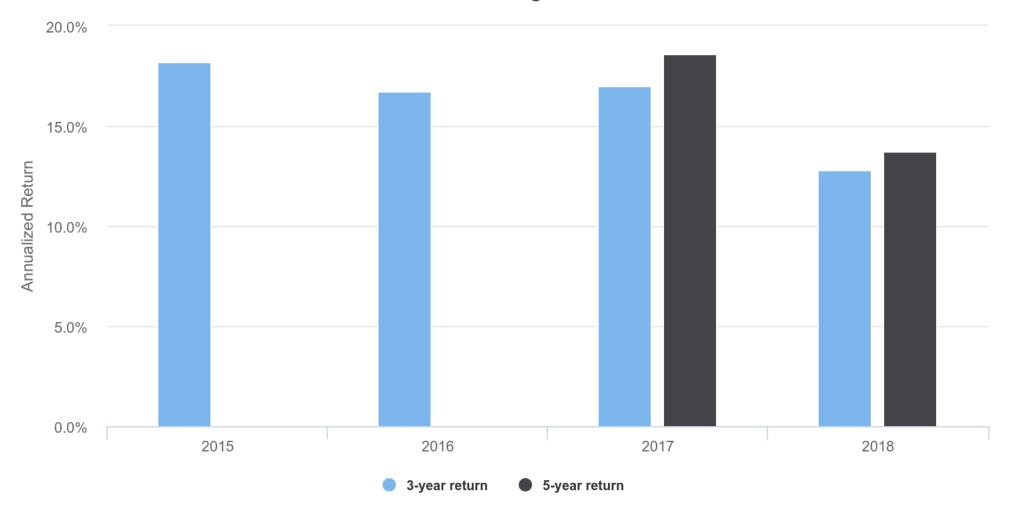


### **Rolling Returns**

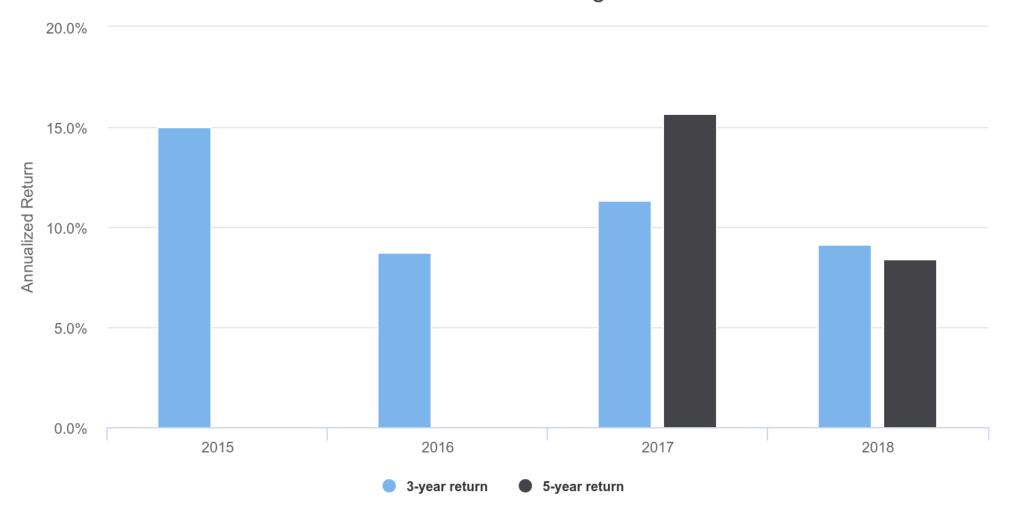
	ARBIALT		SPDR S&P 500 ETF			
Roll Period	Average	High	Low	Average	High	Low
1 year	15.71%	24.45%	1.02%	12.69%	32.31%	-4.56%
3 years	16.18%	18.22%	12.77%	11.06%	14.98%	8.77%
5 years	16.17%	18.59%	13.74%	12.03%	15.68%	8.37%

Result statistics are based on annualized rolling returns over full calendar year periods

# ARBiALT Rolling Returns



## SPDR S&P 500 ETF Rolling Returns



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