Seeking Reasonable Returns While Reducing Risk: A Practical Approach to Low Volatility Investing

Presented to the Houston Chapter of AAII
by Rob Bernstein, President, RGB Capital Group LLC

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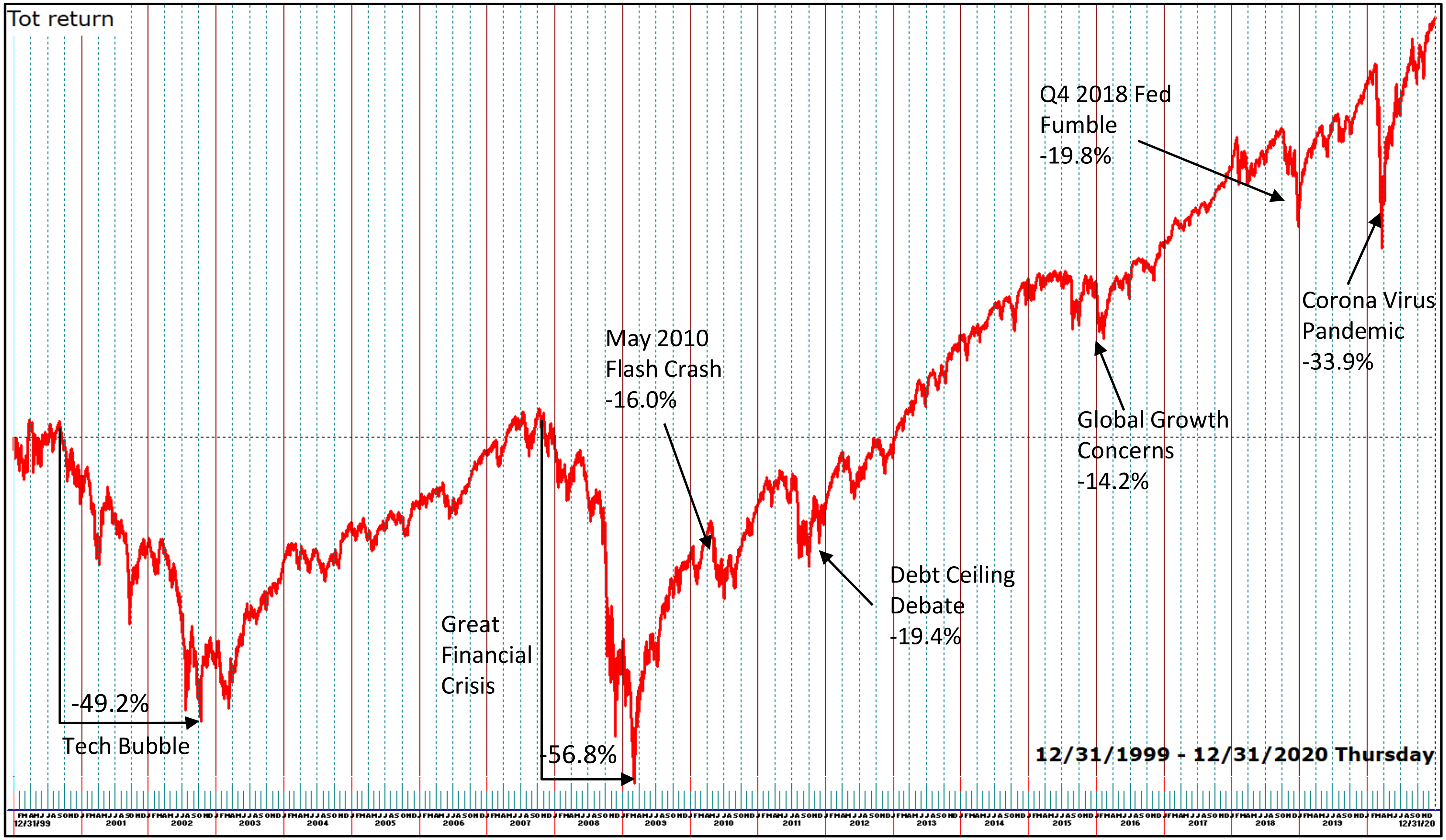
Contact Information: Rob Bernstein
RGB Capital Group LLC
858-367-5200
rob@rgbcapitalgroup.com

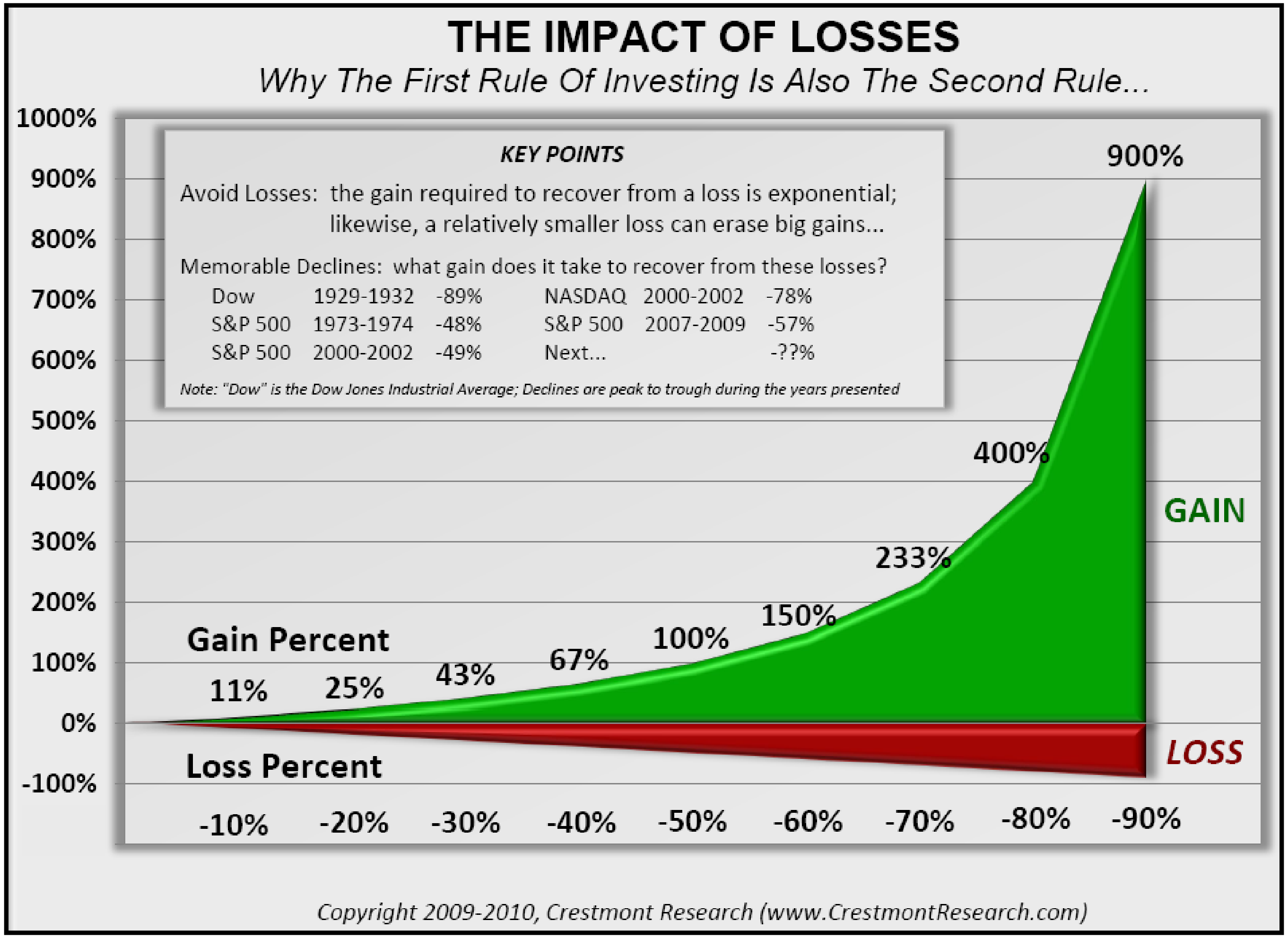
S&P 500 (21 Years)



"If you fail to plan, you are planning to fail."

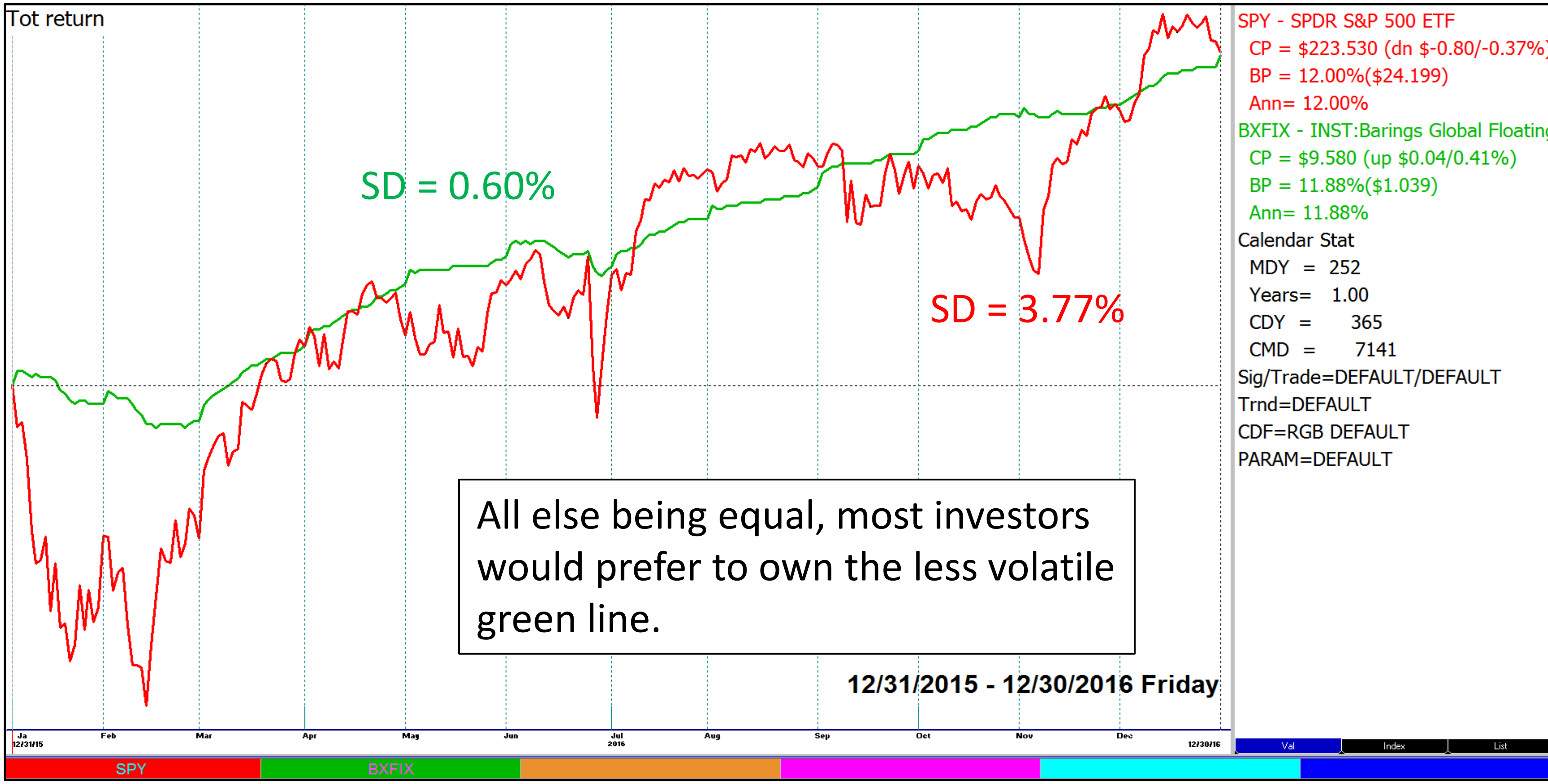
\- Benjamin Franklin

The Importance of Managing Risk



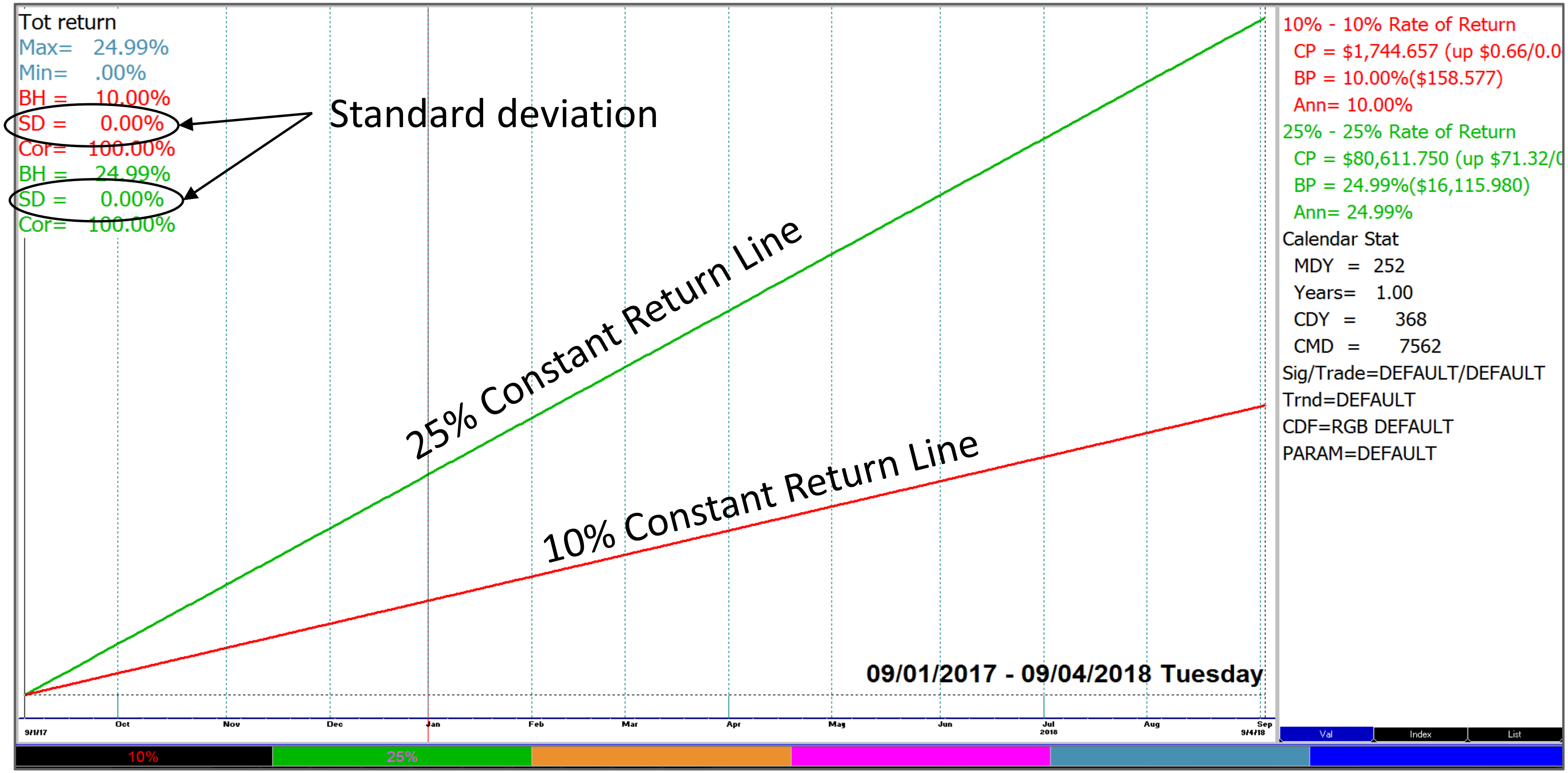
The exponential impact of portfolio losses has a direct impact on the ability to create wealth.

What is Risk?



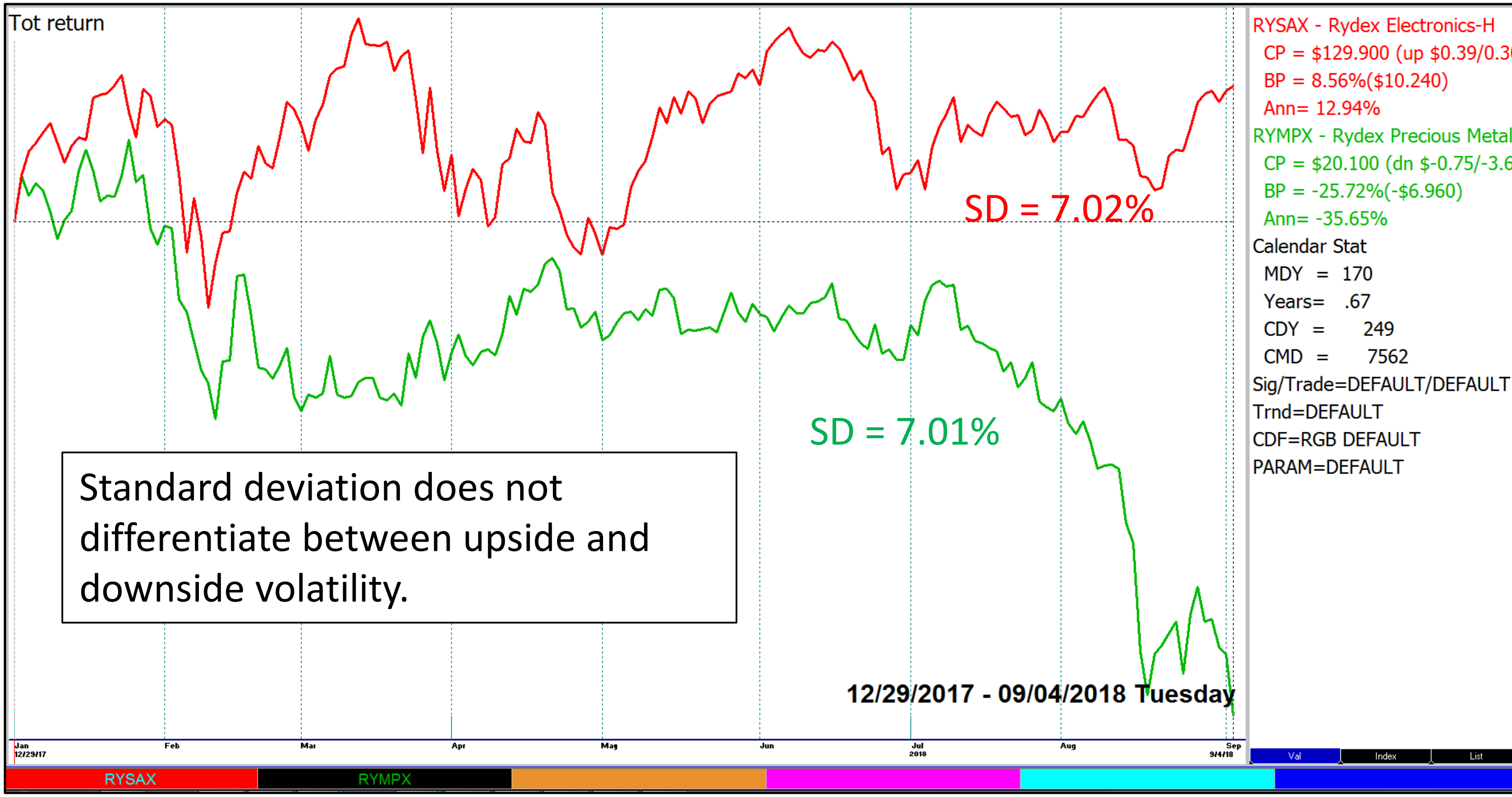
- Assuming two investment choices that were expected to provide the same return but one has a fraction of the expected risk, which investment would you select?
- Standard deviation (SD) is a common measure of volatility; volatility implies risk.

Limitations of Standard Deviation



- By definition, the standard deviation of a straight line is zero.
- Therefore, standard deviation does not provide clues to the strength of return.

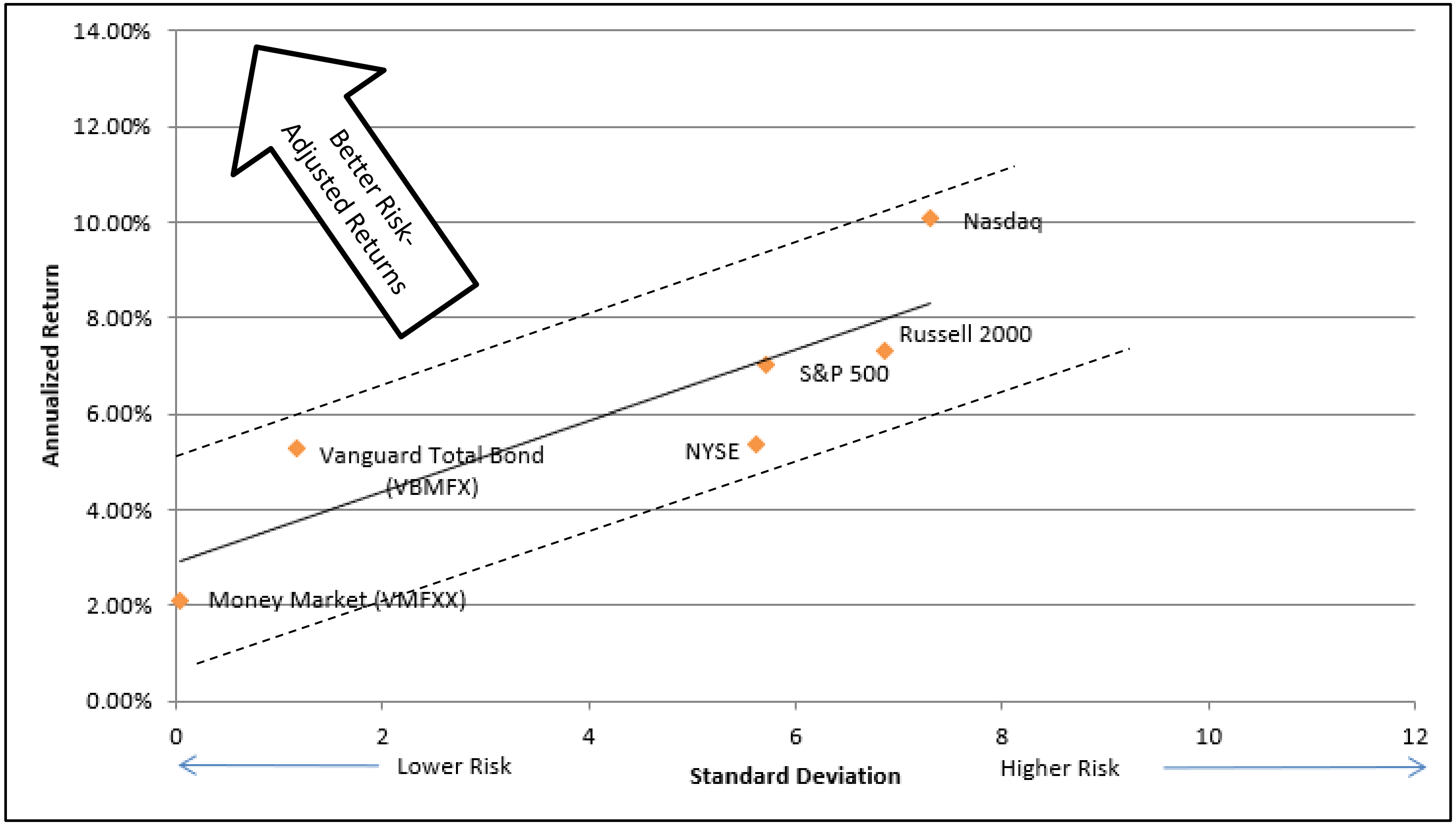
Limitations of Standard Deviation



Standard deviation does not differentiate between upside and downside volatility.

Risk vs. Reward

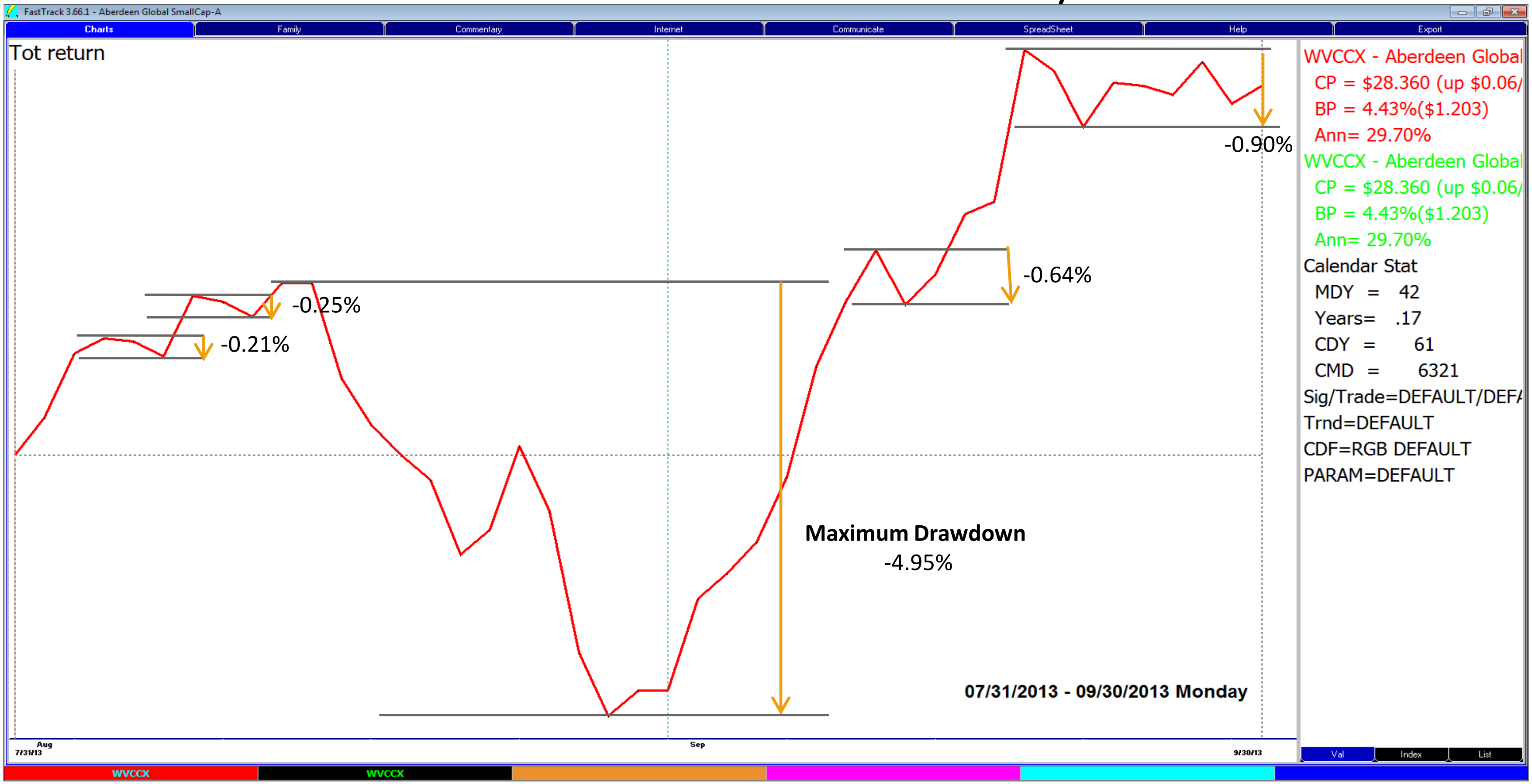
12/31/1999 – 12/31/2020



Our goal as investors is to achieve returns outside the long-term, expected return channel by striving for better risk-adjusted returns (i.e. upper left-hand quadrant).

Drawdown

A Measure of Downside Volatility



- Most investors are concerned with downside volatility.
- Drawdown (or retracement) measures the % price decline from a peak to a trough. The **maximum drawdown** for WVCCX from 07/31/2013 – 09/30/2013 was 4.95%.
- Drawdown does not measure the duration of the decline.

Ulcer Index and Ulcer Performance Index

Ulcer Index (UI) is a downside volatility metric that incorporates depth and duration of drawdowns. Lower values represent less volatile investments.

Ulcer Performance Index (UPI) is a measure of trend strength that uses downside volatility. Higher values represent better risk-adjusted returns.

For a detailed handout on how to calculate the Ulcer Index and Ulcer Performance Index please visit: www.rgbcapitalgroup.com/resources and select the UI-UPI Guide.

High-Yield (Junk) Bonds
The Epitome of a Low Volatility Asset Class

What is a Junk Bond?

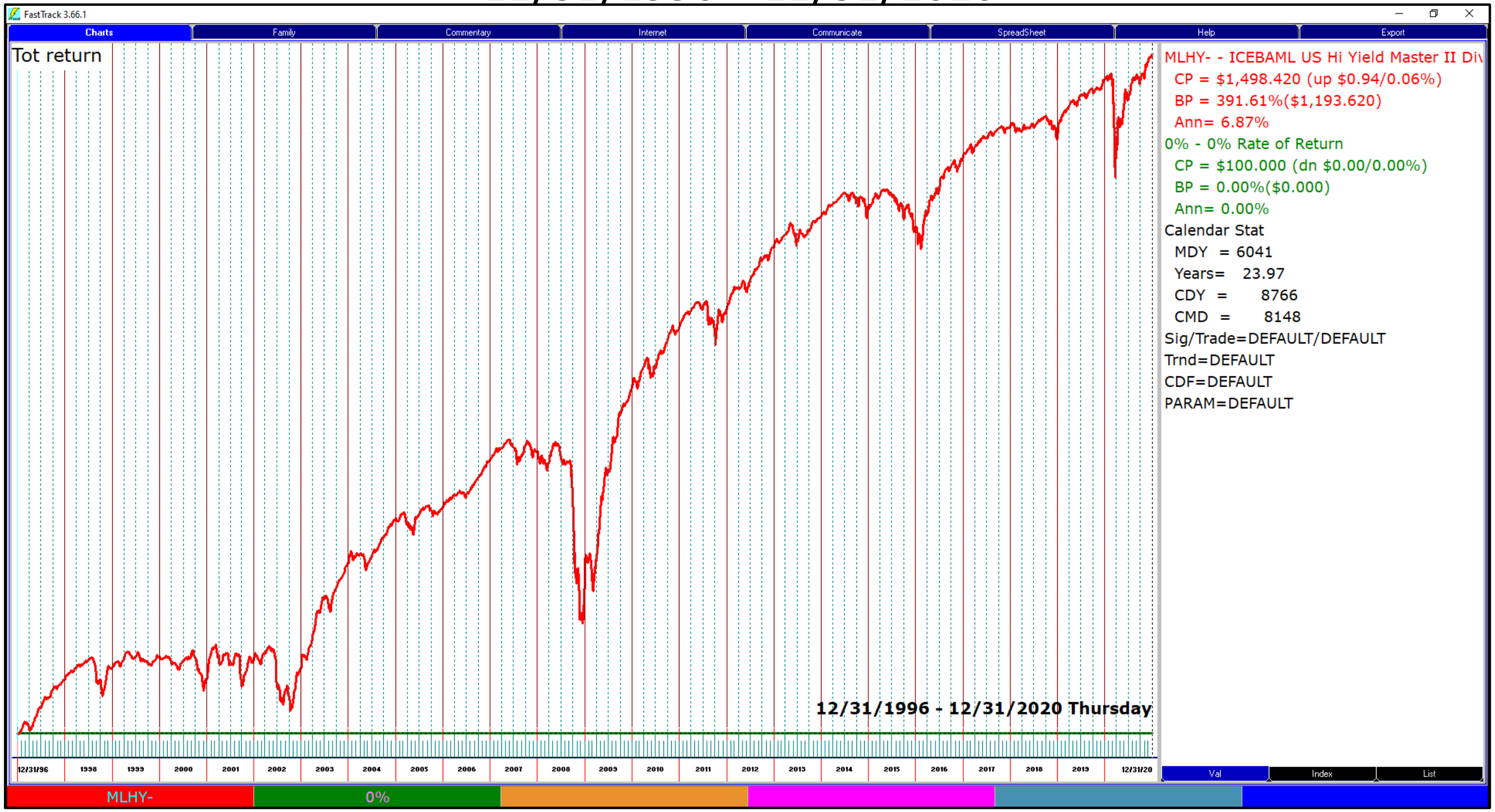
- High-yield bonds, or junk bonds, are bonds that pays a higher yield than an investment grade Treasury or corporate bond.
- Junk bonds, like other bonds, are a promise by the issuer to pay back a sum of money (principal) at a certain date in the future (maturity date) along with specified interest payments (yield).
- Junk bonds are different because of an issuer's **credit quality**.

Bond Rating		Grade	Risk
Moody's	Standard & Poor's		
Aaa	AAA	Investment	Lowest Risk
Aa	AA	Investment	Low Risk
A	A	Investment	Low Risk
Baa	BBB	Investment	Medium Risk
Ba, B	BB, B	Junk	High Risk
Caa/Ca/C	CCC/CC/C	Junk	Highest Risk
C	D	Junk	In Default

- As a result, investors demand a higher yield to own a riskier bond.
- Buying individual junk bonds can be risky; buying junk bond funds diversifies away much of that risk and can be an attractive investment for many individual investors, including conservative investors.

Merrill Lynch US High-Yield Master II Index

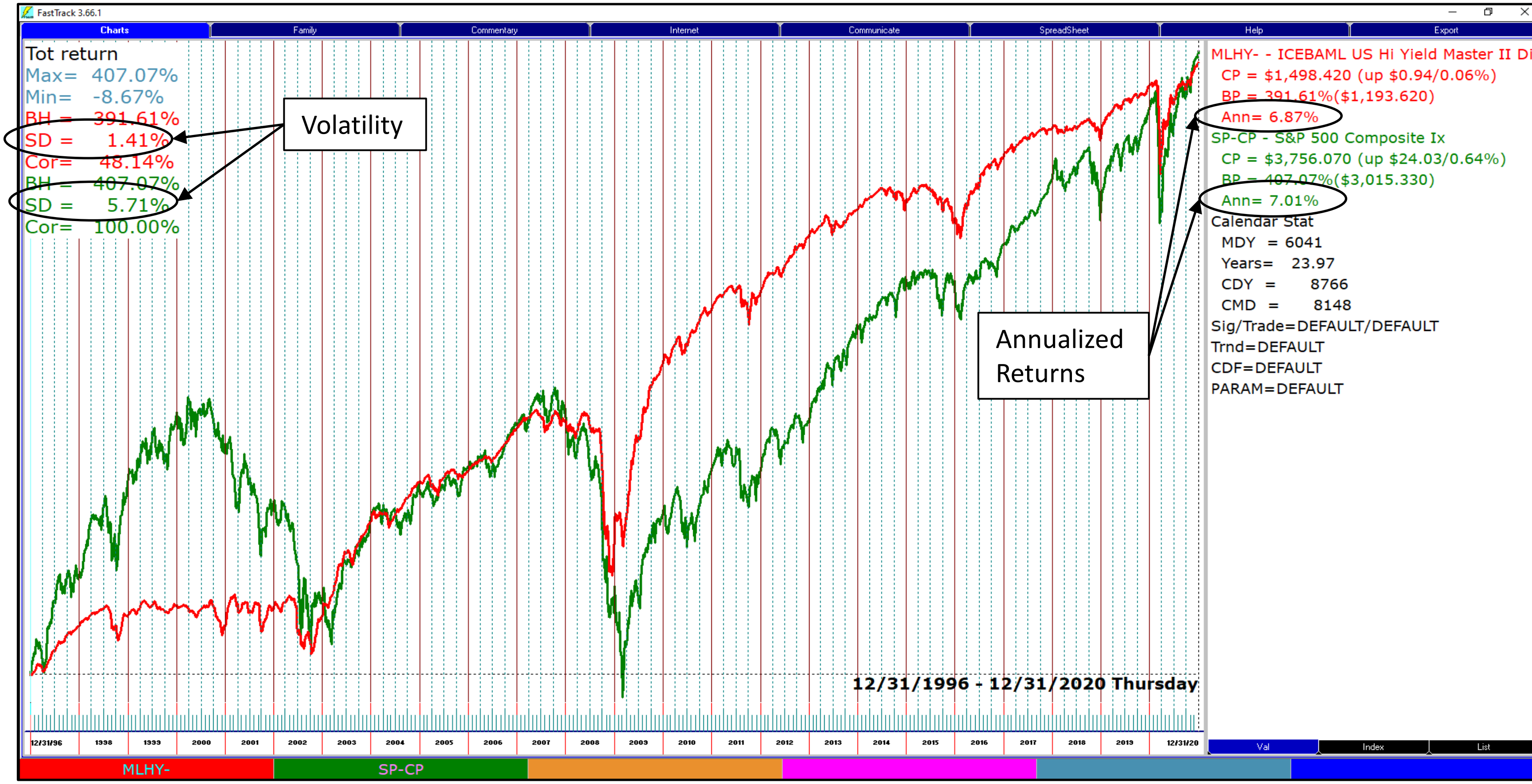
12/31/1996 – 12/31/2020



- Merrill Lynch US High-Yield Master II Index tracks below investment grade rated corporate debt publicly issued in the US domestic market.
- To qualify for inclusion in the Index, bonds must have a below investment grade rating, at least one year to maturity, a fixed coupon schedule, and a minimum of $100 million outstanding.

Understanding Junk Bonds

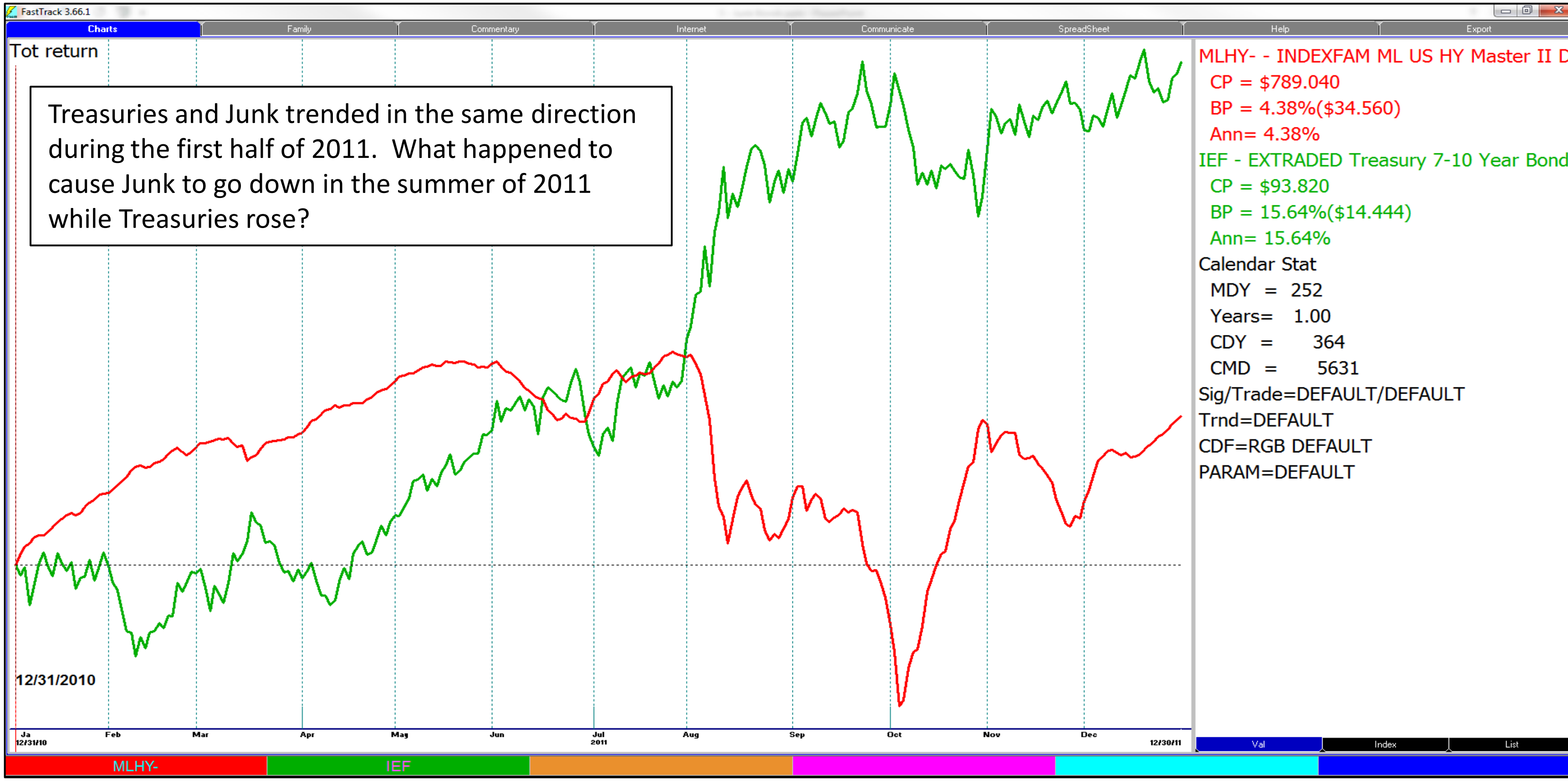
MLHY- vs. S&P 500 (12/31/1996 – 12/31/2020)



- Junk bonds tend to trend in the same direction as equities but over the long-term, junk bonds have provided equivalent returns to the S&P 500 index on a fraction of the volatility, which makes them a desirable investment for most investors.

Understanding Junk Bonds

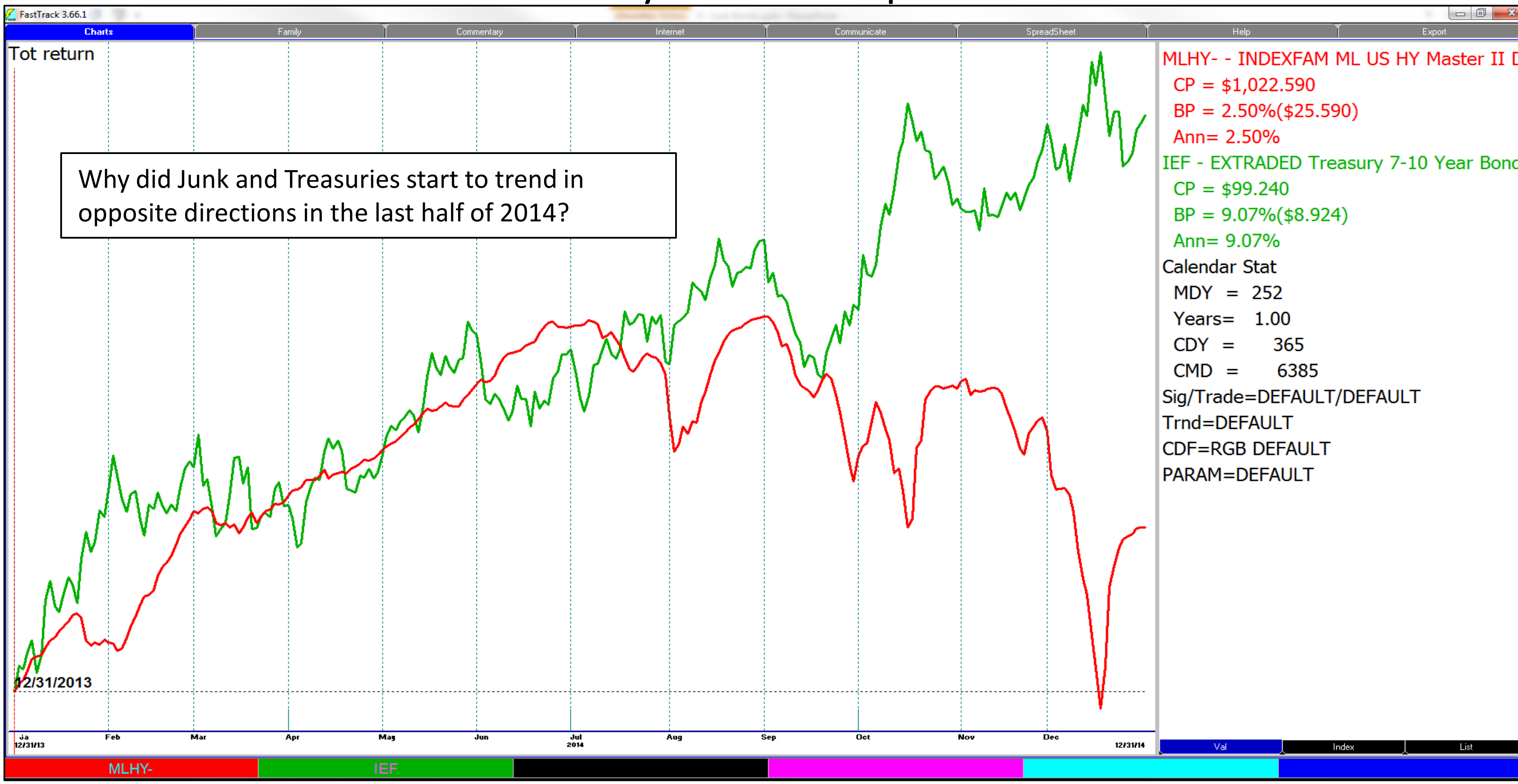
Are they bonds or equities?



- Junk bonds share characteristics with both bonds and equities.
- Junk bond prices are influenced by interest rates like most other bonds but are also influenced by economic conditions and expected default rates. As expected default rates rise, investors require additional yield to compensate for this risk.

Understanding Junk Bonds

Are they bonds or equities?



Understanding Junk Bonds

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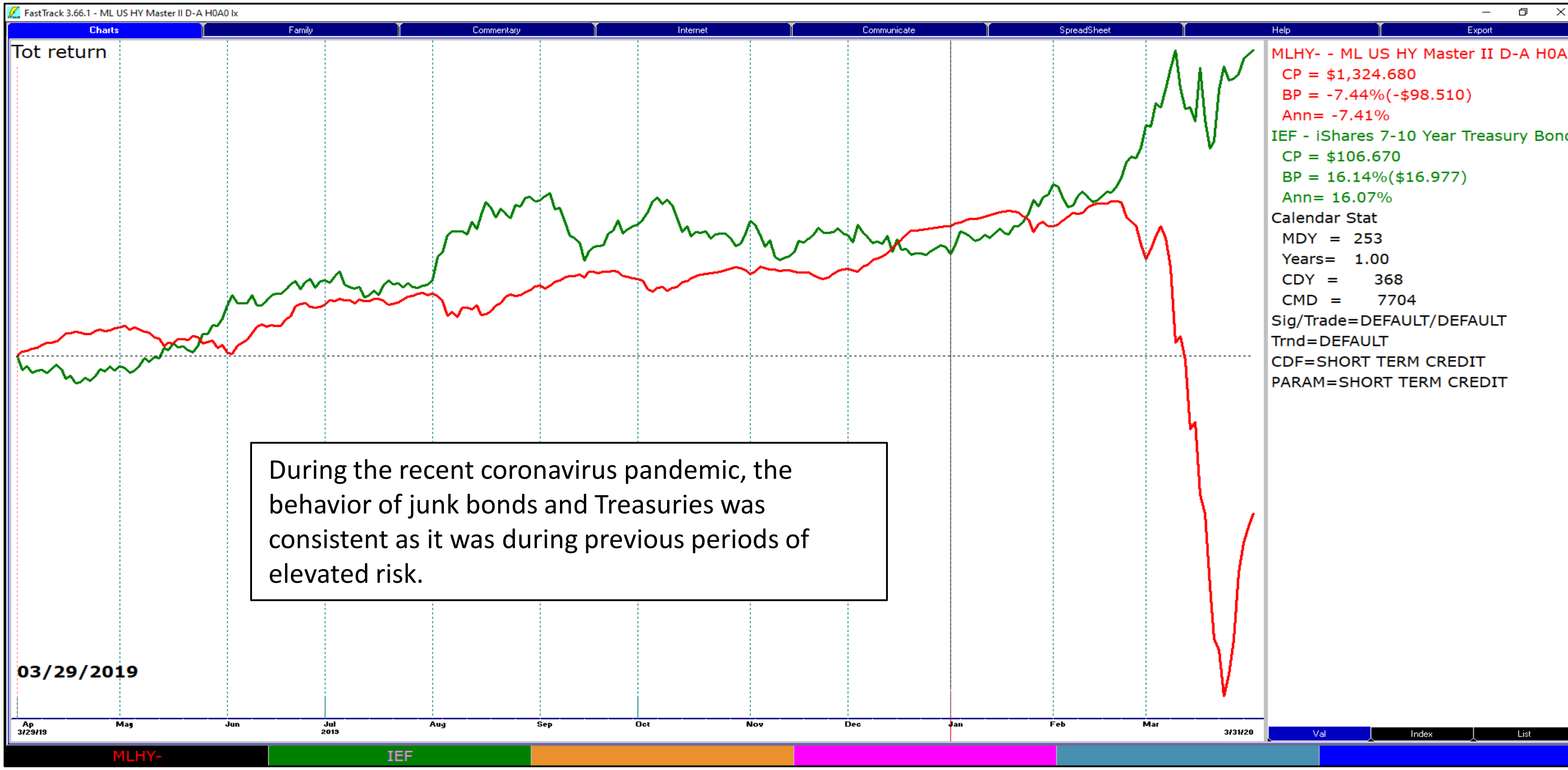
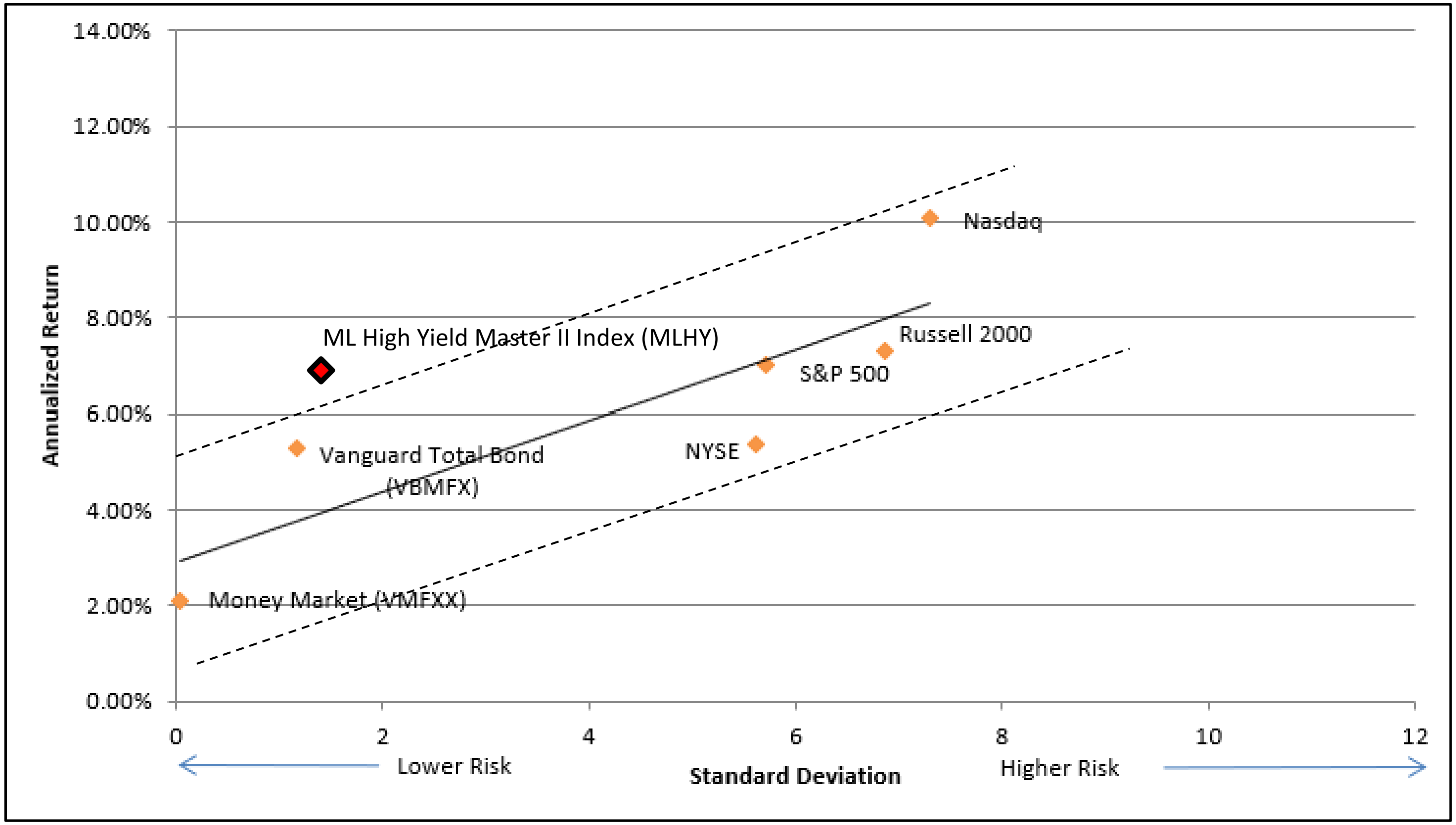


During the recent coronavirus pandemic, the behavior of junk bonds and Treasuries was consistent as it was during previous periods of elevated risk.

Junk Bonds

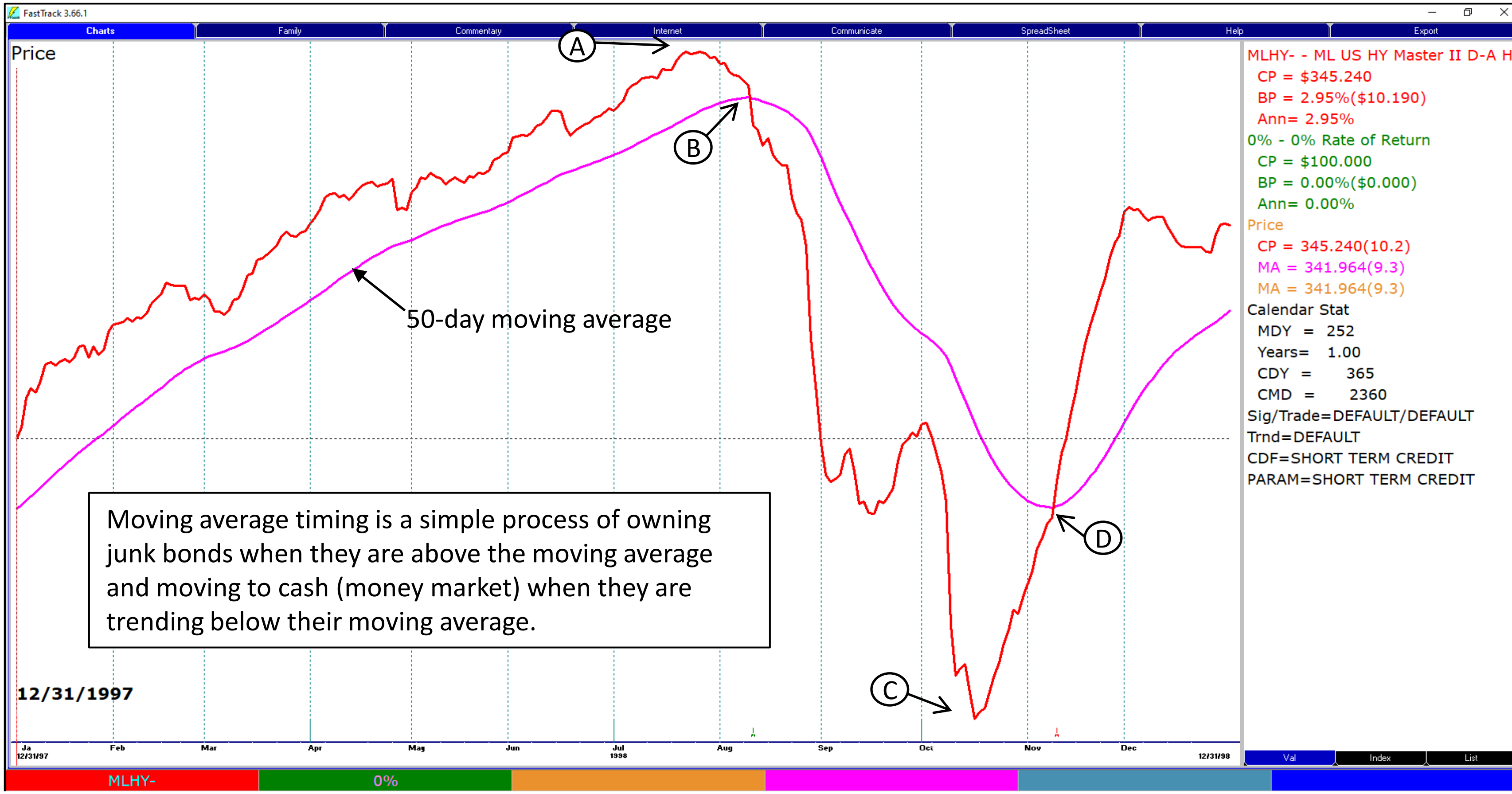
Risk vs. Reward (12/31/1996 – 12/31/2020)



Generally, junk bonds provide investors better risk-adjusted returns when compared to many of the major market indices. This provides an opportunity for investors to move outside the long-term expected return channel.

MLHY- Timed with a 50-day Moving Average

12/31/1997 – 12/31/1998

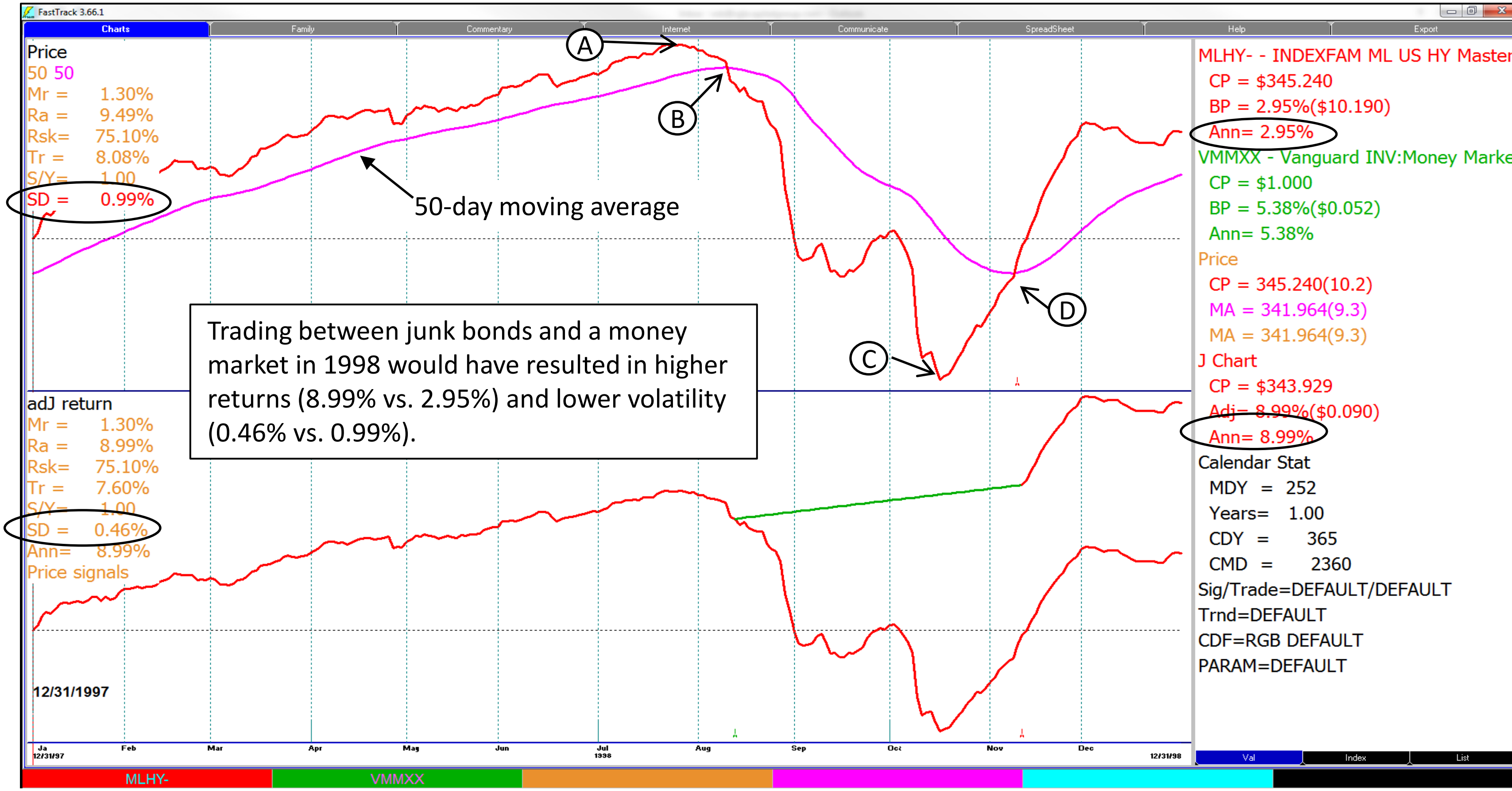


- A: Peak in junk bond index
- B: Junk bond index crosses below moving average
- C: Bottom (trough)
- D: Junk bond index moves above moving average

Timed drawdown (A→B) is very predictable.
Total drawdown (A→C) is not predictable.

MLHY- Timed with a 50-day Moving Average

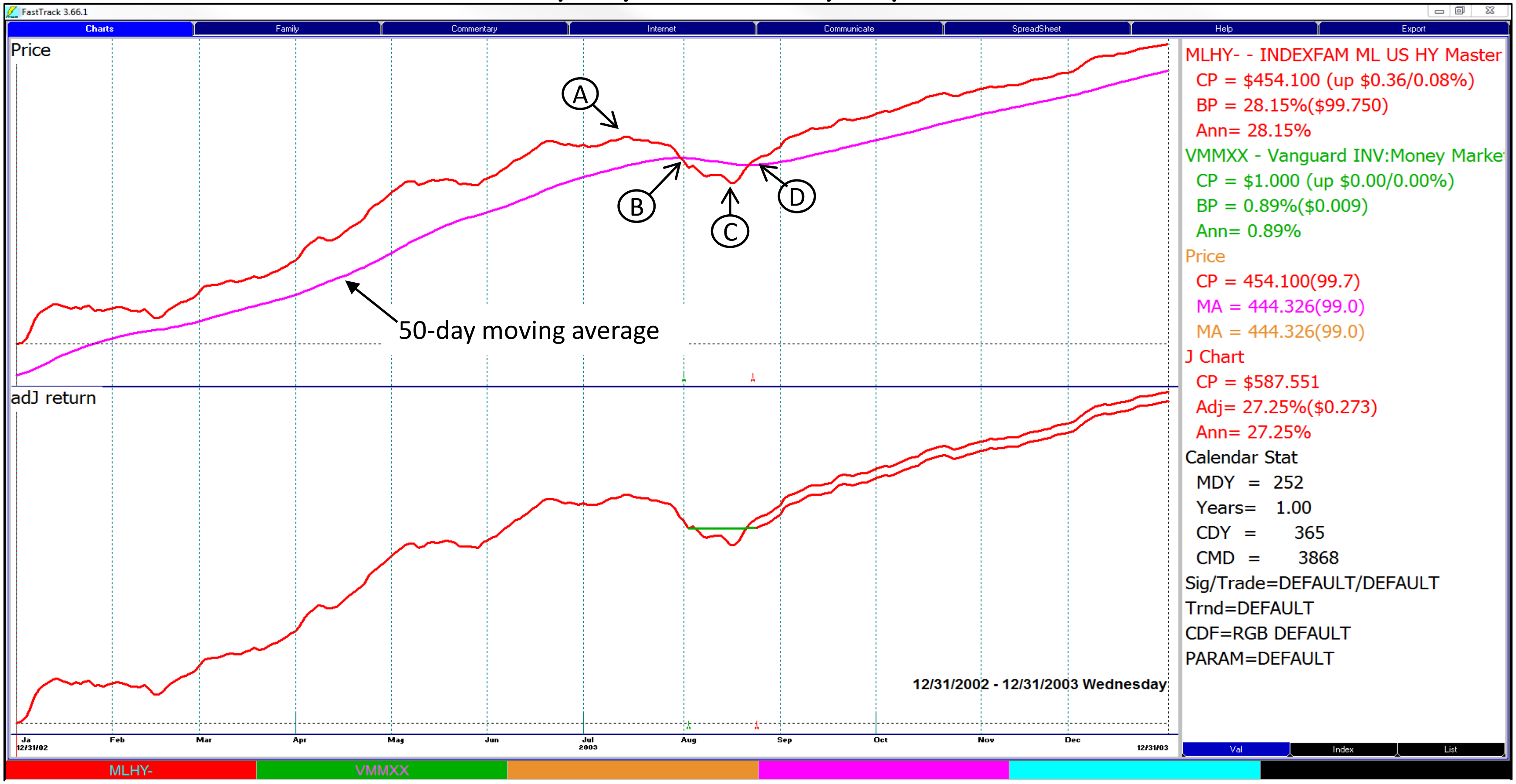
12/31/1997 – 12/31/1998



- Moving average timing can provide appropriate entry and exit points when investing in junk bonds.
- The timed drawdown (A→B) was -1.0%; the total drawdown (A→C) was -8.7%.
- During 1998, a 50-day moving average would have increased returns and reduced overall volatility/drawdown.

MLHY- Timed with a 50-day Moving Average

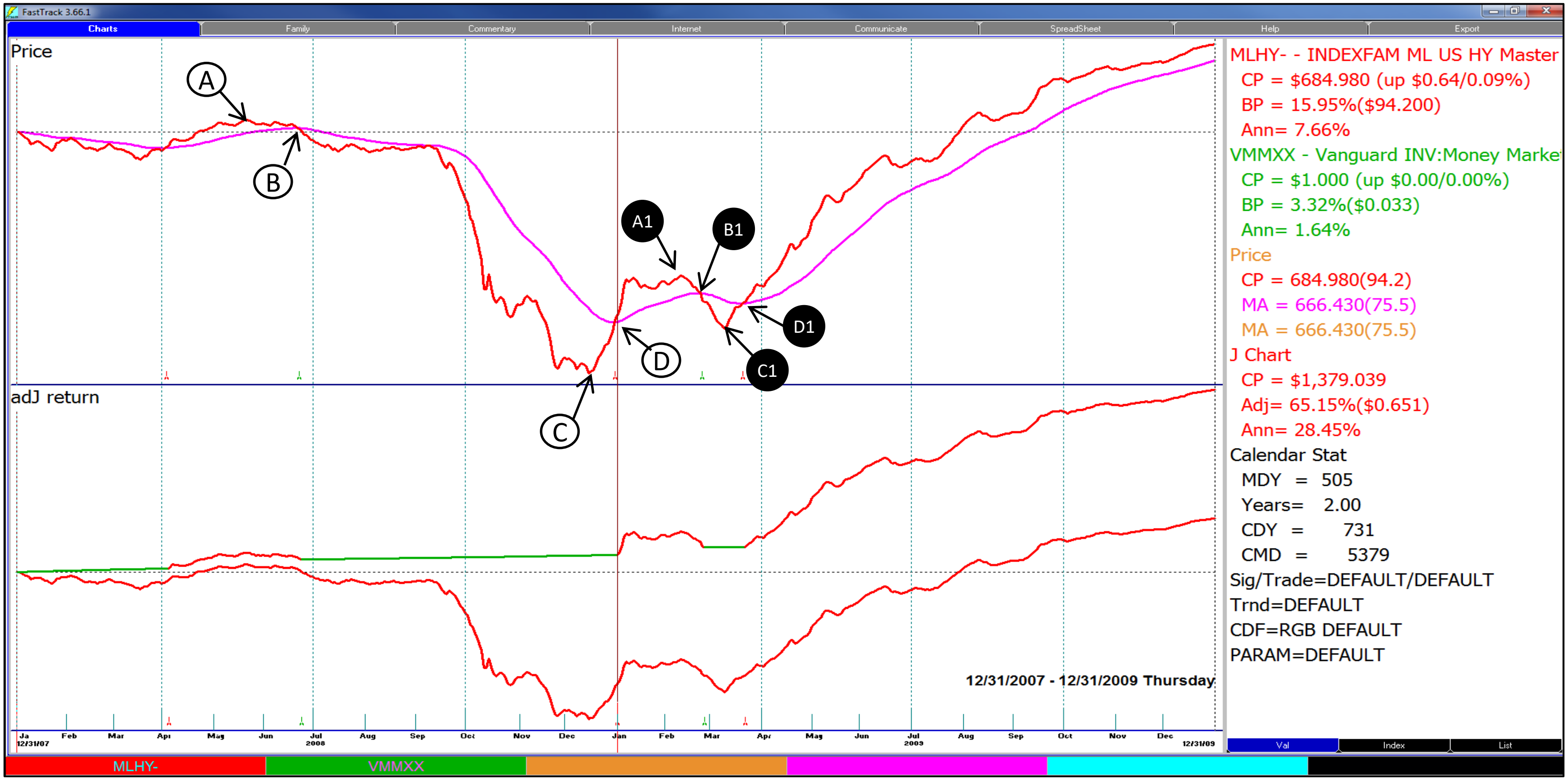
12/31/2002 – 12/31/2003



- Timing junk bonds will not always generate larger returns, however it will always limit drawdown.
- In 2003, the timed drawdown (point A → B) was -2.0%; total drawdown (point A → C) was only -3.7%.
- In this case, trading when MLHY- crossed the 50-day moving average resulted in a whipsaw, creating slightly less return.

MLHY- w/ 50-day Moving Average

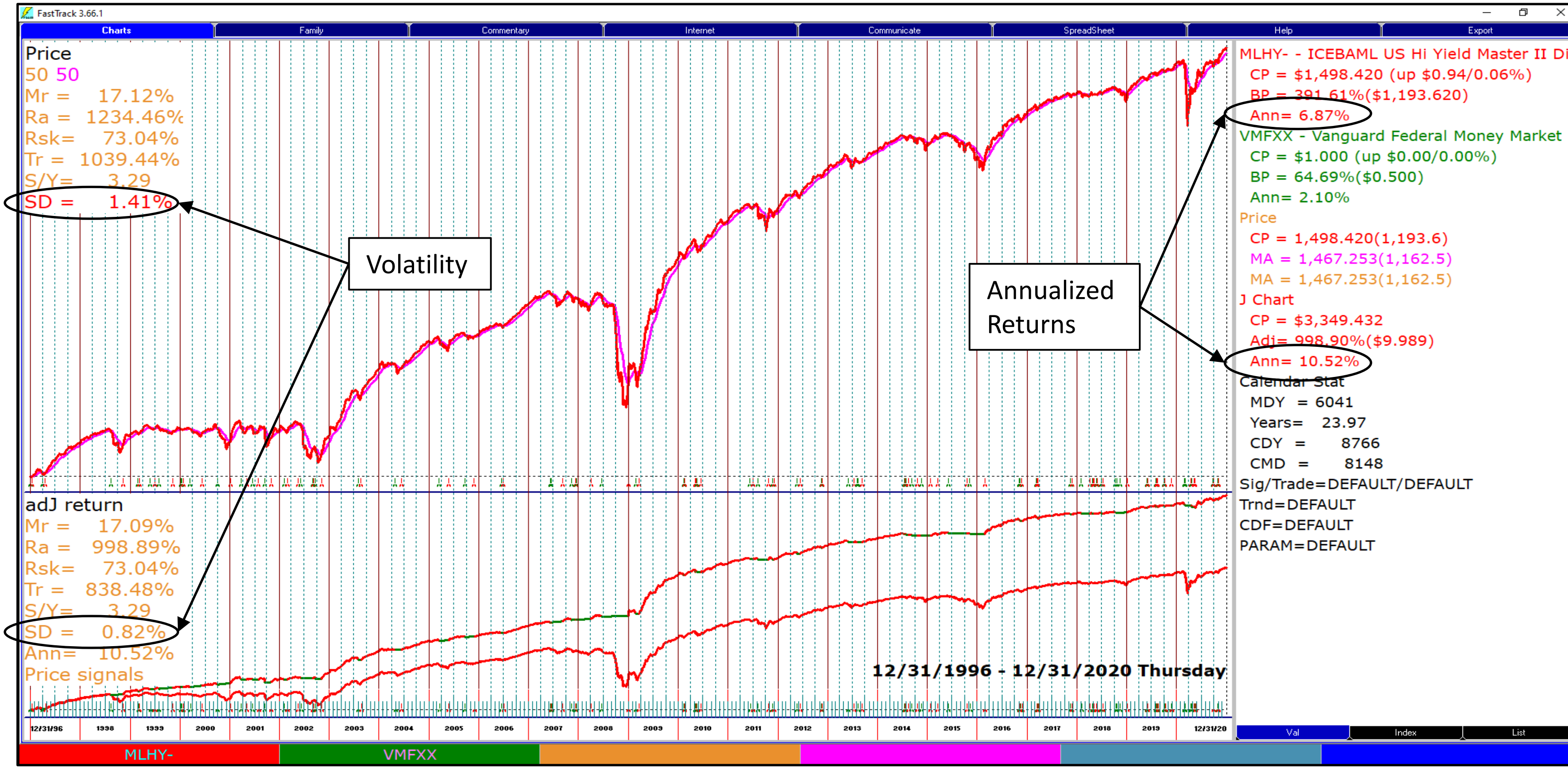
The Great Financial Crisis (12/31/2007 – 12/31/2009)



- Timed drawdown for MLHY- (A → B) was 1.5%; a lot better than the total drawdown (A→C) of 34.7%.
- Timed drawdown for MLHY- using a 50-day MA for the last 20 years is generally between 1%-3% and very predictable.
- Total drawdown is not predictable.

MLHY- w/ 50-day Moving Average

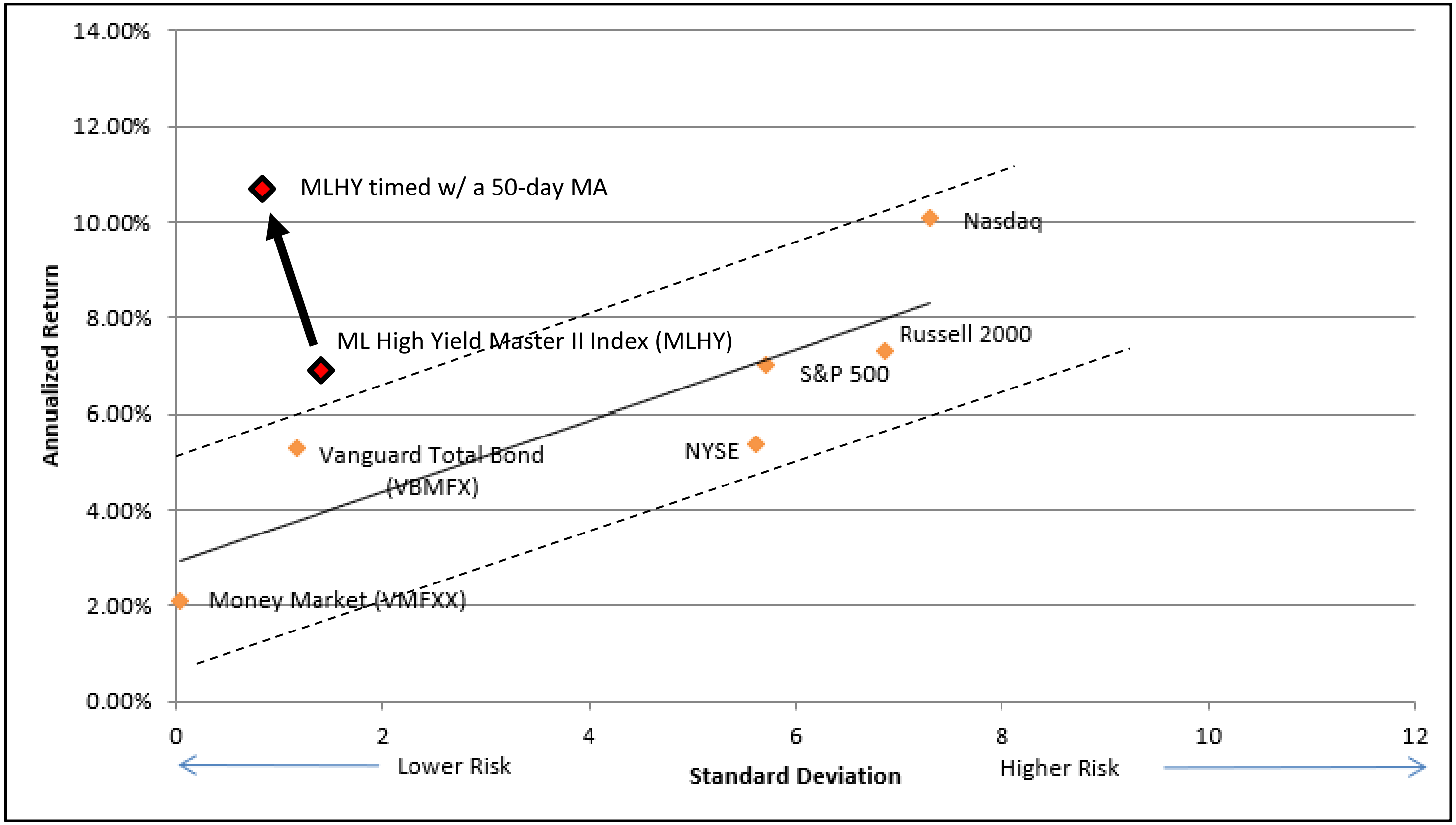
12/31/1996 – 12/31/2020



- Over the 24-year history of MLHY-, using a 50-day moving average has resulted in higher annualized returns and lower volatility.
- The maximum drawdown for the timed strategy is less than 6%.

Junk Bonds

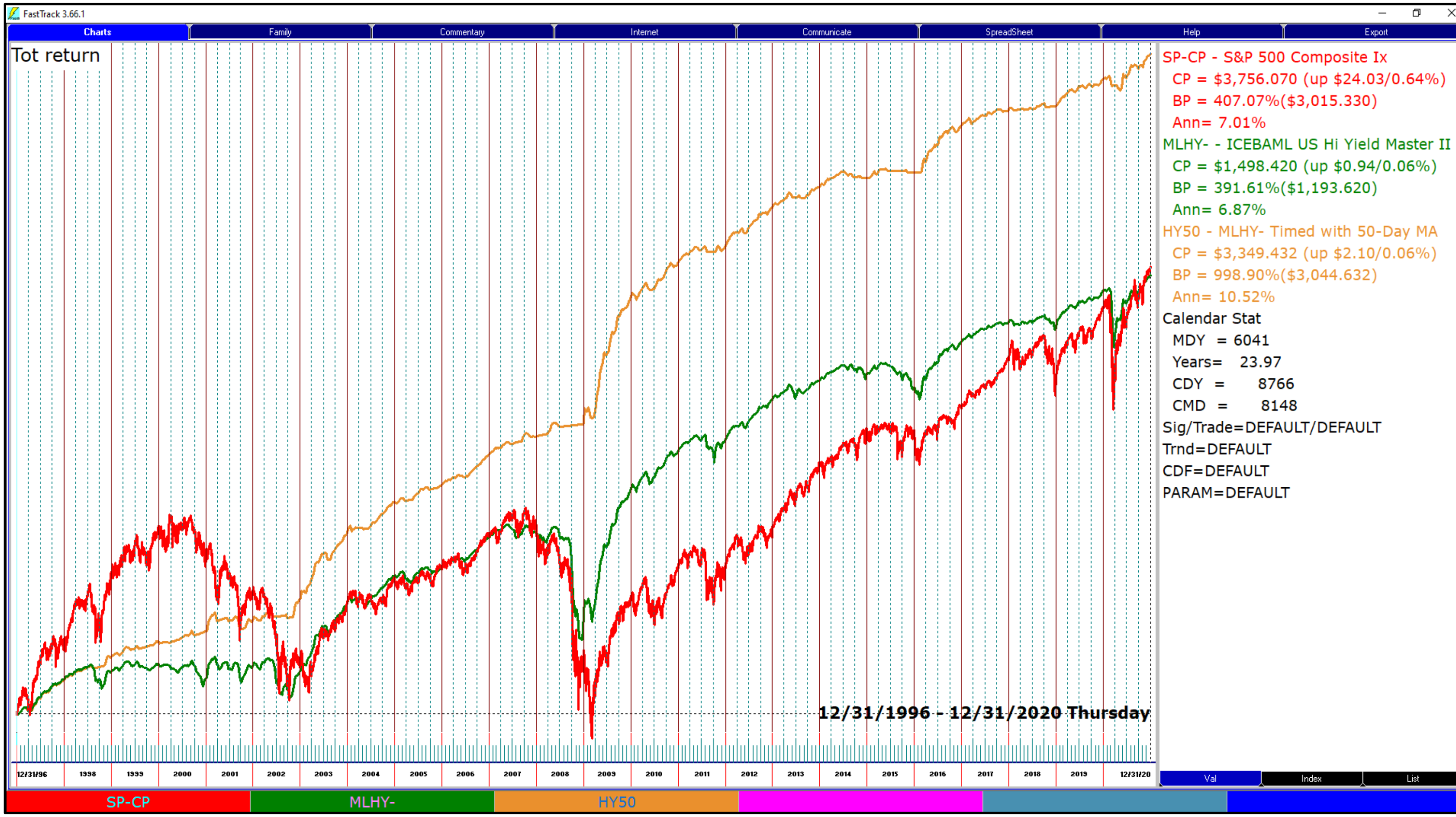
Risk vs. Reward (12/31/1996 – 12/31/2019)



Using a 50-day moving average to time entry into and exits from junk bond funds produces better risk-adjusted returns. This technique is consistent with most investors' desire to strive for lower risk and higher returns.

MLHY- w/ 50-day Moving Average

12/31/1996 – 12/31/2020

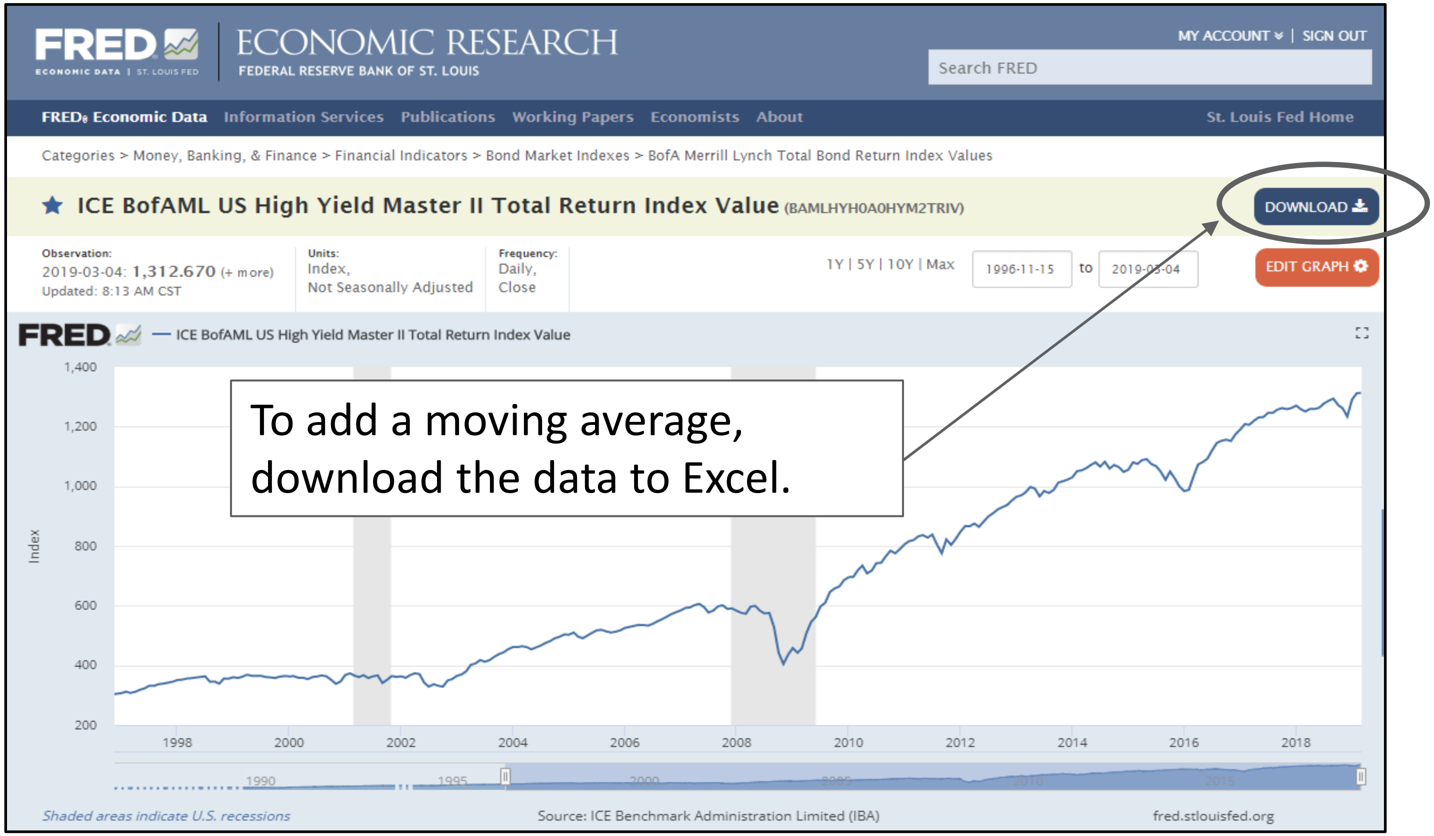


Symbol	Description	Annual Return	ULCER	UPI	Max Drawdown	Standard Deviation
SP-CP	Indexfam S&P 500 Composite Index	7.01%	18.69	0.32	-56.78%	5.71%
MLHY-	Indexfam ML US HY Master II D-A H0A0 Ix	6.87%	5.24	1.12	-34.99%	1.41%
HY50	MLHY Timed with 50-Day Moving Average	10.52%	1.15	8.28	-5.94%	0.82%

Junk Bonds: Implementation Considerations

Tracking the Merrill Lynch High-Yield US Master II Index

- FastTrack (www.investorsfasttrack.net); symbol MLHY-. Subscription required.
- Federal Reserve Economic Data website (https://fred.stlouisfed.org/); search for 'ICE BofAML US High Yield Master II Total Return Index Value'.



Timing Merrill Lynch High-Yield Master II Index

Which Moving Average Should I Use?

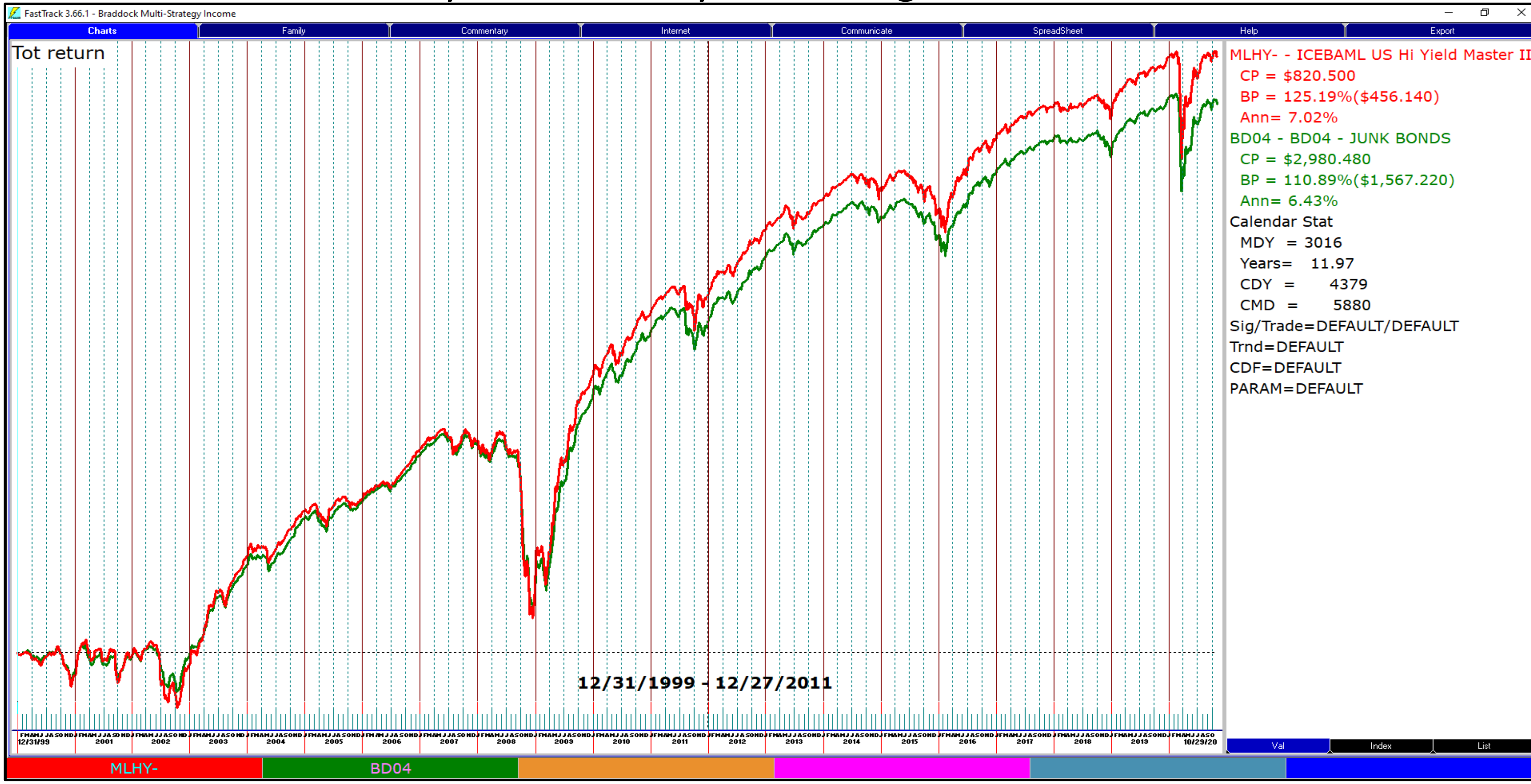
Moving Average	Annualized Return	Max DrawDown	Standard Deviation	Switches / Year
10-day Moving Average	14.17%	-2.69%	0.75%	9.22
20-day Moving Average	13.46%	-2.50%	0.75%	5.05
30-day Moving Average	12.58%	-2.75%	0.74%	3.91
40-day Moving Average	11.41%	-4.63%	0.78%	3.18
50-day Moving Average	10.99%	-5.94%	0.78%	2.60
60-day Moving Average	10.30%	-6.61%	0.76%	2.34
70-day Moving Average	9.87%	-7.39%	0.76%	2.40
80-day Moving Average	9.59%	-7.32%	0.76%	2.50
90-day Moving Average	9.17%	-7.33%	0.77%	2.55

Time Period: 12/31/1996 – 3/8/2016

- Adjusting the moving average will impact risk and return – higher moving averages produce higher drawdown and lower return; the lower moving averages produce less drawdown and higher returns.
- Investors need to consider the switches per year (S/Y) due to restrictions on frequent trading with mutual funds. S/Y defined as the average number of times MLHY- was purchased each year.

Junk Bond Mutual Funds

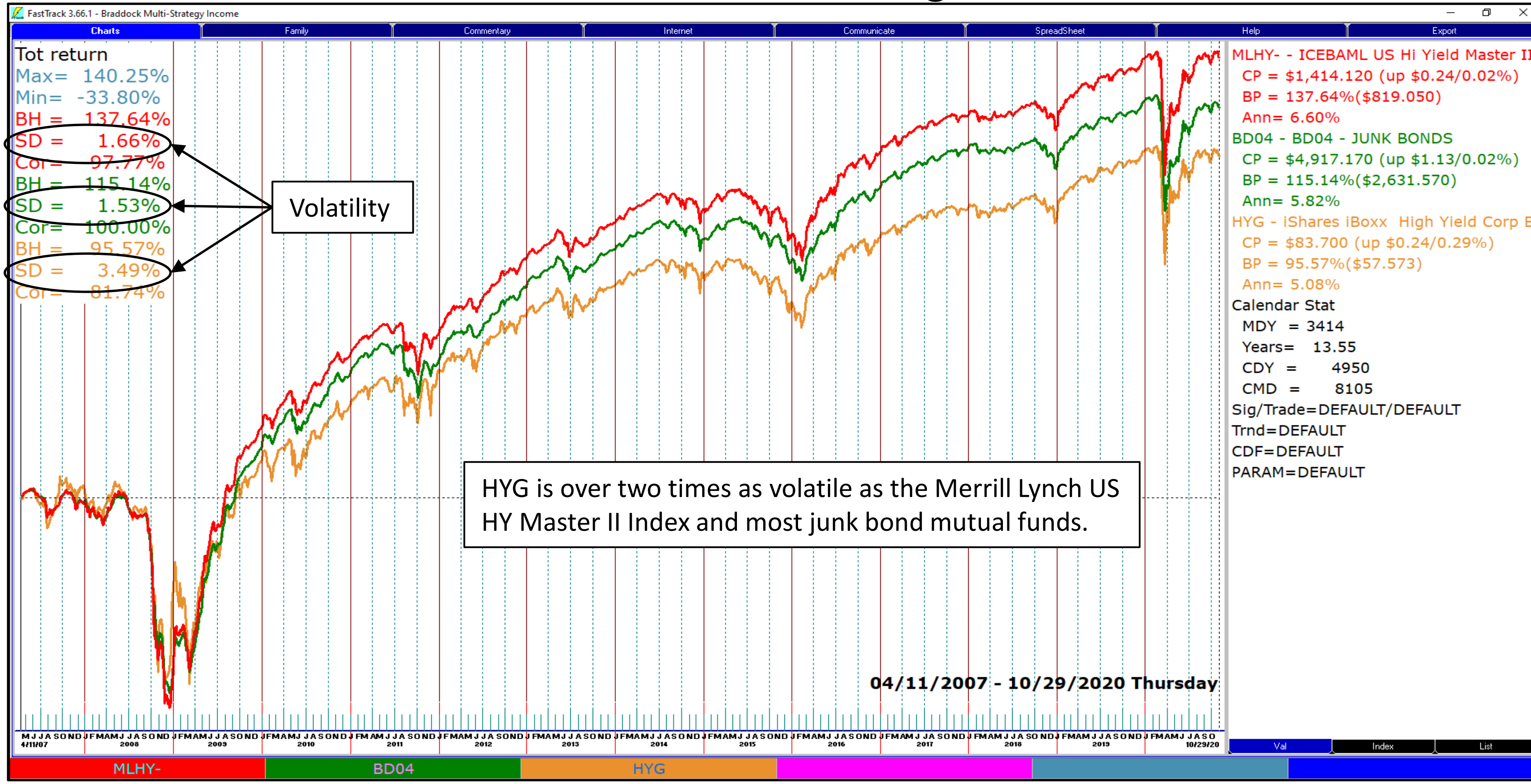
A Good Proxy for Merrill Lynch US High-Yield Master II Index



- You can not invest in the Merrill Lynch US High-Yield Master II Index. However, junk bond mutual funds do a reasonable job of tracking the overall high-yield market as represented by the Merrill Lynch US High-Yield Master II Index.

Junk Bond ETFs

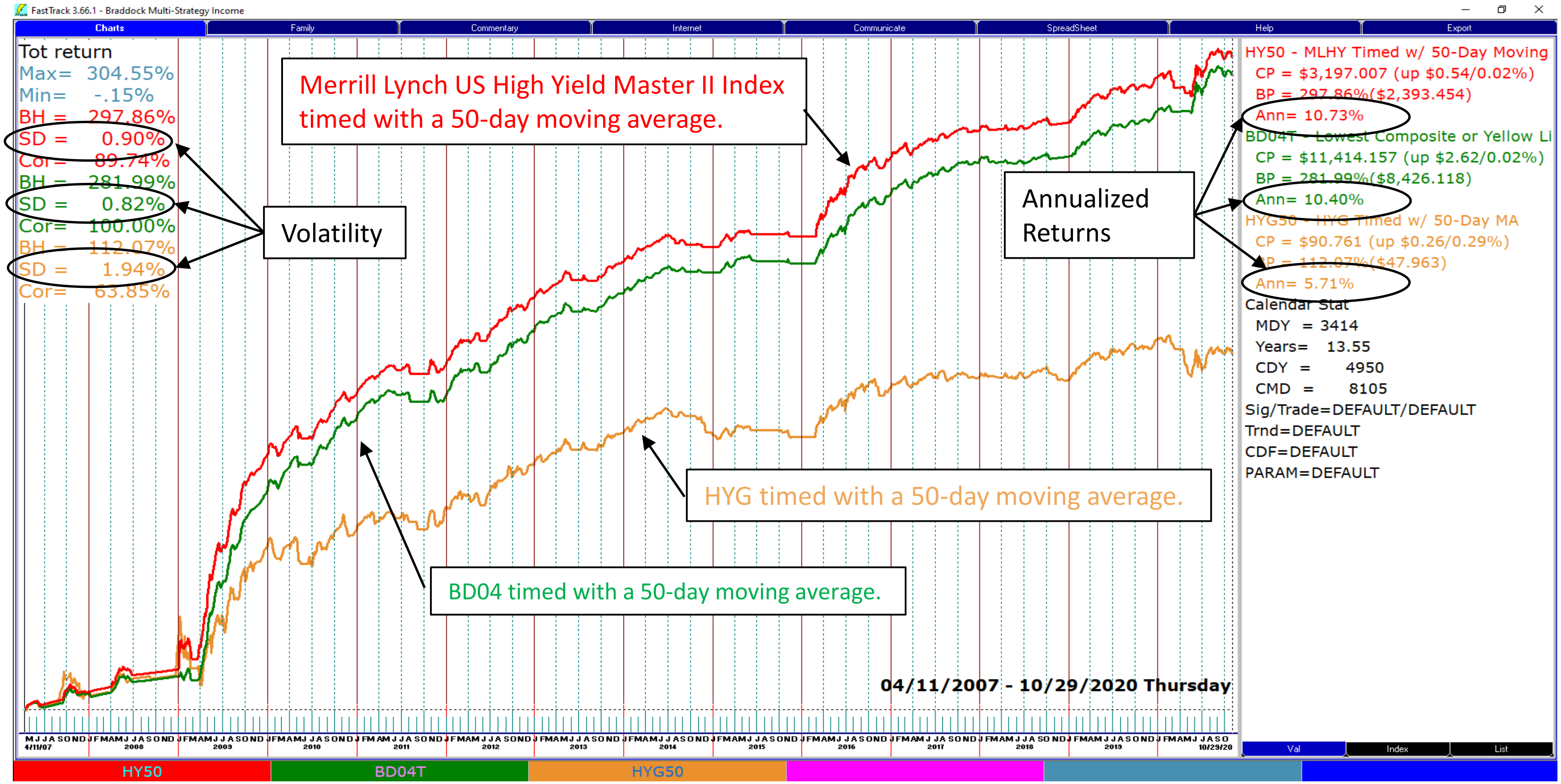
Junk Bond ETFs do a Poor Job of Tracking the Junk Bond Market



- Junk bond ETFs follow the general trend of the Merrill Lynch US High-Yield Master II Index and most junk bond mutual funds, however on increased volatility.
- The effectiveness of timing investments with a moving average is reduced as volatility increases.

Mutual Funds vs. ETFs

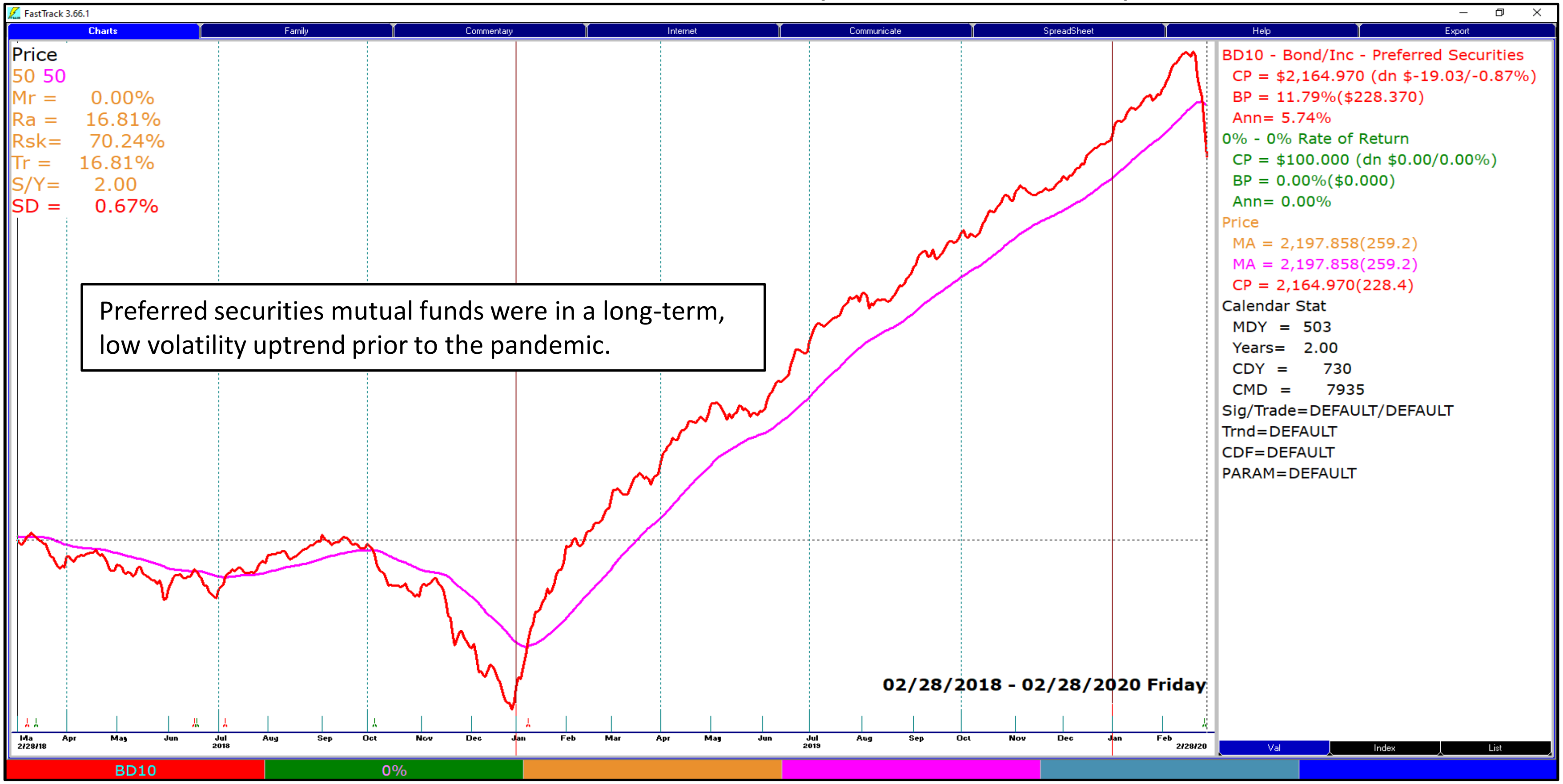
Can I use Junk Bond ETFs with 50-day Moving Average?



- You can use junk bond ETFs with a 50-day moving average. However, using a 50-day moving average on HYG resulted in lower returns than MLHY- and higher volatility which is generally inconsistent with investors' desire for better risk-adjusted returns.

Other Low Volatility Asset Classes

Preferred Securities (Two-Year Chart)



Other Low Volatility Asset Classes

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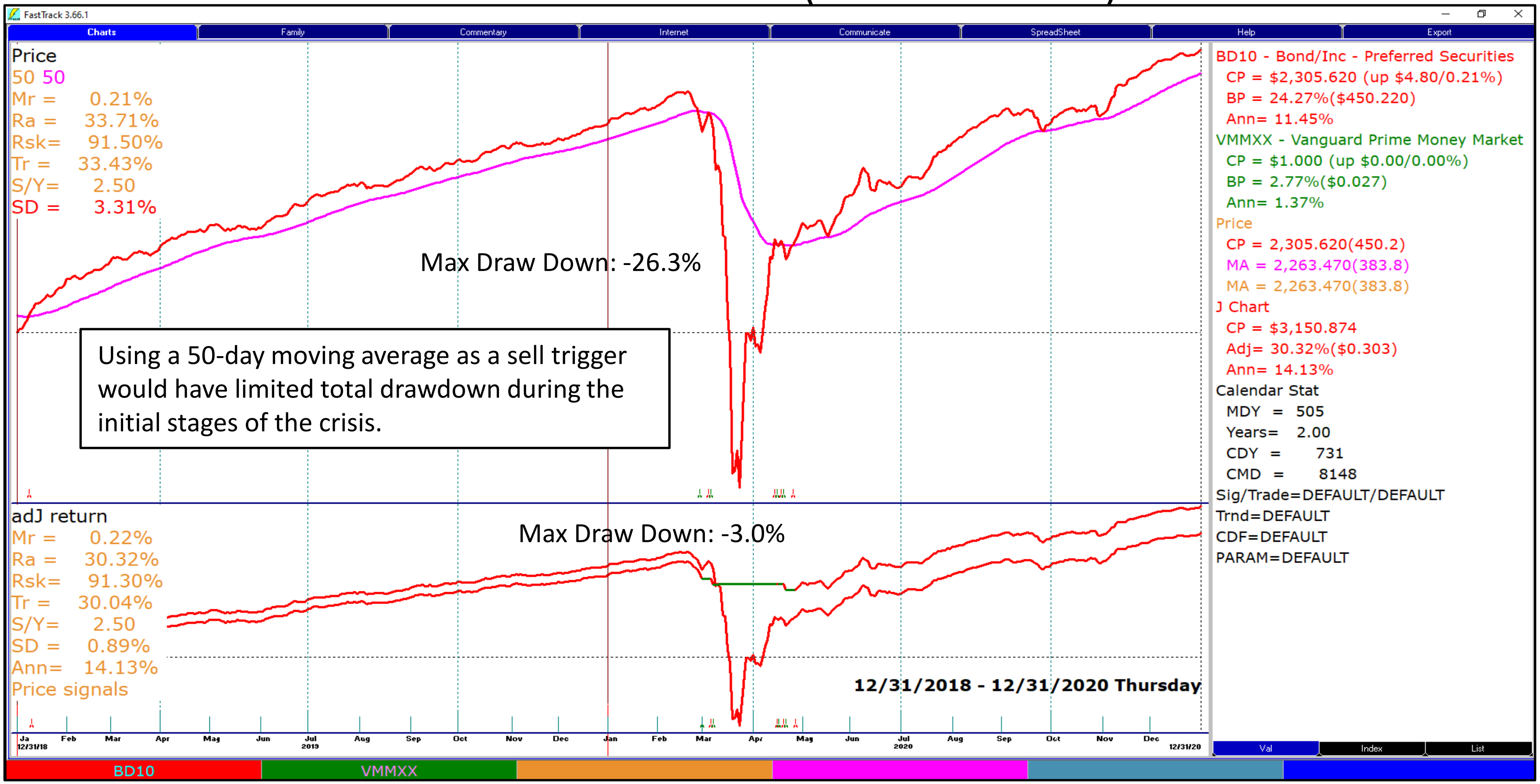
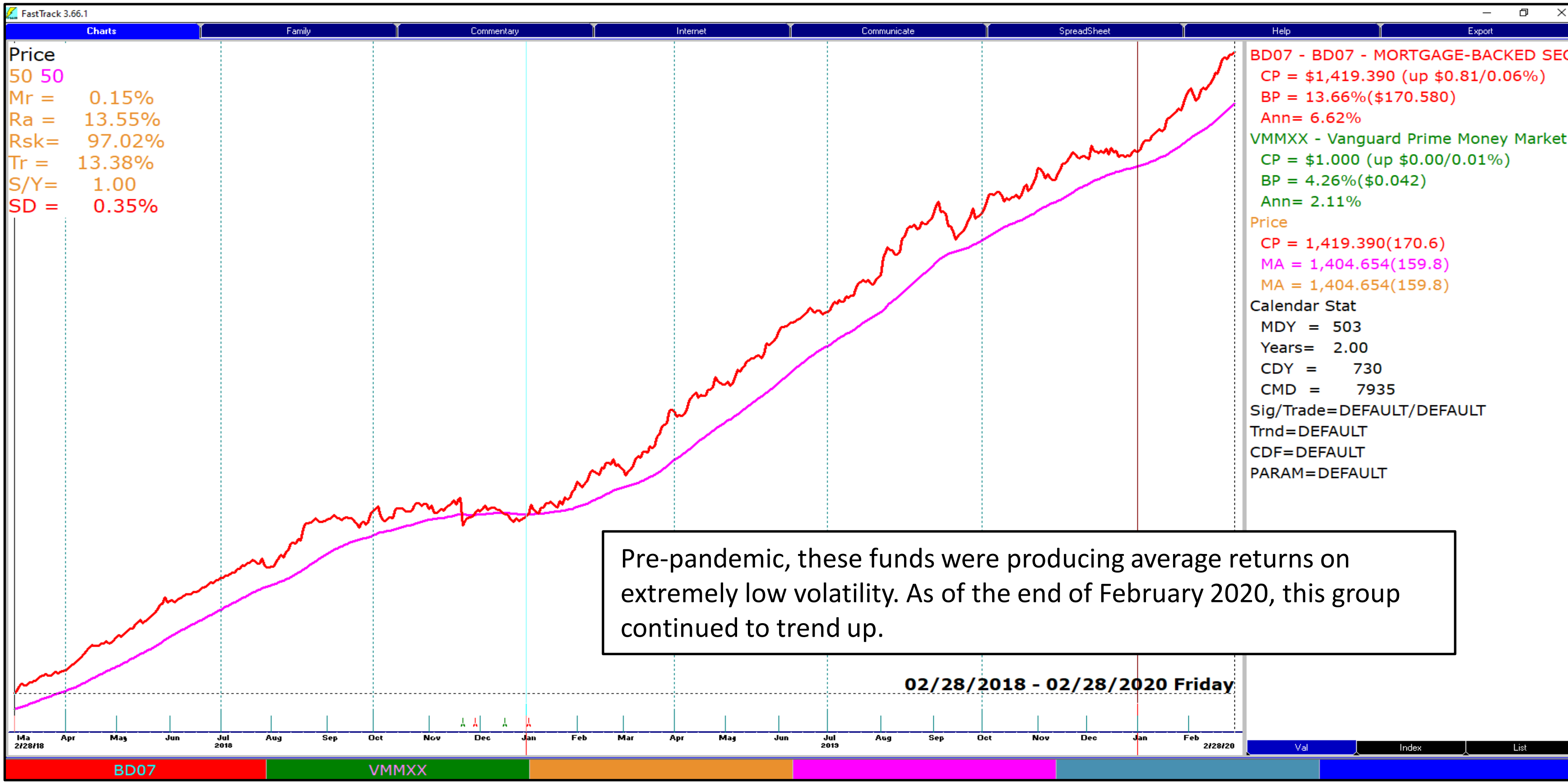


Other Low Volatility Asset Classes

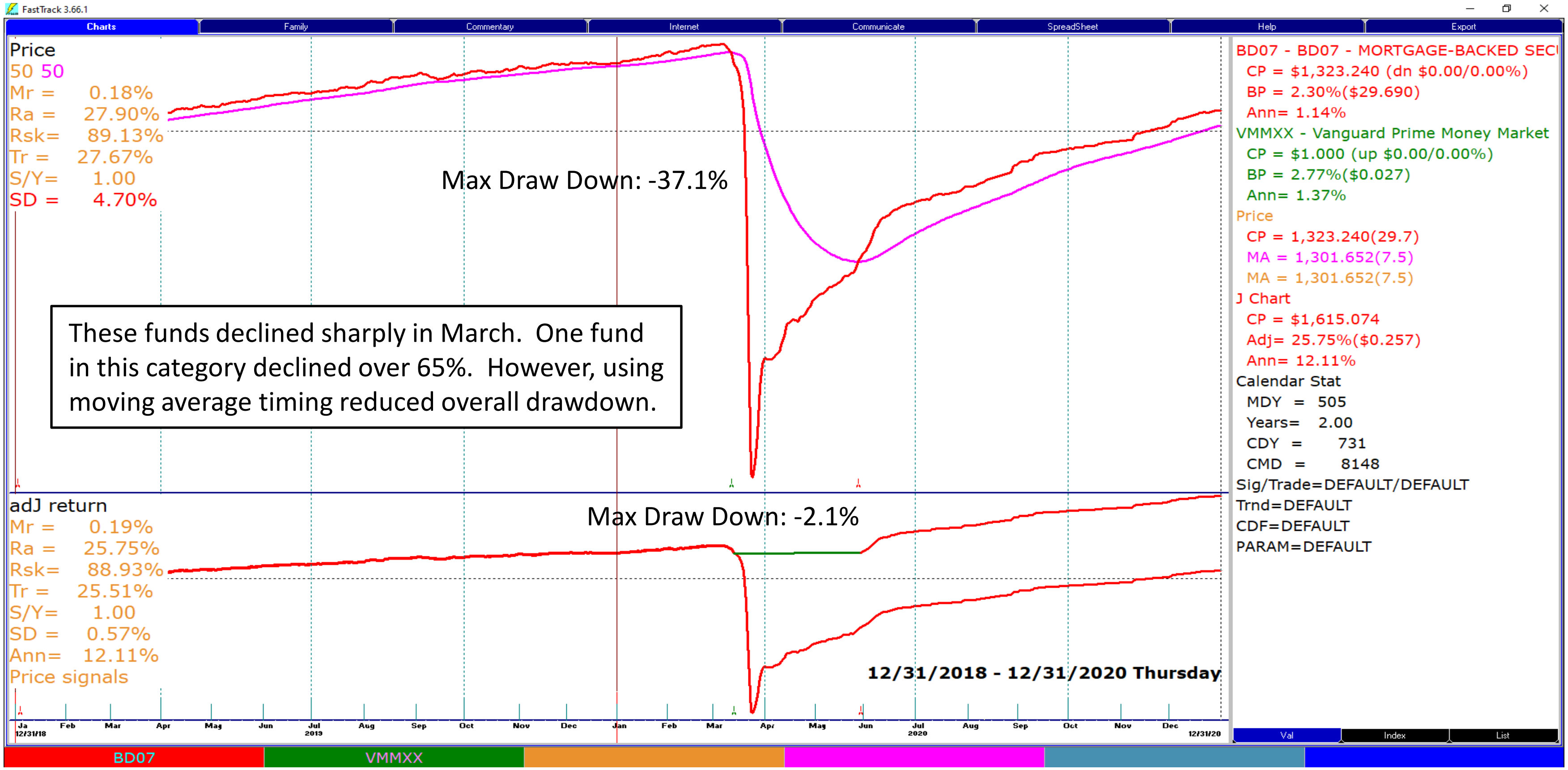
Asset Backed Securities (Two-Year Chart)



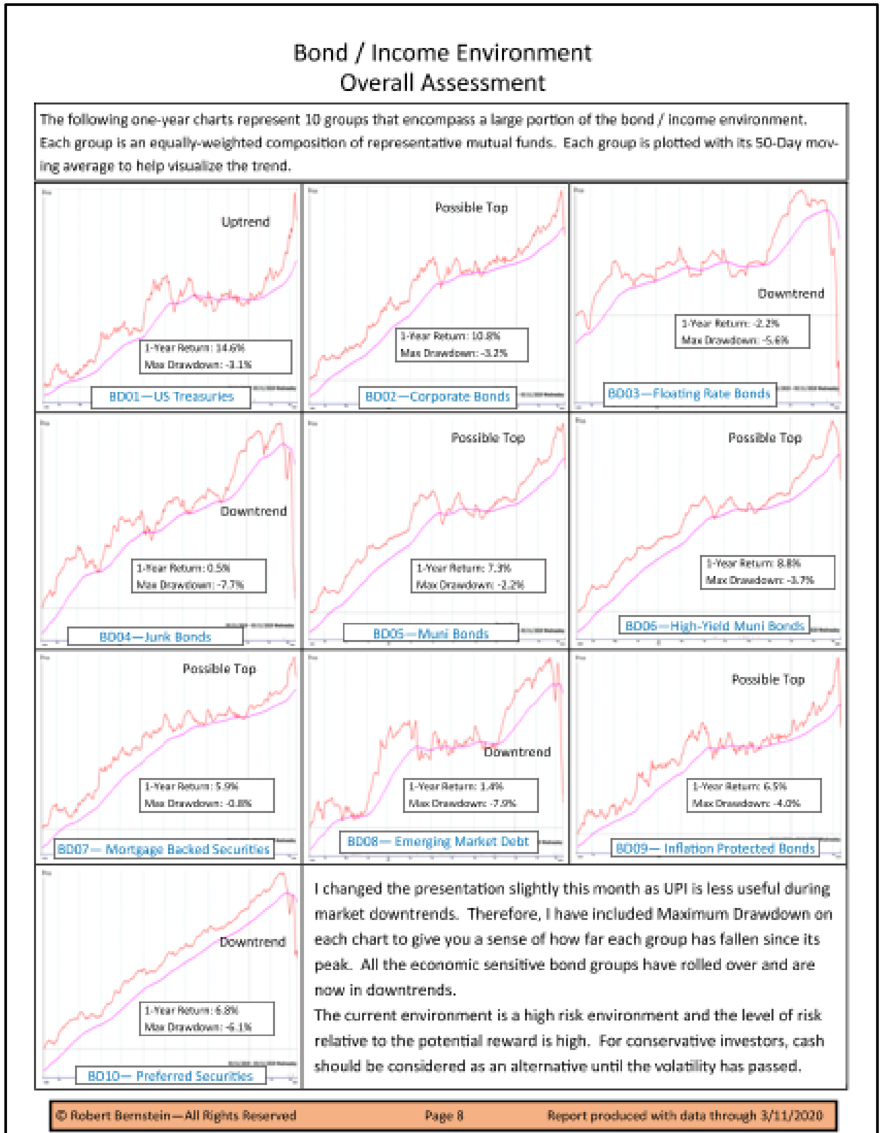
Pre-pandemic, these funds were producing average returns on extremely low volatility. As of the end of February 2020, this group continued to trend up.

Other Low Volatility Asset Classes

Asset Backed Securities (Two-Year Chart)



Other Low Volatility Asset Classes


Bond / Income Environment
Overall Assessment

The following one-year charts represent 10 groups that encompass a large portion of the bond / income environment. Each group is an equally-weighted composition of representative mutual funds. Each group is plotted with its 50-Day moving average to help visualize the trend.

Uptrend
1-Year Return: 14.6%
Max Drawdown: -3.1%
BD01—US Treasuries

Possible Top
1-Year Return: 10.8%
Max Drawdown: -3.2%
BD02—Corporate Bonds

Downtrend
1-Year Return: -2.2%
Max Drawdown: -5.6%
BD03—Floating Rate Bonds

Downtrend
1-Year Return: 0.5%
Max Drawdown: -7.7%
BD04—Junk Bonds

Possible Top
1-Year Return: 7.3%
Max Drawdown: -2.2%
BD05—Muni Bonds

Possible Top
1-Year Return: 8.8%
Max Drawdown: -3.7%
BD06—High-Yield Muni Bonds

Possible Top
1-Year Return: 5.9%
Max Drawdown: -0.8%
BD07— Mortgage Backed Securities

Downtrend
1-Year Return: 1.4%
Max Drawdown: -7.9%
BD08— Emerging Market Debt

Possible Top
1-Year Return: 6.5%
Max Drawdown: -4.0%
BD09— Inflation Protected Bonds

Downtrend
1-Year Return: 6.8%
Max Drawdown: -6.1%
BD10— Preferred Securities

I changed the presentation slightly this month as UPI is less useful during market downtrends. Therefore, I have included Maximum Drawdown on each chart to give you a sense of how far each group has fallen since its peak. All the economic sensitive bond groups have rolled over and are now in downtrends.

The current environment is a high risk environment and the level of risk relative to the potential reward is high. For conservative investors, cash should be considered as an alternative until the volatility has passed.

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- Moving average timing works best with low volatility asset classes.
- The bond / income groups presented in the RGB *Market Monitor* can take on low volatility trends and be suitable for moving average timing.
- You can receive this complimentary newsletter by signing up using the survey at the end of the webinar.

Why Is Managing Risk So Important?

A Hypothetical Situation

- Retirement Date: 12/31/1998
- Retirement Savings: $1,000,000 as of 12/31/1998
- Distributions: 5% of beginning balance ($50,000) increased by 3% each year.
- Two Scenarios
  a) Retiree #1 (Joe): Uses a buy-and-hope strategy using SPY with dividends reinvested.
  b) Retiree #2 (Mary): Invests in timed junk bond strategy with dividends reinvested.

Who would be more successful?

- Who would have been more comfortable during the first 20 years of retirement?
- Would either retiree have enough funds for another 10 years? 20 years? 30 years?
- Most importantly…why?

Impact of Losses on a Portfolio

"Buy-and-Hope" Strategy Investing in SPY

Year	Beginning Balance	Investment Gain (%)	Investment Gain ($)	Withdrawal	Ending Balance	Withdrawal %
1999	1,000,000	20.76%	197,220	50,000	1,147,220	5.0%
2000	1,147,220	-9.73%	(106,614)	51,500	989,106	4.5%
2001	989,106	-11.75%	(109,987)	53,045	826,074	5.4%
2002	826,074	-21.59%	(166,553)	54,636	604,884	6.6%
2003	604,884	28.18%	154,598	56,275	703,207	9.3%
2004	703,207	10.70%	69,041	57,964	714,284	8.2%
2005	714,284	4.83%	31,616	59,703	686,198	8.4%
2006	686,198	15.85%	99,016	61,494	723,720	9.0%
2007	723,720	5.14%	33,944	63,339	694,325	8.8%
2008	694,325	-36.81%	(231,567)	65,239	397,520	9.4%
2009	397,520	26.37%	87,106	67,196	417,430	16.9%
2010	417,430	15.06%	52,442	69,212	400,660	16.6%
2011	400,660	1.89%	6,225	71,288	335,597	17.8%
2012					304,092	21.9%
2013					302,279	24.9%
2014					254,582	25.8%
2015	254,582	1.25%	2,179	80,235	176,526	31.5%
2016	176,526	12.00%	11,266	82,642	105,149	46.8%
2017	105,149	21.70%	4,346	85,122	24,374	81.0%
2018	24,374	-4.56%	2,887	87,675	(60,415)	359.7%

Without changes to his withdrawal rate or investment strategy, Joe would have run out of money in 2018. ☹

The impact of large losses is detrimental to a successful investment strategy. The impact of large losses coupled with taking withdrawals can be absolutely devastating.

Impact of Losses on a Portfolio

Merrill Lynch Master II Index with 50-day Moving Average Strategy

Year	Beginning Balance	Investment Gain (%)	Investment Gain ($)	Withdrawal	Ending Balance	Withdrawal %
1999	1,000,000	5.54%	52,630	50,000	1,002,630	5.0%
2000	1,002,630	3.98%	37,855	51,500	988,985	5.1%
2001	988,985	3.78%	35,379	53,045	971,319	5.4%
2002	971,319	8.12%	74,435	54,636	991,117	5.6%
2003	991,117	27.25%	254,744	56,275	1,189,586	5.7%
2004	1,189,586	12.07%	136,587	57,964	1,268,209	4.9%
2005	1,268,209	6.17%	74,565	59,703	1,283,071	4.7%
2006	1,283,071	11.62%	141,947	61,494	1,363,524	4.8%
2007	1,363,524			63,339	1,391,199	4.6%
2008	1,391,199			65,239	1,389,739	4.7%
2009	1,389,739			67,196	2,083,931	4.8%
2010	2,083,931	13.78%	277,628	69,212	2,292,348	3.3%
2011	2,292,348	6.31%	140,149	71,288	2,361,209	3.1%
2012	2,361,209	15.05%	344,311	73,427	2,632,093	3.1%
2013	2,632,093	8.00%	204,517	75,629	2,760,981	2.9%
2014	2,760,981	3.23%	86,664	77,898	2,769,746	2.8%
2015	2,769,746	2.12%	57,018	80,235	2,746,528	2.9%
2016	2,746,528	18.20%	484,827	82,642	3,148,713	3.0%
2017	3,148,713	6.02%	184,428	85,122	3,248,020	2.7%
2018	3,248,020	1.59%	50,249	87,675	3,210,594	2.7%

Mary would have over 200% increase in value! ☺

Avoiding large drawdowns has a dramatic impact on portfolio returns.

Summary

What is Your Plan?

- Investors can control risk, but not returns. Focus on downside risk metrics that are important to you as an investor.
- Major market corrections happen from time to time. Have a plan to exit the market and a plan to re-enter when a better opportunity is created.
- Junk bond mutual funds
  a) Have a high propensity to trend (high serial day-to-day correlation),
  b) Are low volatility in both up and down markets, and
  c) Drastically reduce default risk relative to holding individual junk bonds.
- Timing junk bonds. Nothing more than a moving average is necessary. Keep it simple.
  a) Invest in junk bonds when they are trending up above their moving average.
  b) Sell junk when they are trending down below their moving average.
  c) Avoid trading when junk bonds are in a trading range. Wait for a trend to develop.
- Whipsaws are a normal aspect of investing; stick with your plan.
- Consider the frequent trading restrictions of mutual funds. If you have to sell a mutual fund and want to buy again, use a different fund family.
- Always set stops to avoid life altering losses that can be detrimental to your financial future.
- Consider other low volatility asset classes when junk bonds are not performing. Refer to the *Market Monitor* newsletter for updated performance information on low volatility asset classes.

Continue Learning

Free Resources

RGB Perspectives (weekly)
1 Page

RGB Market Monitor (monthly)
8 – 10 Pages

RGB Capital Group Webinar
January 30th at 11 am CST

Join us to learn:

- How different segments of the market performed
- How the volatility of the RGB investment strategies compared to the overall market
- How RGB manages risk and strives to protect client assets.
- Rob's outlook for the remainder of the year

To sign up, please complete a survey form today or send an email to info@rgbcapitalgroup.com.

Thank You!!

Rob Bernstein
RGB Capital Group
858-367-5200
rob@rgbcapitalgroup.com