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SKY HARBOR
CAPITAL MANAGEMENT

Weekly Briefing

SKYView: Drawdown Analysis

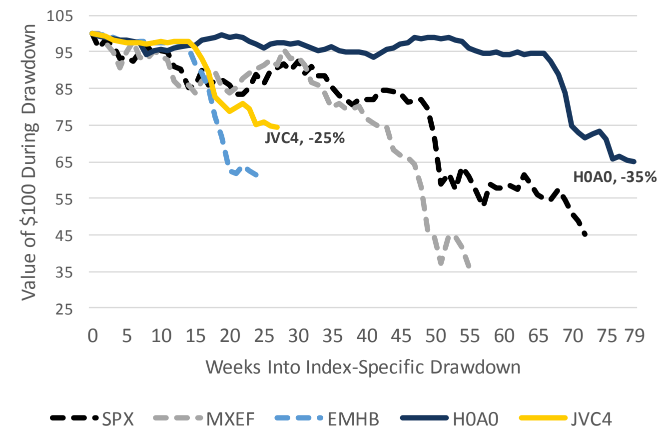
The emergence of the coronavirus and its spread outside of China resulted in sharp declines across most risk assets, with peak stress occurring between February 14 and March 23. The subsequent market rally was equally intense, with most asset classes recouping at least half of their initial losses. In this *Weekly Briefing*, we aim to compare drawdowns and subsequent recoveries in this lockdown period relative to market moves during the global financial crisis.

To begin our analysis, we look back to the last US recession and created a time series (weekly data) of total return indices (gross of dividends in the case of equities). We noted both peak and trough total return index values, measured the timing between each, and calculated the associated maximum drawdown. As demonstrated in the table below, equities (S&P 500, our proxy for US stocks, and the MSCI Emerging Markets Index, our proxy for EM stocks) showed the most significant peak-to-trough declines. **US high yield – the ICE BofA US High Yield Index (H0A0) and the ICE BofA 1-5 Year BB-B US Cash Pay High Yield Constrained Index (JVC4), our proxies for broad market and short duration US high yield risk, respectively – suffered the least severe drawdowns in the set.** We graphically plot the various drawdown paths in the table below, normalizing the x-axis by weeks since peak levels, as the various indices began their journey toward correction at different starting points.

Drawdown Analysis: Peak-to-Trough Timing
last recession

Index	Proxy	Ticker	Peak Week	Trough Week	Drawdown Length (wks)	Total Decline
S&P 500	US Equities	SPX	Oct. '07	Mar. '09	72	-55%
MSCI Emerging Markets	EM Equities	MXEF	Oct. '07	Nov. '08	55	-63%
ICE BofA HY Emerging Mkts. Corp. Plus	EM High Yield	EMHB	Jun. '08	Nov. '08	24	-39%
ICE BofA US High Yield	US High Yield	H0A0	Jun. '07	Dec. '08	79	-35%
ICE BofA 1-5yr BB-B US HY	US Short Dur. HY	JVC4	Jun. '08	Dec. '08	27	-25%

Magnitude and Duration of Drawdown
last recession



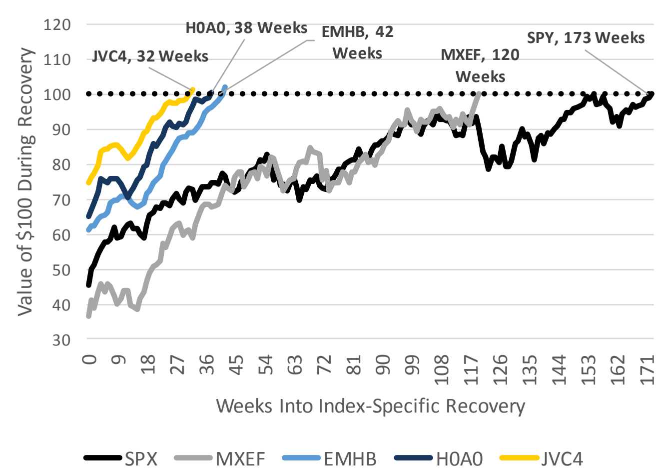
Source: SKY Harbor, ICE BofA Indices, Bloomberg, National Bureau of Economic Research

Once trough levels were reached, we then calculated the number of weeks needed to bring total return indices back to prior peak levels. **Short duration high yield was quickest to recover (32 weeks), followed by broad market US high yield (38 weeks).** Again, we modify the x-axis to represent weeks from trough, as each index began to recover at different times. As might be expected, recovery times were largely a function of drawdown depths.

Recovery Analysis: Trough-to-Full Recovery (back to prior peak) Timing
last recession

Index	Proxy	Ticker	Trough Week	Recovery to Prior Peak Week	Time to Full Recovery (wks)
S&P 500	US Equities	SPX	Mar. '09	Aug. '12	173
MSCI Emerging Markets	EM Equities	MXEF	Nov. '08	Apr. '11	120
ICE BofA HY Emerging Mkts. Corp. Plus	EM High Yield	EMHB	Nov. '08	Sep. '09	42
ICE BofA US High Yield	US High Yield	H0A0	Dec. '08	Sep. '09	38
ICE BofA 1-5yr BB-B US HY	US Short Dur. HY	JVC4	Dec. '08	Jul. '09	32

Duration to Recovery (back to peak total return index)
last recession

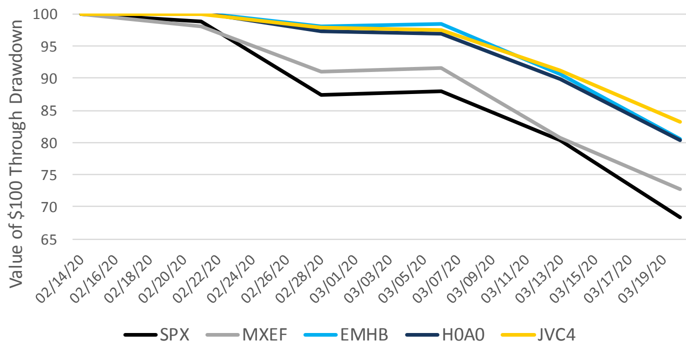


Source: SKY Harbor, ICE BofA Indices, Bloomberg, National Bureau of Economic Research

Next, we measured the percentage declines of the same indices during the virus-induced market selloff that began in mid-February. As demonstrated below, index values in our dataset fell between -17% and -32% from peak levels in the period beginning February 14 through March 20. Again, both types of US high yield risk fared better than equity indices, with the S&P 500 suffering the most aggressive selloff. While the virus-induced selloff in both broad and short duration high yield was less severe than equities on an absolute basis, drawdowns relative to prior recession peak-to-trough declines were relatively sizeable despite compressed timeframes. For example, **short duration US high yield (JVC4) declined 17% in the five weeks ended March 20, approximately 66% of its recessionary decline magnitude** (highest capture among the set). Recoveries, in the four weeks ended April 17, have ranged from +25% (S&P 500) to +9% (ICE BofA HY Emerging Markets Corporate Plus). Comparing four-week recoveries following the virus selloff to recoveries through the first four weeks after prior recessionary troughs were reached, we highlight the measured pace of both US high yield indices in comparison to US equities. By this measure, we find greater value in US high yield relative to US equities. In a similar gauge of valuations, we would note that S&P 500 P/E ratios at the time of publication are essentially at median levels (47th percentile based on a times series going back to 2000), whereas US high yield spreads are within their widest quartiles (84th percentile for broad US HY, 91st percentile for short duration US high yield). Again, valuations appear favorable for high yield, all else being equal.

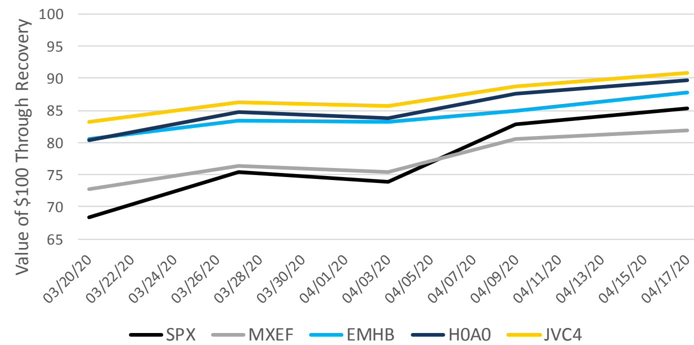
Index Declines, Feb. 14 Through March 20

weekly data (ended Fridays)



Index Recovery, March 20 Through April 17

weekly data (ended Fridays)



Index	Proxy	Ticker	Virus Period Decline	Last Recession Peak-to-Trough Decline	Drawdown Capture (Virus vs. Last Recession)
S&P 500	US Equities	SPX	-32%	-55%	58%
MSCI Emerging Markets	EM Equities	MXEF	-27%	-63%	43%
ICE BofA HY Emerging Mkts. Corp. Plus	EM High Yield	EMHB	-20%	-39%	50%
ICE BofA US High Yield	US High Yield	H0A0	-20%	-35%	56%
ICE BofA 1-5yr BB-B US HY	US Short Dur. HY	JVC4	-17%	-25%	66%

Index	Proxy	Ticker	Virus Period Recovery	Last Recession First 4 Week Recovery	Recovery Capture (Virus vs. Last Recession), first 4 Weeks
S&P 500	US Equities	SPX	25%	23%	106%
MSCI Emerging Markets	EM Equities	MXEF	12%	25%	50%
ICE BofA HY Emerging Mkts. Corp. Plus	EM High Yield	EMHB	9%	6%	149%
ICE BofA US High Yield	US High Yield	H0A0	12%	17%	70%
ICE BofA 1-5yr BB-B US HY	US Short Dur. HY	JVC4	10%	12%	82%

Source: SKY Harbor, ICE BofA Indices, Bloomberg

During the global financial crisis, US short duration and broad market high yield indices suffered less severe drawdowns than US and Emerging Markets equities, and fared better than EM HY debt as well. Additionally, recovery to prior-peak total return index levels was more rapid for US high yield (both broad and short duration) than the field, particularly in comparison to the two equity indices in the set. The virus-driven selloff that began in mid-February appears to have negatively impacted short duration US high yield more severely than the prior recession would have implied (based on drawdown capture), and the recovery has been moderate relative to US equities. Given our belief that US high yield defaults will be manageable and will fail to hit GFC peaks, and due to a more moderately paced recovery vs. the S&P 500 over the last several weeks, we continue to find value in US leveraged credit at present.

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