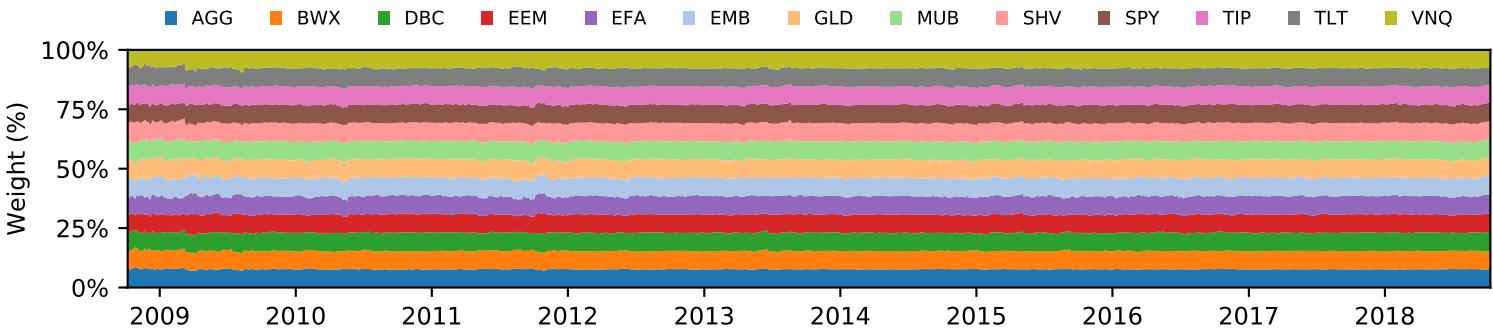
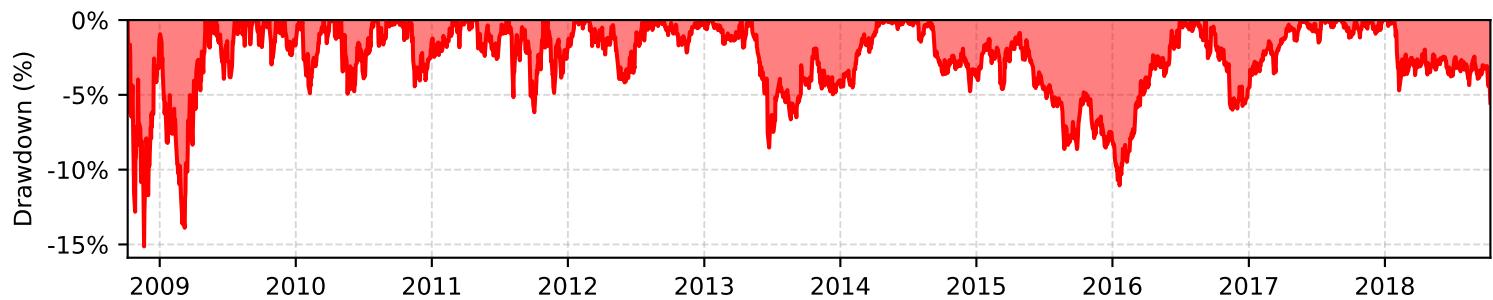


Tearsheet #1

Portfolio Tearsheet: Equal Weight



Overview	
Portfolio Code:	EW
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	N/A
Weighting:	EW

Statistics	
Total Return:	60.65%
CAGR:	5.26%
Annual Volatility:	8.87%
Sharpe:	0.59
Max Drawdown:	-15.13%
Sortino:	0.86

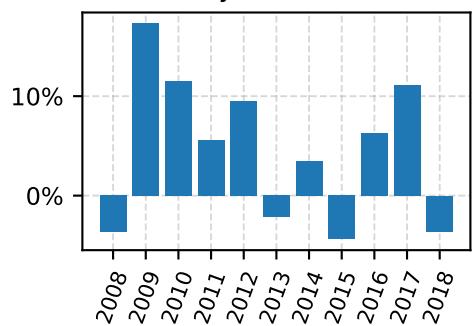
Statistics #2	
VaR99% :	-1.63%
CVaR99% :	-2.32%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.5%	0.2%	0.5%	0.6%	0.3%	-0.2%	0.4%	0.0%	0.2%	0.3%	-0.2%
BWX	0.4%	0.4%	0.3%	0.3%	0.4%	-0.3%	-0.1%	-0.5%	0.1%	0.7%	-0.3%
DBC	-2.2%	1.4%	1.0%	-0.1%	0.3%	-0.6%	-2.4%	-2.3%	1.4%	0.4%	0.5%
EEM	-0.5%	4.8%	1.4%	-1.2%	1.5%	-0.1%	-0.2%	-1.2%	0.9%	2.5%	-1.3%
EFA	-0.5%	2.4%	0.8%	-0.8%	1.4%	1.6%	-0.5%	0.0%	0.1%	1.8%	-0.6%
EMB	0.5%	1.1%	0.8%	0.6%	1.2%	-0.6%	0.5%	0.1%	0.7%	0.8%	-0.5%
GLD	0.3%	1.8%	2.0%	0.9%	0.5%	-2.4%	-0.1%	-0.8%	0.7%	1.0%	-0.5%
MUB	0.3%	0.5%	0.0%	1.0%	0.4%	-0.3%	0.7%	0.2%	-0.0%	0.3%	-0.1%
SHV	0.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-0.9%	2.2%	1.2%	0.3%	1.2%	2.2%	1.0%	0.1%	0.9%	1.5%	0.3%
TIP	-0.2%	0.7%	0.4%	1.0%	0.5%	-0.7%	0.3%	-0.1%	0.4%	0.2%	-0.1%
TLT	1.6%	-1.8%	0.7%	2.4%	0.2%	-1.1%	1.9%	-0.1%	0.1%	0.7%	-0.6%
VNQ	-2.0%	3.2%	2.1%	0.9%	1.3%	0.4%	2.1%	0.3%	0.7%	0.4%	-0.3%

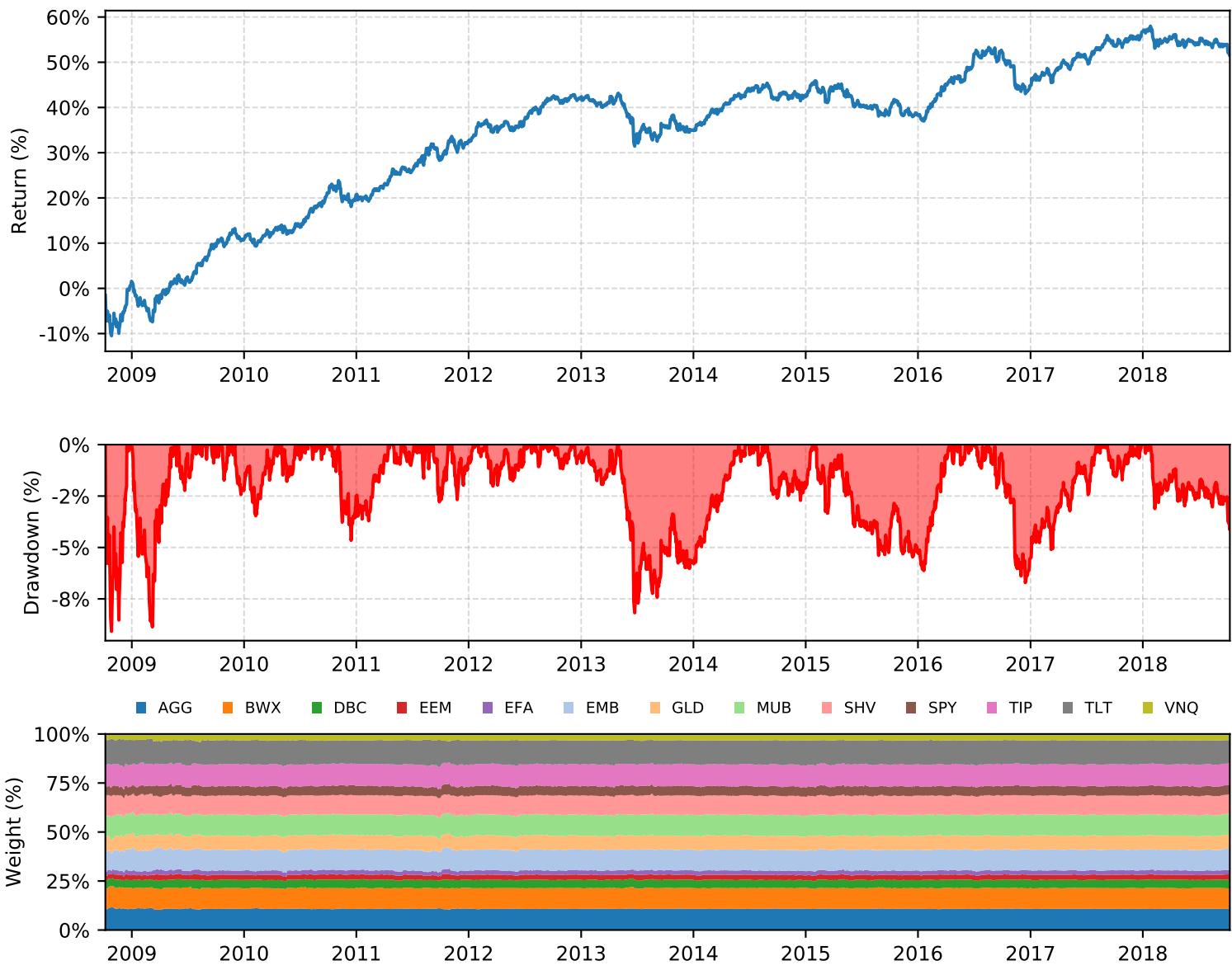
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Yearly Returns (%)



Tearsheet #2

Portfolio Tearsheet: Risk Parity



Overview	
Portfolio Code:	RP
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	N/A
Weighting:	RP Static

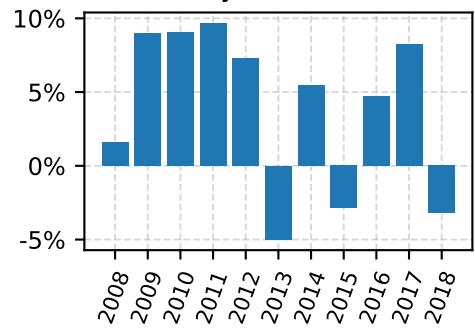
Statistics	
Total Return:	51.71%
CAGR:	4.41%
Annual Volatility:	5.42%
Sharpe:	0.81
Max Drawdown:	-9.08%
Sortino:	1.17

Statistics #2	
VaR99% :	-0.92%
CVaR99% :	-1.31%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

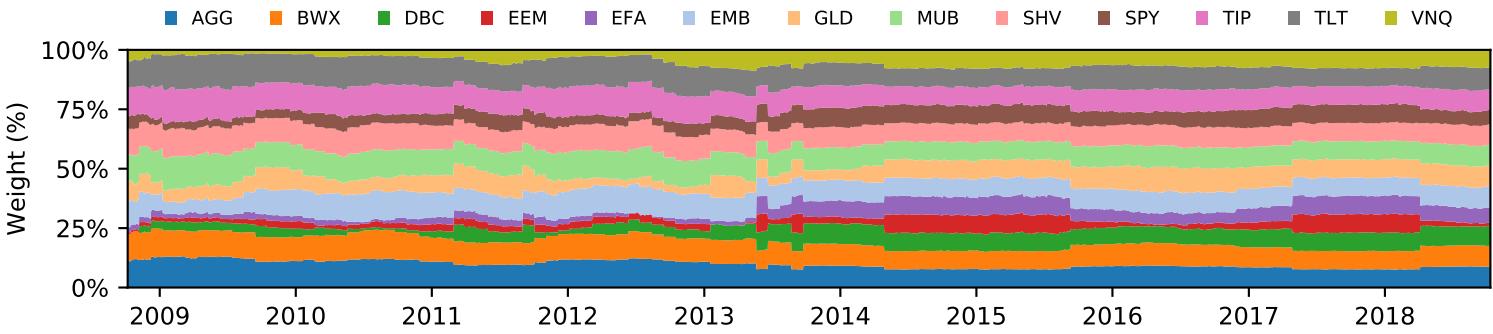
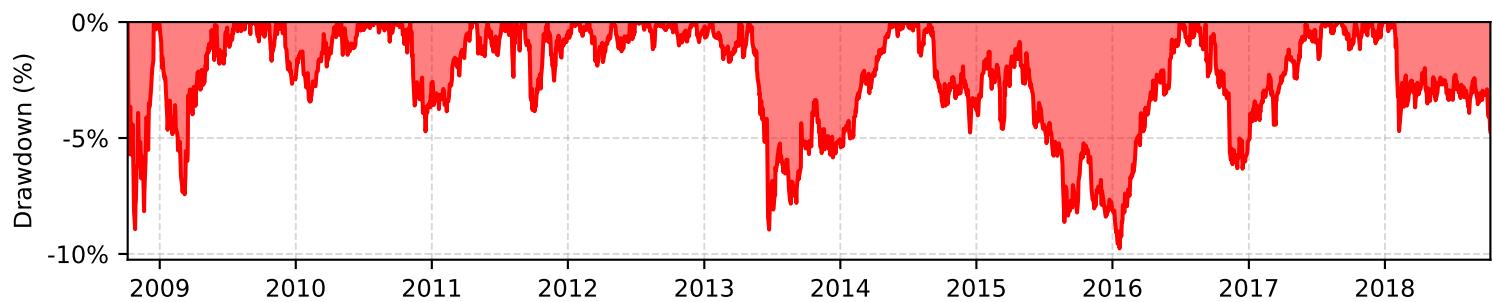
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.7%	0.3%	0.7%	0.8%	0.4%	-0.2%	0.6%	0.0%	0.3%	0.4%	-0.2%
BWX	0.5%	0.6%	0.5%	0.4%	0.6%	-0.3%	-0.1%	-0.7%	0.1%	1.0%	-0.4%
DBC	-1.2%	0.8%	0.5%	-0.0%	0.2%	-0.3%	-1.3%	-1.3%	0.8%	0.2%	0.3%
EEM	-0.2%	1.6%	0.5%	-0.4%	0.5%	-0.0%	-0.1%	-0.4%	0.3%	0.8%	-0.4%
EFA	-0.2%	0.7%	0.2%	-0.2%	0.4%	0.5%	-0.1%	0.0%	0.0%	0.5%	-0.2%
EMB	0.7%	1.6%	1.1%	0.8%	1.6%	-0.8%	0.6%	0.1%	1.0%	1.0%	-0.6%
GLD	0.3%	1.6%	1.9%	0.8%	0.5%	-2.2%	-0.1%	-0.8%	0.6%	0.9%	-0.5%
MUB	0.3%	0.7%	0.0%	1.3%	0.5%	-0.4%	1.0%	0.3%	-0.0%	0.5%	-0.2%
SHV	0.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-0.6%	1.4%	0.7%	0.2%	0.7%	1.4%	0.6%	0.1%	0.6%	1.0%	0.2%
TIP	-0.3%	1.0%	0.7%	1.4%	0.7%	-1.0%	0.4%	-0.2%	0.5%	0.3%	-0.2%
TLT	2.6%	-2.8%	1.1%	3.9%	0.4%	-1.7%	3.0%	-0.1%	0.2%	1.1%	-0.9%
VNQ	-0.9%	1.4%	0.9%	0.4%	0.6%	0.2%	0.9%	0.1%	0.3%	0.2%	-0.2%

Yearly Returns (%)



Tearsheet #3

Portfolio Tearsheet: Dynamic Risk Parity



Overview	
Portfolio Code:	RP
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	N/A
Weighting:	RP 200

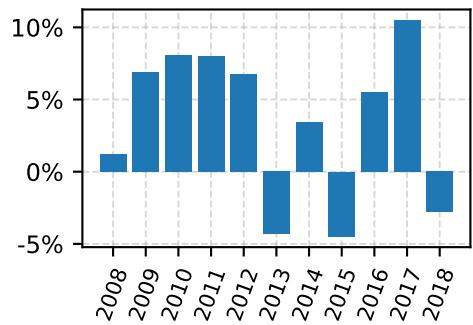
Statistics	
Total Return:	44.46%
CAGR:	3.91%
Annual Volatility:	5.59%
Sharpe:	0.70
Max Drawdown:	-9.76%
Sortino:	1.00

Statistics #2	
VaR _{99%} :	-0.99%
CVaR _{99%} :	-1.36%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

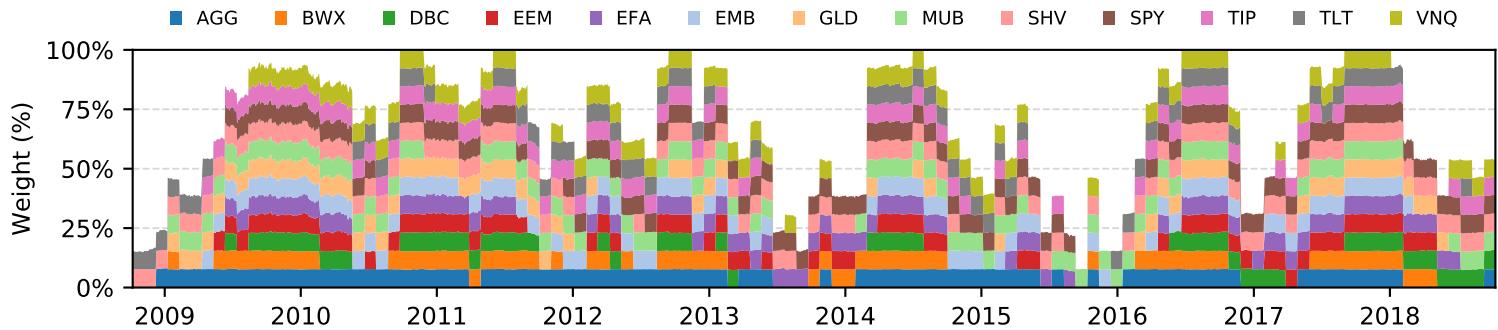
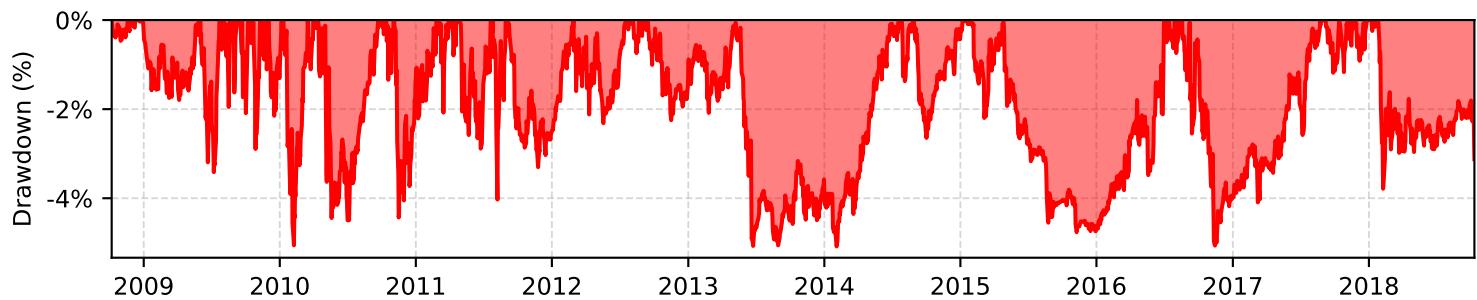
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.9%	0.4%	0.7%	0.7%	0.4%	-0.2%	0.5%	0.0%	0.2%	0.3%	-0.2%
BWX	0.6%	0.6%	0.6%	0.4%	0.6%	-0.4%	-0.0%	-0.5%	0.1%	0.8%	-0.4%
DBC	-0.3%	0.7%	0.1%	-0.7%	-0.1%	-0.5%	-2.4%	-2.3%	1.3%	0.4%	0.6%
EEM	0.0%	1.2%	0.3%	-0.4%	0.5%	-0.3%	-0.2%	-1.1%	0.1%	1.9%	-0.2%
EFA	-0.2%	0.7%	0.1%	-0.2%	0.2%	0.6%	-0.5%	0.0%	0.1%	1.6%	-0.5%
EMB	-0.0%	1.1%	1.2%	0.8%	1.8%	-0.6%	0.5%	0.1%	0.8%	0.8%	-0.5%
GLD	-0.1%	1.8%	1.6%	1.2%	0.4%	-2.7%	-0.4%	-0.9%	0.8%	1.1%	-0.6%
MUB	0.5%	0.9%	0.0%	1.3%	0.6%	-0.2%	0.8%	0.3%	-0.0%	0.4%	-0.1%
SHV	0.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-0.8%	1.0%	0.6%	-0.0%	0.5%	1.8%	1.0%	0.0%	0.7%	1.5%	0.2%
TIP	-0.3%	1.1%	0.7%	1.3%	0.8%	-0.8%	0.3%	-0.1%	0.4%	0.2%	-0.1%
TLT	2.5%	-3.1%	1.2%	3.3%	0.4%	-1.4%	2.1%	-0.1%	0.2%	0.7%	-0.6%
VNU	-1.5%	0.6%	0.7%	0.2%	0.5%	0.5%	1.9%	0.1%	0.6%	0.4%	-0.4%

Yearly Returns (%)



Tearsheet #4

Portfolio Tearsheet: Trend Following Equal Weight



Overview	
Portfolio Code:	EW_TF
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	200 SMA
Weighting:	EW

Statistics	
Total Return:	39.31%
CAGR:	3.49%
Annual Volatility:	4.80%
Sharpe:	0.73
Max Drawdown:	-5.08%
Sortino:	1.02

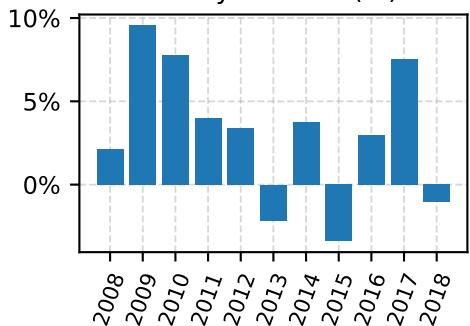
Statistics #2	
VaR99% :	-0.98%
CVaR99% :	-1.21%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.4%	0.2%	0.5%	0.5%	0.3%	-0.3%	0.4%	-0.1%	0.1%	0.1%	-0.2%
BWX	0.0%	0.2%	0.1%	0.1%	-0.0%	-0.2%	0.1%	-0.3%	0.3%	0.3%	0.0%
DBC	0.0%	-0.6%	0.3%	-0.4%	-0.6%	-0.2%	-0.2%	0.0%	0.7%	0.3%	0.5%
EEM	0.0%	2.6%	0.6%	-0.7%	-0.4%	-1.6%	-0.5%	-0.3%	-0.2%	2.0%	-0.1%
EFA	0.0%	1.3%	-0.1%	0.2%	0.5%	1.6%	-0.3%	-1.0%	-0.2%	1.8%	-0.1%
EMB	0.0%	1.5%	0.8%	-0.0%	1.2%	-1.0%	0.3%	-0.2%	0.3%	0.6%	-0.2%
GLD	0.0%	1.9%	2.0%	0.9%	-0.4%	-0.3%	-0.6%	-0.4%	0.4%	0.2%	0.0%
MUB	0.0%	0.4%	0.2%	0.7%	0.4%	-0.5%	0.5%	0.2%	0.2%	0.2%	-0.2%
SHV	0.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%	0.0%	0.1%	0.1%
SPY	0.0%	1.4%	0.7%	-0.2%	0.7%	2.2%	1.0%	-0.3%	0.9%	1.5%	0.3%
TIP	0.0%	0.5%	0.5%	1.0%	0.5%	-0.2%	0.1%	-0.3%	0.2%	0.1%	-0.2%
TLT	1.6%	-1.5%	0.0%	2.1%	0.2%	-0.5%	1.4%	-0.3%	0.2%	0.3%	-0.5%
VNU	0.0%	1.3%	2.0%	0.1%	1.0%	-1.1%	1.5%	-0.4%	0.1%	-0.2%	-0.4%

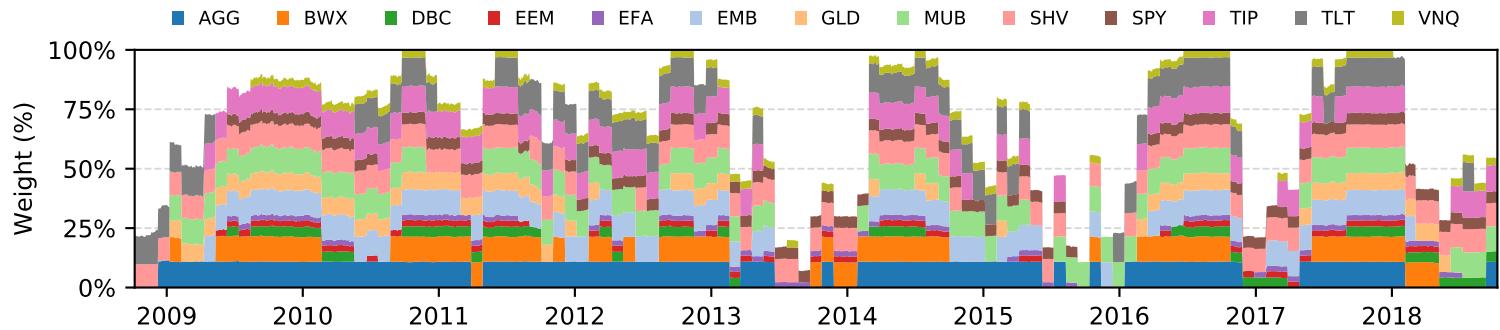
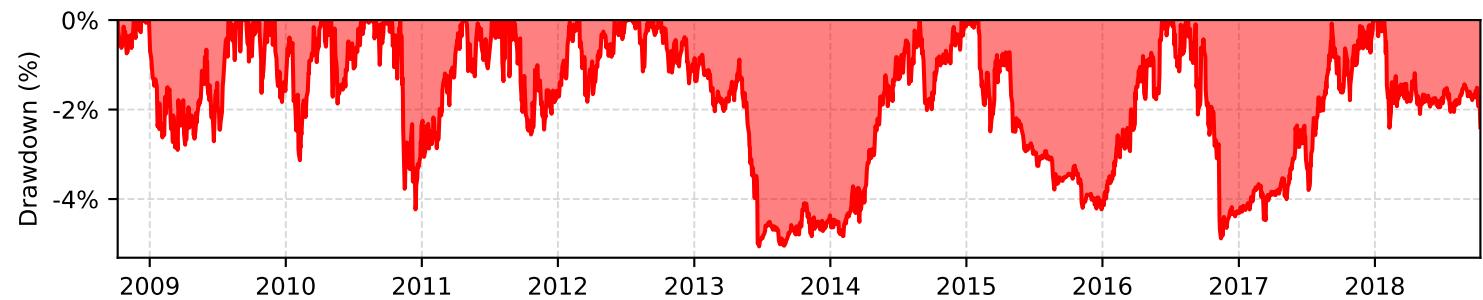
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Yearly Returns (%)



Tearsheet #5

Portfolio Tearsheet: Risk Parity Trend Following



Overview	
Portfolio Code:	RP
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	200 SMA
Weighting:	RP Static

Statistics	
Total Return:	35.56%
CAGR:	3.15%
Annual Volatility:	3.42%
Sharpe:	0.92
Max Drawdown:	-5.06%
Sortino:	1.32

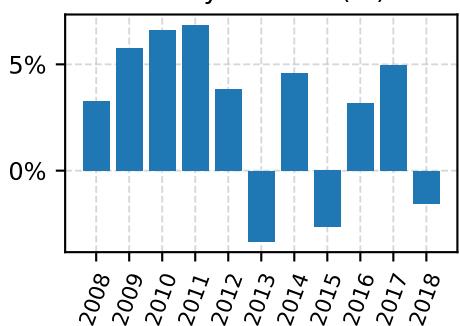
Statistics #2	
VaR _{99%} :	-0.64%
CVaR _{99%} :	-0.82%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.6%	0.3%	0.7%	0.7%	0.4%	-0.4%	0.5%	-0.1%	0.2%	0.2%	-0.3%
BWX	0.0%	0.3%	0.2%	0.1%	-0.0%	-0.2%	0.2%	0.2%	-0.4%	0.4%	0.4%
DBC	0.0%	-0.3%	0.2%	-0.2%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	0.4%	0.2%
EEM	0.0%	0.9%	0.2%	-0.2%	-0.1%	-0.6%	-0.2%	-0.2%	-0.1%	0.7%	-0.0%
EFA	0.0%	0.4%	-0.0%	0.0%	0.2%	0.5%	-0.1%	-0.3%	-0.0%	0.5%	-0.0%
EMB	0.0%	2.1%	1.1%	-0.1%	1.7%	-1.4%	0.4%	-0.3%	0.4%	0.9%	-0.3%
GLD	0.0%	1.8%	1.9%	0.9%	-0.3%	-0.3%	-0.6%	-0.4%	0.4%	0.2%	-0.0%
MUB	0.0%	0.6%	0.3%	1.0%	0.5%	-0.7%	0.7%	0.3%	0.2%	0.3%	-0.3%
SHV	0.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%	0.0%	0.1%	0.1%
SPY	0.0%	0.9%	0.5%	-0.1%	0.5%	1.4%	0.6%	-0.2%	0.6%	1.0%	0.2%
TIP	0.0%	0.7%	0.7%	1.4%	0.7%	-0.3%	0.2%	-0.5%	0.3%	0.1%	-0.3%
TLT	2.6%	-2.4%	0.0%	3.3%	0.3%	-0.8%	2.2%	-0.5%	0.4%	0.5%	-0.8%
VNQ	0.0%	0.6%	0.9%	0.0%	0.4%	-0.5%	0.6%	-0.2%	0.0%	-0.1%	-0.2%

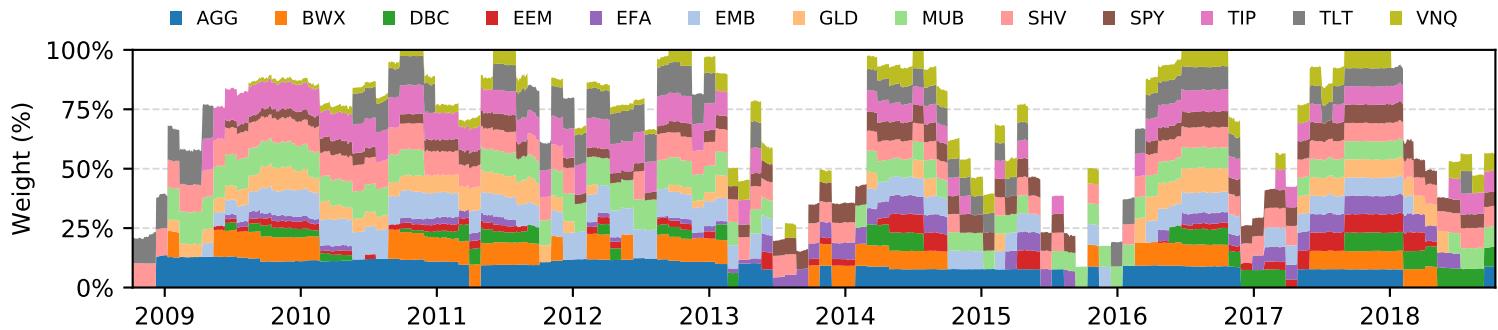
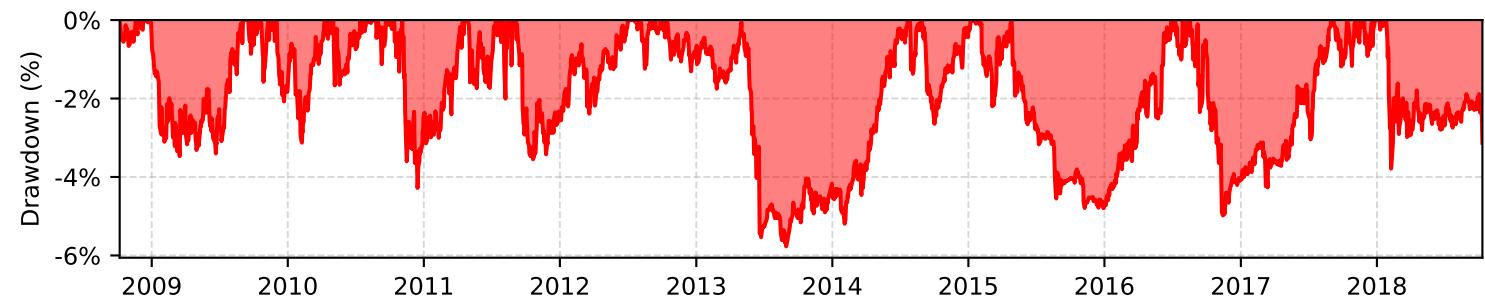
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Yearly Returns (%)



Tearsheet #6

Portfolio Tearsheet: Dynamic Risk Parity Trend Following



Overview	
Portfolio Code:	RP_TF
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	200 SMA
Weighting:	RP 200

Statistics	
Total Return:	33.91%
CAGR:	3.03%
Annual Volatility:	3.71%
Sharpe:	0.82
Max Drawdown:	-5.77%
Sortino:	1.15

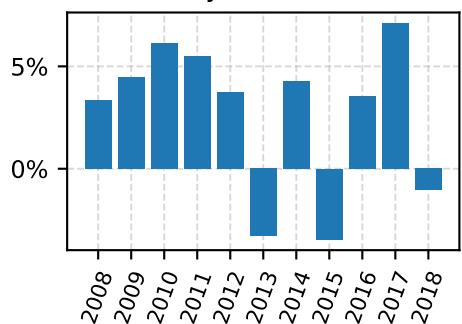
Statistics #2	
VaR99% :	-0.71%
CVaR99% :	-0.90%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.7%	0.4%	0.7%	0.6%	0.4%	-0.3%	0.4%	-0.1%	0.1%	0.1%	-0.2%
BWX	0.0%	0.4%	0.2%	0.1%	-0.0%	-0.2%	0.2%	-0.3%	0.4%	0.3%	-0.0%
DBC	0.0%	-0.2%	-0.0%	-0.8%	-0.4%	-0.2%	-0.2%	0.0%	0.6%	0.3%	0.6%
EEM	0.0%	0.7%	0.1%	-0.2%	-0.1%	-1.2%	-0.1%	-0.3%	-0.0%	1.7%	0.1%
EFA	0.0%	0.4%	-0.0%	0.0%	0.1%	0.6%	-0.3%	-1.0%	-0.1%	1.6%	-0.1%
EMB	0.0%	1.4%	1.2%	-0.1%	1.8%	-1.1%	0.3%	-0.3%	0.4%	0.7%	-0.2%
GLD	0.0%	1.9%	1.6%	1.2%	-0.1%	-0.4%	-0.6%	-0.4%	0.5%	0.2%	-0.1%
MUB	0.0%	0.7%	0.3%	0.9%	0.6%	-0.5%	0.6%	0.2%	0.2%	0.2%	-0.2%
SHV	0.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	-0.0%	-0.0%	0.0%	0.1%	0.1%
SPY	0.0%	0.6%	0.4%	-0.3%	0.2%	1.8%	1.0%	-0.3%	0.8%	1.5%	0.2%
TIP	0.0%	0.7%	0.7%	1.3%	0.8%	-0.3%	0.1%	-0.3%	0.3%	0.1%	-0.2%
TLT	2.6%	-2.8%	0.0%	2.9%	0.3%	-0.7%	1.4%	-0.3%	0.3%	0.3%	-0.5%
VNU	0.0%	0.3%	0.7%	-0.1%	0.1%	-0.8%	1.4%	-0.3%	-0.0%	-0.1%	-0.4%

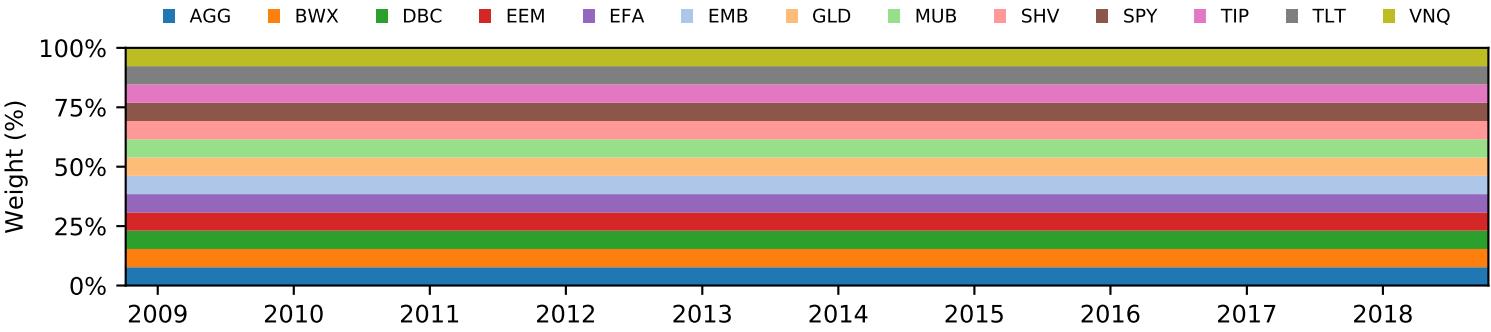
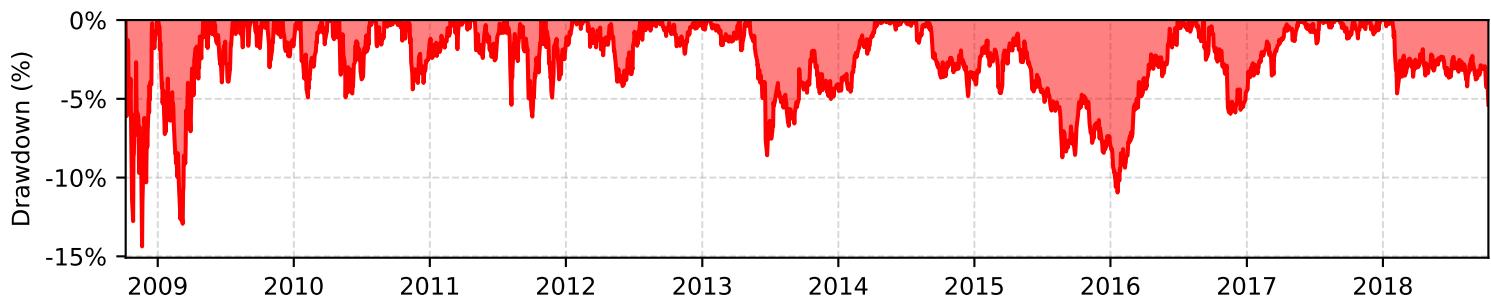
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Yearly Returns (%)



Tearsheet #7

Portfolio Tearsheet: Equal Weight



Overview	
Portfolio Code:	EW
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Daily
Trend Following:	N/A
Weighting:	EW

Statistics	
Total Return:	67.35%
CAGR:	5.71%
Annual Volatility:	9.08%
Sharpe:	0.63
Max Drawdown:	-14.37%
Sortino:	0.92

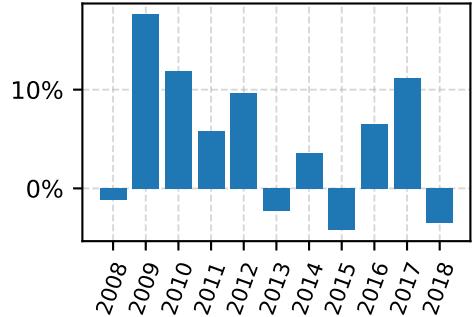
Statistics #2	
VaR99% :	-1.68%
CVaR99% :	-2.39%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.6%	0.2%	0.5%	0.6%	0.3%	-0.2%	0.4%	0.0%	0.2%	0.3%	-0.2%
BWX	-0.4%	0.5%	0.3%	0.3%	0.4%	-0.2%	-0.1%	-0.5%	0.1%	0.7%	-0.3%
DBC	-2.1%	1.4%	1.0%	-0.0%	0.3%	-0.6%	-2.5%	-2.3%	1.4%	0.4%	0.6%
EEM	0.3%	4.7%	1.4%	-1.2%	1.5%	-0.2%	-0.2%	-1.2%	1.0%	2.5%	-1.3%
EFA	-0.2%	2.2%	0.8%	-0.7%	1.4%	1.6%	-0.4%	0.0%	0.2%	1.8%	-0.6%
EMB	0.6%	1.2%	0.8%	0.6%	1.2%	-0.6%	0.5%	0.1%	0.7%	0.8%	-0.5%
GLD	0.3%	1.8%	2.1%	0.9%	0.6%	-2.4%	-0.1%	-0.8%	0.7%	1.0%	-0.5%
MUB	0.3%	0.5%	0.0%	1.0%	0.4%	-0.3%	0.7%	0.2%	-0.0%	0.3%	-0.1%
SHV	0.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-0.7%	2.1%	1.2%	0.3%	1.2%	2.2%	1.0%	0.2%	0.9%	1.5%	0.3%
TIP	-0.2%	0.7%	0.5%	1.0%	0.5%	-0.7%	0.3%	-0.1%	0.4%	0.2%	-0.1%
TLT	1.6%	-1.8%	0.8%	2.4%	0.3%	-1.0%	1.9%	-0.1%	0.1%	0.7%	-0.6%
VNZ	-1.1%	3.5%	2.2%	0.9%	1.3%	0.3%	2.1%	0.3%	0.7%	0.4%	-0.4%

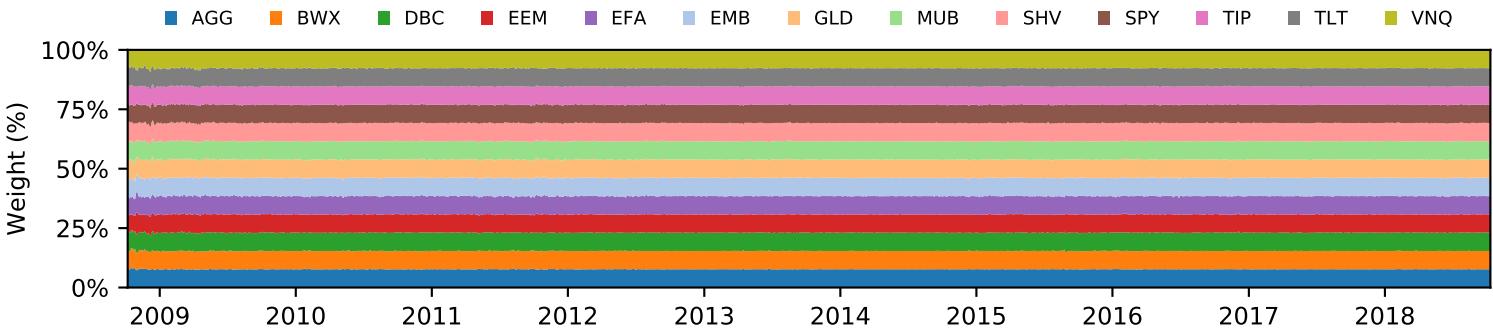
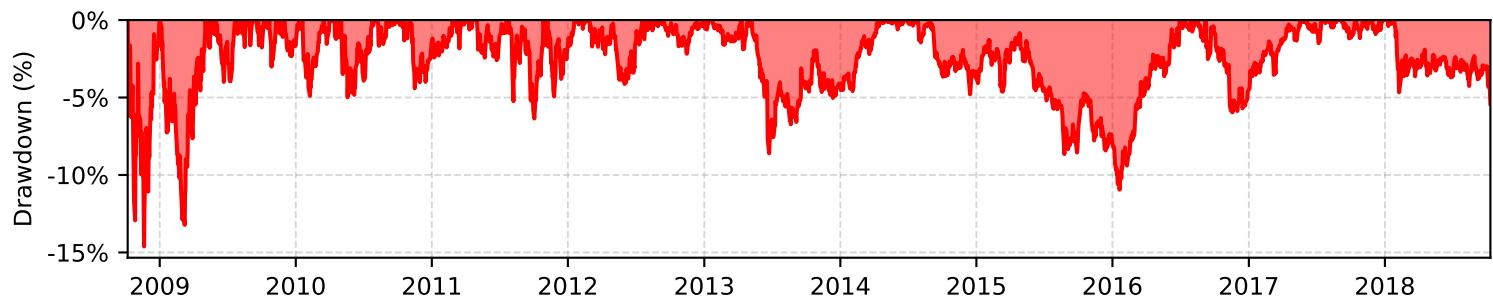
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Yearly Returns (%)



Tearsheet #8

Portfolio Tearsheet: Equal Weight



Overview	
Portfolio Code:	EW
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Weekly
Trend Following:	N/A
Weighting:	EW

Statistics	
Total Return:	62.92%
CAGR:	5.42%
Annual Volatility:	9.01%
Sharpe:	0.60
Max Drawdown:	-14.61%
Sortino:	0.87

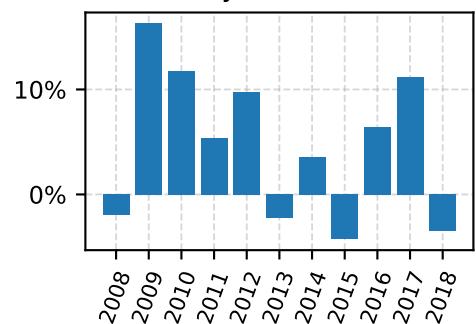
Statistics #2	
VaR99% :	-1.68%
CVaR99% :	-2.38%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.5%	0.2%	0.5%	0.6%	0.3%	-0.2%	0.4%	0.0%	0.2%	0.3%	-0.2%
BWX	0.4%	0.4%	0.3%	0.3%	0.4%	-0.2%	-0.1%	-0.5%	0.1%	0.7%	-0.3%
DBC	-2.2%	1.4%	1.0%	-0.0%	0.3%	-0.6%	-2.5%	-2.3%	1.4%	0.4%	0.6%
EEM	0.1%	4.6%	1.4%	-1.3%	1.5%	-0.2%	-0.2%	-1.2%	0.9%	2.5%	-1.3%
EFA	-0.3%	2.2%	0.8%	-0.8%	1.5%	1.6%	-0.4%	0.0%	0.2%	1.8%	-0.6%
EMB	0.5%	1.2%	0.8%	0.6%	1.2%	-0.6%	0.5%	0.1%	0.7%	0.8%	-0.5%
GLD	0.3%	1.8%	2.1%	0.8%	0.6%	-2.4%	-0.1%	-0.8%	0.7%	1.0%	-0.5%
MUB	0.3%	0.5%	0.0%	1.0%	0.4%	-0.3%	0.7%	0.2%	-0.0%	0.3%	-0.1%
SHV	0.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-0.8%	2.0%	1.2%	0.3%	1.2%	2.2%	1.0%	0.2%	0.9%	1.5%	0.3%
TIP	-0.2%	0.7%	0.5%	1.0%	0.5%	-0.7%	0.3%	-0.1%	0.4%	0.2%	-0.1%
TLT	1.6%	-1.8%	0.7%	2.4%	0.3%	-1.1%	1.9%	-0.1%	0.1%	0.7%	-0.6%
VNQ	-1.2%	2.7%	2.2%	0.8%	1.3%	0.3%	2.1%	0.3%	0.7%	0.4%	-0.4%

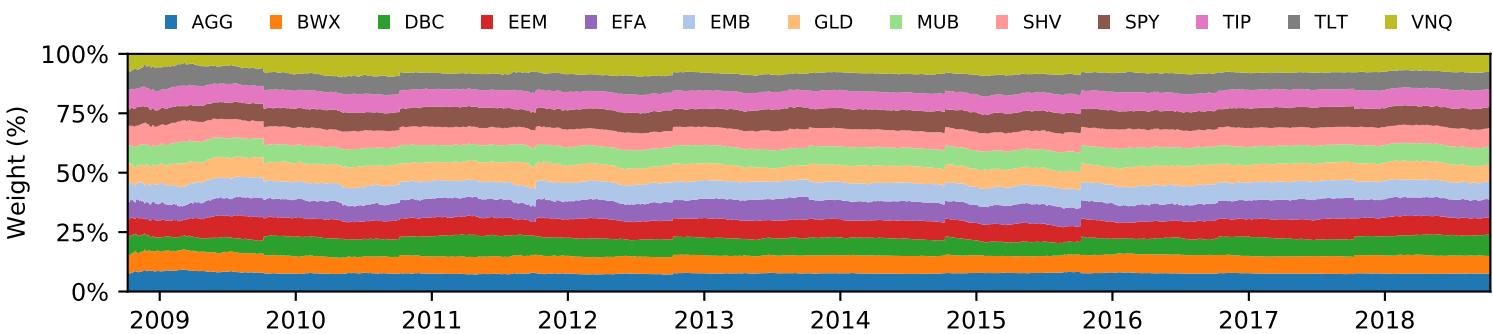
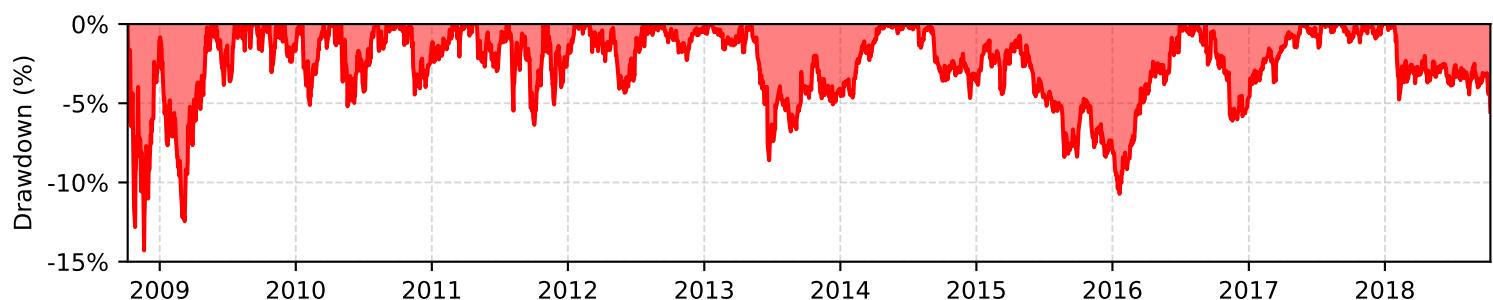
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Yearly Returns (%)



Tearsheet #9

Portfolio Tearsheet: Equal Weight



Overview	
Portfolio Code:	EW
Start Date:	2008-10-07
End Date:	2018-10-11
Rebalanced:	Yearly
Trend Following:	N/A
Weighting:	EW

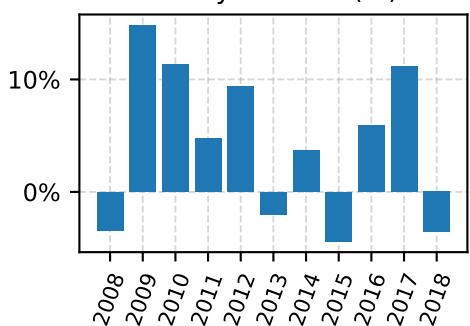
Statistics	
Total Return:	56.15%
CAGR:	4.93%
Annual Volatility:	8.51%
Sharpe:	0.58
Max Drawdown:	-14.29%
Sortino:	0.83

Statistics #2	
VaR99% :	-1.48%
CVaR99% :	-2.19%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

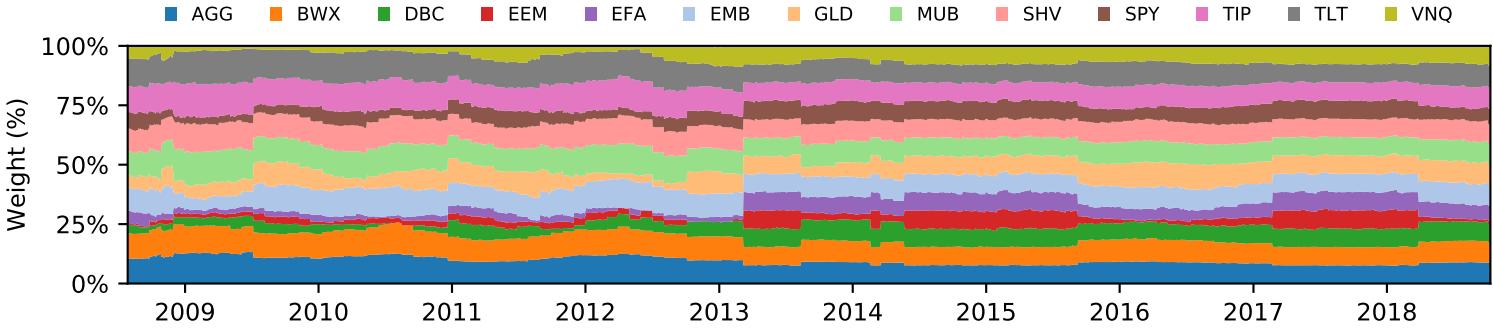
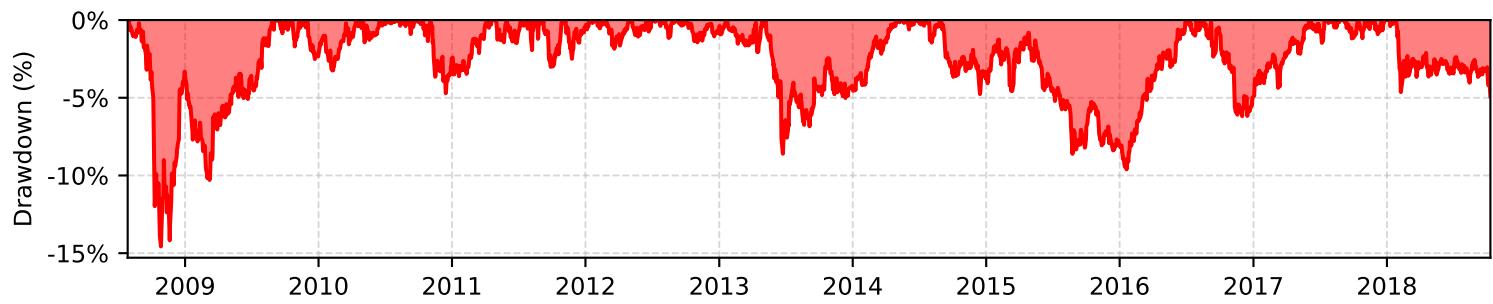
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.6%	0.2%	0.5%	0.5%	0.3%	-0.2%	0.4%	0.0%	0.2%	0.3%	-0.2%
BWX	0.4%	0.5%	0.3%	0.3%	0.4%	-0.2%	-0.1%	-0.5%	0.1%	0.7%	-0.3%
DBC	-2.2%	1.2%	0.9%	-0.1%	0.3%	-0.6%	-2.2%	-2.1%	1.2%	0.4%	0.6%
EEM	-0.6%	4.9%	1.3%	-1.3%	1.4%	-0.3%	-0.3%	-1.3%	0.8%	2.6%	-1.3%
EFA	-0.6%	1.9%	0.6%	-0.8%	1.4%	1.7%	-0.5%	-0.1%	0.1%	1.9%	-0.6%
EMB	0.5%	1.3%	0.8%	0.6%	1.2%	-0.6%	0.5%	0.1%	0.7%	0.8%	-0.5%
GLD	0.3%	1.8%	2.2%	0.8%	0.5%	-2.2%	-0.1%	-0.8%	0.7%	0.9%	-0.5%
MUB	0.3%	0.6%	0.0%	0.9%	0.4%	-0.3%	0.7%	0.2%	-0.0%	0.3%	-0.1%
SHV	0.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	-0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-0.9%	1.8%	1.1%	0.2%	1.3%	2.3%	1.0%	0.1%	0.9%	1.6%	0.3%
TIP	-0.2%	0.7%	0.4%	0.9%	0.5%	-0.7%	0.3%	-0.1%	0.4%	0.2%	-0.1%
TLT	1.9%	-2.2%	0.6%	2.2%	0.2%	-1.0%	1.9%	-0.1%	0.2%	0.6%	-0.6%
VNU	-2.1%	1.8%	2.3%	0.8%	1.4%	0.2%	2.2%	0.2%	0.7%	0.4%	-0.4%

Yearly Returns (%)



Tearsheet #10

Portfolio Tearsheet: Risk Parity



Overview

Portfolio Code:	RP
Start Date:	2008-07-28
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	N/A
Weighting:	RP 150

Statistics

Total Return:	43.72%
CAGR:	3.78%
Annual Volatility:	5.67%
Sharpe:	0.67
Max Drawdown:	-14.56%
Sortino:	0.95

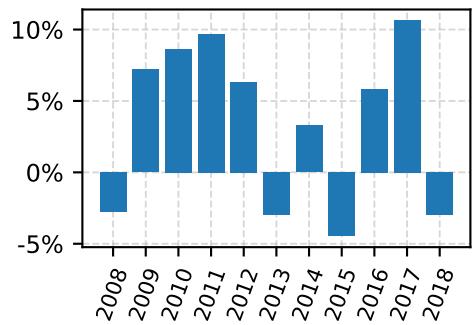
Statistics #2

VaR99% :	-1.01%
CVaR99% :	-1.40%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

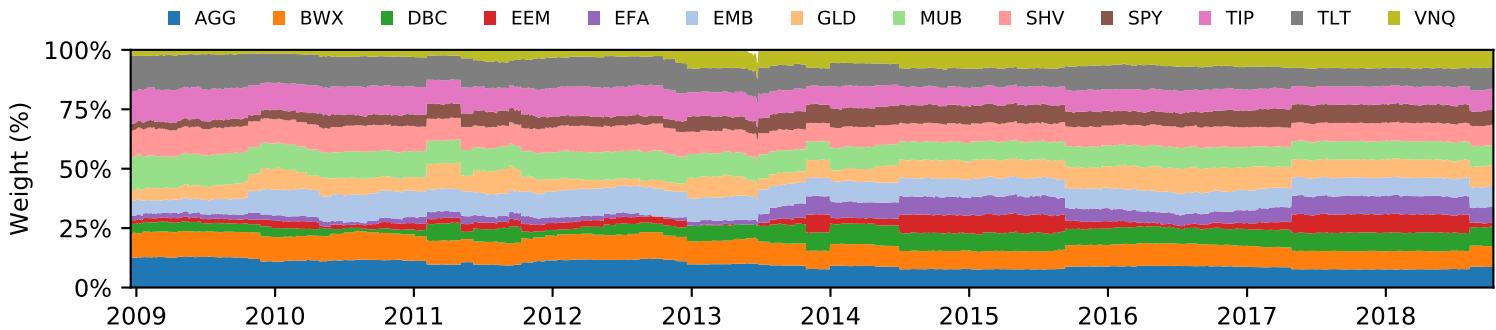
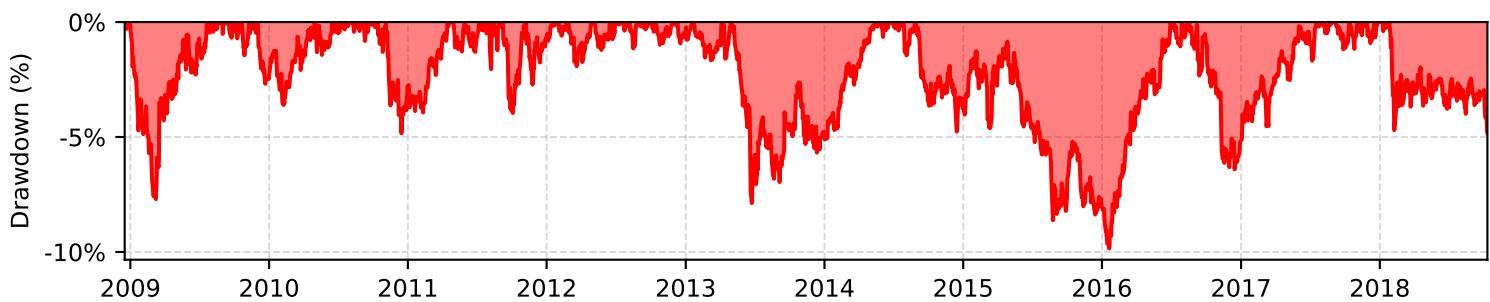
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.9%	0.3%	0.7%	0.7%	0.4%	-0.2%	0.5%	0.0%	0.2%	0.3%	-0.2%
BWX	0.1%	0.6%	0.6%	0.3%	0.6%	-0.3%	-0.1%	-0.5%	0.2%	0.7%	-0.4%
DBC	-1.3%	0.9%	0.3%	0.3%	0.0%	-0.6%	-2.4%	-2.2%	1.3%	0.4%	0.6%
EEM	-0.6%	1.3%	0.3%	-0.4%	0.5%	-0.4%	-0.4%	-1.1%	-0.0%	2.0%	-0.2%
EFA	-1.2%	0.6%	0.1%	-0.1%	0.1%	1.2%	-0.5%	-0.0%	0.1%	1.7%	-0.5%
EMB	-0.8%	1.4%	1.3%	0.7%	1.7%	-0.6%	0.5%	0.1%	0.8%	0.8%	-0.5%
GLD	0.2%	1.9%	1.8%	1.3%	-0.2%	-2.2%	-0.3%	-0.9%	1.0%	1.1%	-0.6%
MUB	0.4%	0.8%	0.1%	1.2%	0.6%	-0.2%	0.7%	0.3%	0.0%	0.3%	-0.1%
SHV	0.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-1.8%	0.9%	0.6%	0.1%	0.7%	2.1%	1.0%	0.1%	0.8%	1.5%	0.1%
TIP	-0.3%	1.1%	0.7%	1.3%	0.8%	-0.7%	0.3%	-0.1%	0.4%	0.2%	-0.1%
TLT	3.7%	-3.2%	1.1%	3.5%	0.3%	-1.2%	2.0%	-0.1%	0.3%	0.7%	-0.7%
VNQ	-1.7%	0.5%	0.7%	0.3%	0.5%	0.4%	1.9%	0.1%	0.5%	0.4%	-0.4%

Yearly Returns (%)



Tearsheet #11

Portfolio Tearsheet: Risk Parity



Overview	
Portfolio Code:	RP
Start Date:	2008-12-17
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	N/A
Weighting:	RP 250

Statistics	
Total Return:	46.02%
CAGR:	4.07%
Annual Volatility:	5.09%
Sharpe:	0.80
Max Drawdown:	-9.84%
Sortino:	1.14

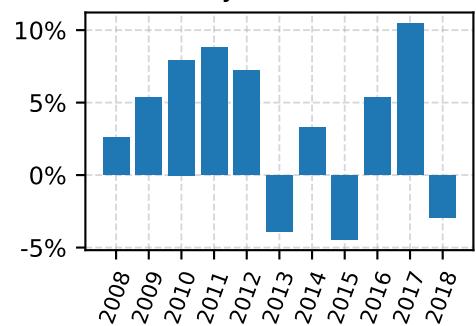
Statistics #2	
VaR99% :	-0.91%
CVaR99% :	-1.12%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.4%	0.4%	0.7%	0.7%	0.4%	-0.2%	0.5%	0.0%	0.2%	0.3%	-0.2%
BWX	0.1%	0.6%	0.6%	0.4%	0.6%	-0.3%	-0.0%	-0.5%	0.1%	0.8%	-0.3%
DBC	-0.0%	0.6%	-0.1%	-0.1%	0.1%	-0.5%	-2.4%	-2.2%	1.3%	0.4%	0.5%
EEM	-0.1%	1.0%	0.6%	-0.5%	0.5%	0.1%	-0.5%	-1.1%	0.1%	1.9%	-0.6%
EFA	-0.0%	0.5%	0.1%	-0.3%	0.3%	1.0%	-0.5%	0.0%	0.0%	1.6%	-0.5%
EMB	0.9%	0.8%	1.2%	0.8%	1.8%	-0.7%	0.5%	0.1%	0.8%	0.8%	-0.5%
GLD	0.1%	1.3%	1.6%	1.5%	0.3%	-2.8%	-0.3%	-0.9%	0.8%	1.1%	-0.5%
MUB	0.8%	0.9%	0.0%	1.3%	0.6%	-0.3%	0.8%	0.2%	-0.0%	0.4%	-0.1%
SHV	0.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SPY	-0.0%	0.8%	0.5%	0.1%	0.6%	2.0%	1.0%	0.1%	0.7%	1.5%	0.3%
TIP	-0.0%	1.2%	0.7%	1.3%	0.8%	-0.9%	0.4%	-0.1%	0.4%	0.2%	-0.1%
TLT	0.4%	-3.3%	1.2%	3.2%	0.4%	-1.4%	2.1%	-0.1%	0.2%	0.7%	-0.6%
VNQ	0.0%	0.4%	0.6%	0.2%	0.6%	0.2%	1.8%	0.2%	0.6%	0.4%	-0.3%

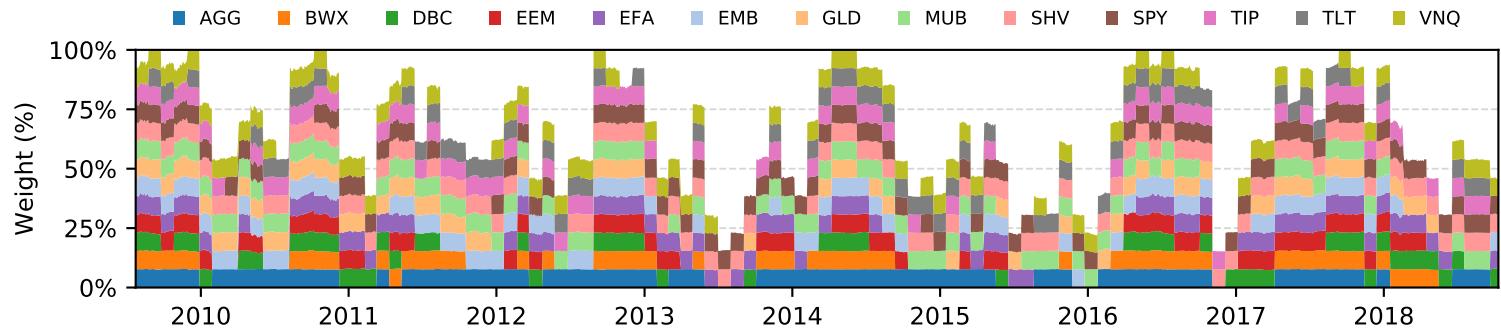
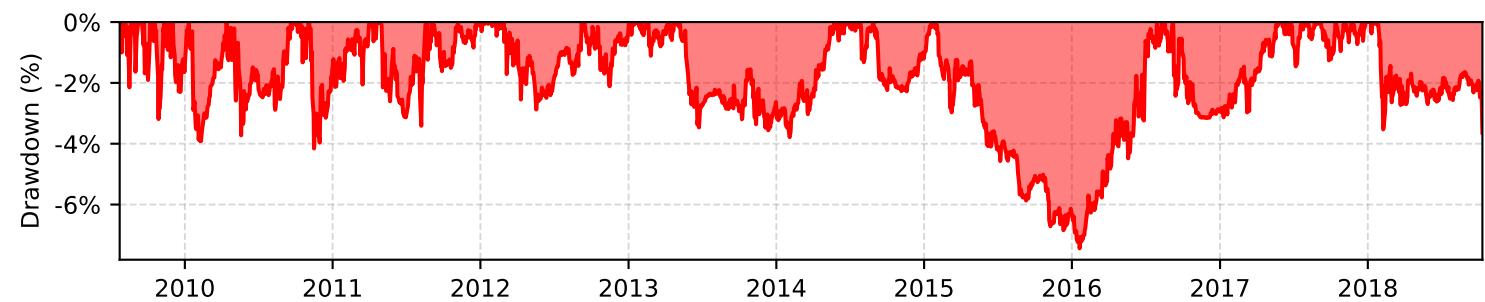
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Yearly Returns (%)



Tearsheet #12

Portfolio Tearsheet: Trend Following Equal Weight



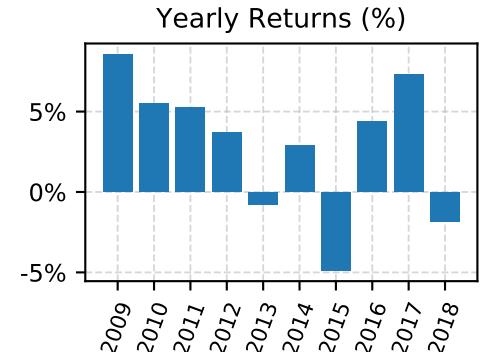
Overview	
Portfolio Code:	EW_TF
Start Date:	2009-07-24
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	100 SMA
Weighting:	EW

Statistics	
Total Return:	33.54%
CAGR:	3.30%
Annual Volatility:	4.56%
Sharpe:	0.72
Max Drawdown:	-7.44%
Sortino:	1.02

Statistics #2	
VaR99% :	-0.93%
CVaR99% :	-1.11%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

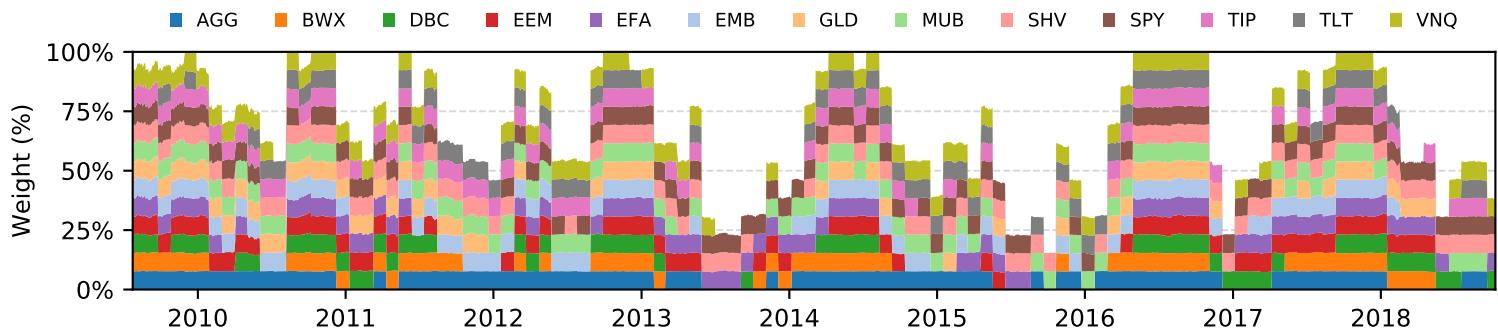
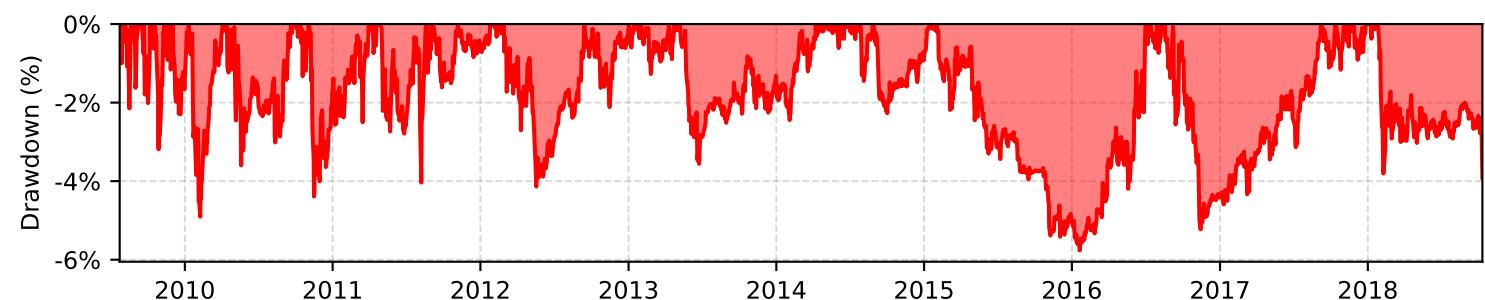
Performance Attribution											
AGG	0.2%	0.3%	0.4%	0.2%	-0.1%	0.4%	0.0%	0.3%	0.1%	-0.0%	
BWX	0.3%	-0.1%	0.4%	-0.0%	-0.5%	0.1%	-0.3%	0.3%	0.4%	-0.1%	
DBC	-0.2%	0.2%	0.2%	-0.5%	-0.6%	-0.1%	-0.3%	0.3%	0.7%	0.3%	
EEM	1.3%	-0.3%	-0.9%	1.0%	-0.2%	-0.4%	-0.7%	0.7%	2.3%	0.1%	
EFA	1.0%	0.2%	0.1%	0.3%	1.1%	-0.4%	-0.2%	-0.0%	1.6%	-0.6%	
EMB	0.7%	0.8%	0.5%	0.9%	-0.7%	0.6%	-0.4%	0.8%	0.6%	-0.3%	
GLD	1.2%	2.0%	0.7%	-0.4%	-0.5%	-1.1%	1.7%	0.6%	-0.2%	-0.3%	
MUB	0.3%	0.0%	0.8%	0.3%	-0.2%	0.7%	0.2%	0.3%	0.2%	-0.1%	
SHV	0.0%	0.0%	0.0%	0.0%	-0.0%	-0.0%	-0.0%	0.0%	0.1%	0.1%	
SPY	1.1%	0.5%	-0.2%	0.6%	2.2%	0.4%	-0.5%	-0.2%	1.5%	0.1%	
TIP	0.4%	0.2%	0.8%	0.3%	-0.5%	0.1%	-0.4%	0.1%	-0.1%	-0.3%	
TLT	-0.6%	0.8%	2.1%	-0.0%	-0.7%	1.5%	-0.5%	0.5%	0.3%	-0.3%	
VNU	2.8%	1.0%	0.3%	1.0%	-0.0%	1.2%	-0.1%	0.6%	-0.3%	-0.5%	

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018



Tearsheet #13

Portfolio Tearsheet: Trend Following Equal Weight



Overview

Portfolio Code:	EW_TF
Start Date:	2009-07-24
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	150 SMA
Weighting:	EW

Statistics

Total Return:	32.73%
CAGR:	3.24%
Annual Volatility:	4.75%
Sharpe:	0.68
Max Drawdown:	-5.76%
Sortino:	0.95

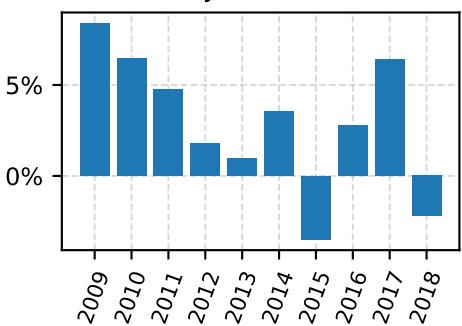
Statistics #2

VaR _{99%} :	-0.96%
CVaR _{99%} :	-1.17%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

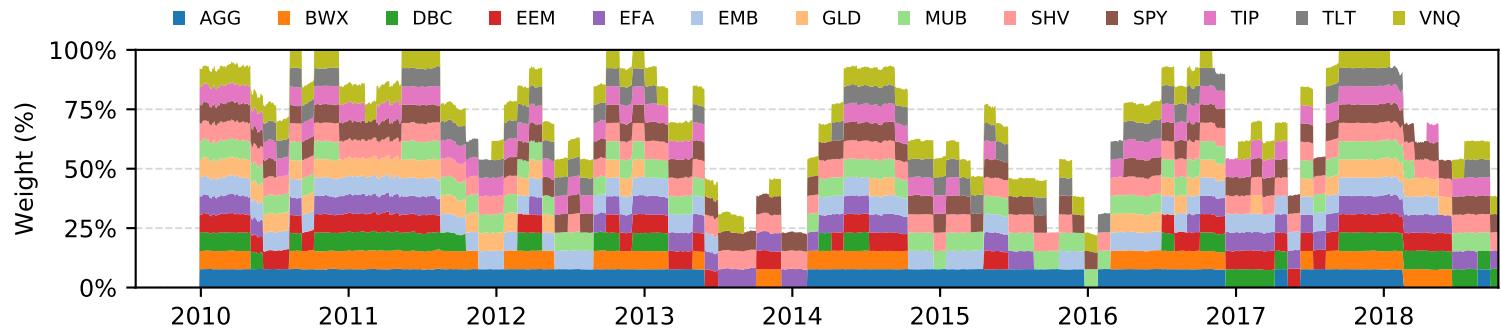
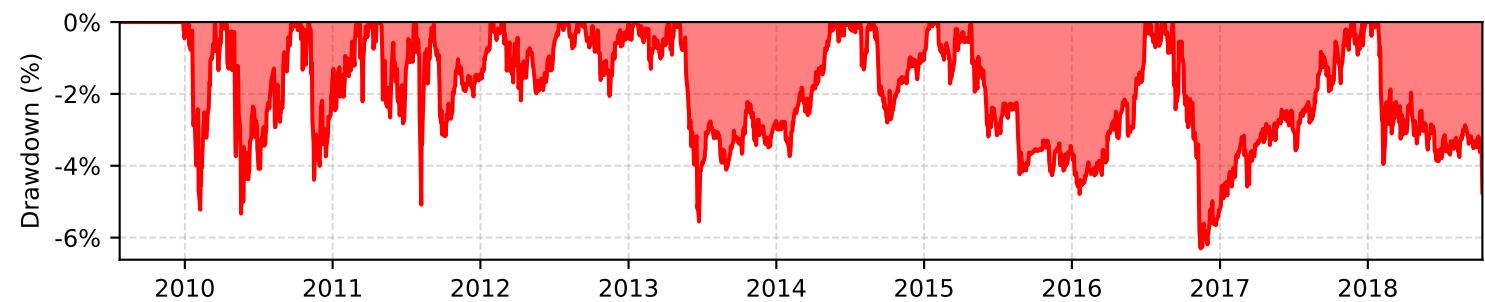
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.2%	0.4%	0.4%	0.3%	-0.2%	0.4%	-0.1%	0.1%	0.2%	-0.1%
BWX	0.3%	0.0%	0.2%	-0.0%	-0.3%	0.2%	-0.3%	0.3%	0.5%	-0.1%
DBC	-0.3%	0.2%	0.5%	-1.0%	-0.5%	-0.3%	0.0%	0.8%	0.0%	0.3%
EEM	1.3%	0.6%	-0.9%	-0.1%	-0.3%	-0.4%	-0.4%	0.5%	2.3%	0.0%
EFA	1.0%	0.1%	0.2%	-0.1%	1.6%	0.0%	-0.2%	-0.0%	1.6%	-0.6%
EMB	0.7%	0.8%	0.3%	1.2%	-0.5%	0.2%	-0.4%	0.5%	0.6%	-0.2%
GLD	1.2%	2.0%	0.9%	-0.4%	-0.0%	-1.1%	-1.1%	-0.3%	-0.7%	-0.3%
MUB	0.3%	-0.0%	0.6%	0.4%	-0.2%	0.7%	0.1%	0.2%	0.2%	-0.1%
SHV	0.0%	0.0%	0.0%	-0.0%	-0.0%	-0.0%	-0.0%	0.0%	0.1%	0.1%
SPY	1.1%	0.5%	-0.5%	0.7%	2.2%	0.4%	-0.1%	-0.2%	1.5%	0.3%
TIP	0.4%	0.4%	0.6%	0.5%	-0.3%	0.2%	-0.4%	0.1%	-0.1%	-0.3%
TLT	-0.7%	0.4%	2.1%	-0.2%	-0.5%	1.5%	-0.8%	0.8%	0.3%	-0.7%
VNU	2.8%	1.0%	0.4%	0.8%	-0.0%	1.8%	0.1%	-0.0%	-0.0%	-0.5%

Yearly Returns (%)



Tearsheet #14

Portfolio Tearsheet: Trend Following Equal Weight



Overview

Portfolio Code:	EW_TF
Start Date:	2009-07-24
End Date:	2018-10-11
Rebalanced:	Monthly
Trend Following:	300 SMA
Weighting:	EW

Statistics

Total Return:	21.43%
CAGR:	2.24%
Annual Volatility:	4.59%
Sharpe:	0.49
Max Drawdown:	-6.30%
Sortino:	0.67

Statistics #2

VaR _{99%} :	-0.92%
CVaR _{99%} :	-1.22%
Placeholder:	N/A
Placeholder:	N/A
Placeholder:	N/A
Placeholder	N/A

Performance Attribution

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGG	0.0%	0.5%	0.6%	0.3%	-0.1%	0.3%	0.0%	0.1%	0.1%	-0.2%
BWX	-0.0%	-0.2%	0.3%	0.2%	-0.6%	0.1%	0.0%	-0.1%	-0.1%	-0.2%
DBC	-0.0%	0.1%	0.0%	-0.6%	-0.2%	-0.2%	0.0%	-0.3%	0.0%	0.5%
EEM	0.0%	1.3%	-0.8%	0.2%	-1.0%	-0.0%	-0.4%	0.2%	2.5%	-0.4%
EFA	-0.1%	-0.8%	-0.4%	0.4%	1.6%	-0.6%	-0.4%	-0.1%	1.8%	-0.8%
EMB	0.0%	0.8%	0.6%	1.2%	-0.7%	0.0%	-0.0%	0.6%	0.8%	-0.4%
GLD	-0.1%	2.0%	0.8%	-0.4%	0.0%	-0.5%	0.0%	-0.3%	-0.4%	-0.1%
MUB	0.0%	-0.0%	0.6%	0.4%	-0.0%	0.5%	0.2%	-0.1%	0.1%	-0.1%
SHV	-0.0%	0.0%	0.0%	-0.0%	-0.0%	-0.0%	-0.0%	0.0%	0.1%	0.1%
SPY	-0.1%	0.5%	-0.2%	0.8%	2.2%	1.1%	-0.1%	0.3%	1.5%	0.3%
TIP	0.0%	0.5%	0.6%	0.5%	-0.2%	-0.0%	-0.2%	0.1%	-0.0%	-0.3%
TLT	0.0%	0.0%	2.1%	0.2%	-0.7%	1.3%	-0.9%	-0.2%	0.1%	-0.7%
VNQ	-0.2%	2.2%	0.2%	1.3%	-0.5%	1.8%	-0.2%	-0.5%	-0.0%	-0.5%

Yearly Returns (%)

