

Q1 2020: No Place to Hide? Solactive Minimum Downside Volatility Indices in a Sell-Off Period

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During the first quarter of 2020, capital markets got shaken up by a sharp rise in volatility as well as an unprecedentedly quick downturn in equities. It took the Solactive GBS Global Markets Large & Mid Cap USD Index 20 days and the Solactive US Large Cap Index 16 days to enter bear market territory (conventionally defined as a drop of 20% from peak) – the fastest sell-off pace ever.

We examine the performance of three Solactive Minimum Downside Volatility indices during 1Q20 and other periods. There weren't many stock segments left immune during the past weeks, which is why these indices took a hit as well. However, they may provide more stability and downside protection in comparison to their benchmarks. Relative to minimum volatility strategies, Minimum Downside Volatility indices performed slightly worse or aligned to them during market downturns. However, during a longer timeframe, MDV indices' performance was either better or similar to that of minimum volatility indices. Therefore, it may be implied that by minimizing only downside volatility, investors can protect themselves to a certain degree from market downturns without sacrificing too much upside potential during times of calm in the market.

Solactive Minimum Downside Volatility Indices – Reducing Downside, Allowing Upside

In a white paper from 2017, Solactive published a concept that is based on over 60-years-old research by Harry M. Markowitz. The idea – simple and very effective – is to focus on the part of volatility that investors really want to avoid when they aim to reduce volatility. Our Minimum Downside Volatility (MDV) strategy optimizes a portfolio by minimizing the downside volatility. As investors can most likely live with pure upside volatility, they should be interested in minimizing negative returns whenever they aim to reduce a portfolio's volatility. Downside volatility is a risk measure that only takes returns below a given threshold – e.g. zero – into consideration. As a result of the optimization process, we get a portfolio that focuses intuitively on what investors really want to prevent. Please find more details as well as the technical background in our white paper with the title "[Minimum Downside Volatility Indices](#)".

The concept is quite intuitive and very powerful, not only in reducing volatility, but also in achieving a better performance of an index in comparison to its benchmark. In this blogpost, we analyze the performance of MDV indices during the first quarter of 2020 and the sell-off period from Feb-12 until Mar-23, 2020, as well as in other turbulent periods within the last two years. To provide a bigger picture, we also look at their performance over a longer time period. The indices we analyze are the following. [Please check our website for more information about these indices.]

- [Solactive All Country Minimum Downside Volatility GTR](#),
- [Solactive Developed ex US Minimum Downside Volatility GTR](#), and
- [Solactive US Large Cap Minimum Downside Volatility GTR](#),

as well as their respective benchmarks ([Solactive GBS Global Markets Large & Mid Cap USD Index TR](#), [Solactive GBS Developed Markets ex United States Large & Mid Cap USD Index TR](#), and [Solactive US Large Cap Index \(GTR\)](#)).



MDV – A Better Place to Hide During a Sell-Off

The current crisis around the coronavirus and the accompanying sell-off in the first quarter of 2020 were unprecedented, and we have all heard enough about spectacular new records around the speed of the downturn. During such a period there may not be any good place to hide in the equity world. However, indices constructed with our MDV-concept at least offered (on average) slightly better returns than the respective benchmark indices. As the recent sell-off did not spare many areas, our MDV-indices did not remain unaffected. To get a bigger picture of how the concept performed during downturns, we also look at the period until the end of 2018, during which the stock market stood at the brink of a bear market. Back then, the MDV-indices muddled through a period of downside volatility far better than their benchmarks.

Table 1 provides a performance-overview of the above-mentioned indices during different timeframes.

Table 1: Performance overview, different MDV-indices and their benchmarks; Gross total return in USD

Performance (Total Return)	Global Markets Large & Mid Cap	All Country MDV	DM ex US Large & Mid Cap	DM ex US MDV	US Large Cap	US LC MDV
1st quarter 2020 Dec-31, 2019 - Mar-31, 2020	-21.21%	-18.99%	-23.16%	-19.49%	-19.12%	-20.09%
Sell-Off 1st quarter Feb-12, 2020 - Mar-23, 2020	-33.60%	-31.41%	-34.19%	-30.71%	-33.55%	-33.79%
Sell Off 2018 Sep-21, 2018 - Dec-25, 2018	-16.87%	-11.06%	-15.52%	-9.88%	-19.31%	-13.01%
Last 2 years Mar-30, 2018 - Mar-31, 2020	-7.78%	-3.73%	-16.69%	-9.79%	2.59%	3.81%

MDV-Indices During Different Time Periods

We present performance and volatility figures for selected periods in order to provide insights into the results MDV-indices achieve. Turbulent times are especially interesting, as these have a large impact on overall performance numbers. If the MDV-strategies manage not to capture the same magnitude of a down movement as the market, while not being limited on the upside, an outperformance over a longer period may be the outcome.

First Quarter of 2020: During the first quarter of 2020, the MDV-strategies outperformed their benchmarks, except for the US equity market, where the performance was almost in line with that of the market. Unsurprisingly, their overall volatility, as well as downside volatility, were lower than those of their benchmarks.



Table 2: Performance and volatility overview 1st quarter of 2020, different MDV-indices and their benchmarks; Gross total return in USD

1st quarter 2020 Dec-31, 2019 - Mar-31, 2020	Global Markets Large & Mid Cap	All Country MDV	DM ex US Large & Mid Cap	DM ex US MDV	US Large Cap	US LC MDV
Total Return	-21.21%	-18.99%	-23.16%	-19.49%	-19.12%	-20.09%
Mean Return p.a.	-61.05%	-56.53%	-64.73%	-57.59%	-56.80%	-58.83%
Volatility	43.87%	37.70%	36.14%	30.50%	55.51%	51.57%
Downside Volatility	35.66%	31.33%	30.89%	26.05%	42.33%	39.86%

Sell-Off Period First Quarter of 2020, Feb-12 until Mar-23, 2020: The recent sell-off materialized in a very short time window of trading days and our MDV-indices couldn't fully detach from it, but have been exhibiting a less pronounced drawdown combined with a better risk return profile. On average, they outperformed their benchmarks with a 2.2 percentage points outperformance for the global equity market, and a 3.5 percentage points outperformance for the developed markets version excluding the US. In the US, the performance gap of the US Large Cap MDV index to its benchmark was -0.2 percentage points. The performance differences during this sell-off are crucial as they could play an important role for the whole year of 2020 – or another longer timeframe.

Table 3: Performance and volatility overview during the recent sell-off, different MDV-indices and their benchmarks; Gross total return in USD

Sell-Off 1st quarter Feb-12, 2020 - Mar-23, 2020	Global Markets Large & Mid Cap	All Country MDV	DM ex US Large & Mid Cap	DM ex US MDV	US Large Cap	US LC MDV
Total Return	-33.60%	-31.41%	-34.19%	-30.71%	-33.55%	-33.79%
Mean Return p.a.	-97.49%	-96.64%	-97.69%	-96.32%	-97.47%	-97.56%
Volatility	55.64%	47.99%	41.74%	35.15%	73.99%	67.10%
Downside Volatility	54.98%	48.92%	47.83%	40.64%	64.89%	61.28%

Sell-Off Period end of 2018, Sep-21 until Dec-25, 2018: To get another picture of how the MDV-strategy can navigate a portfolio through a storm, we compare the three MDV-indices to their benchmarks in the sell-off period of late-2018. Back then, market participants feared a tightening cycle by the US central bank and eventually heightened valuations decreased sharply. During this time period, all three MDV-indices outperformed their benchmarks by 5.64 to 6.30 percentage points.



Table 4: Performance and volatility overview during the 2018 sell-off, different MDV-indices and their benchmarks; Gross total return in USD

Sell Off 2018 Sep-21, 2018 - Dec-25, 2018	Global Markets Large & Mid Cap	All Country MDV	DM ex US Large & Mid Cap	DM ex US MDV	US Large Cap	US LC MDV
Total Return	-16.87%	-11.06%	-15.52%	-9.88%	-19.31%	-13.01%
Mean Return p.a.	-50.35%	-35.85%	-47.23%	-32.59%	-55.64%	-41.02%
Volatility	15.07%	10.04%	12.89%	9.39%	20.59%	15.27%
Downside Volatility	13.28%	9.04%	11.59%	8.34%	18.01%	13.45%

Last two years, Mar-30, 2018 until Mar-31, 2020: The better performance figures during the two selloffs of the last two years led to a better overall performance of the MDV-indices during this timeframe. At the same time, their volatility was again notably lower than the benchmarks', which resulted in better risk-adjusted returns.

Table 5: Performance and volatility overview during the last two years, different MDV-indices and their benchmarks; Gross total return in USD

Last 2 years Mar-30, 2018 - Mar-31, 2020	Global Markets Large & Mid Cap	All Country MDV	DM ex US Large & Mid Cap	DM ex US MDV	US Large Cap	US LC MDV
Total Return	-7.78%	-3.73%	-16.69%	-9.79%	2.59%	3.81%
Mean Return p.a.	-3.90%	-1.85%	-8.59%	-4.94%	1.26%	1.86%
Volatility	18.43%	14.83%	15.70%	12.70%	23.51%	20.72%
Downside Volatility	14.40%	11.90%	12.65%	10.26%	17.56%	15.64%

Long term: In a timeframe that includes the great financial crisis as well as the recent sell-off, the outperformance of MDV-strategies is noteworthy. From May 2006 until today, the Solactive GBS Developed Markets ex United States Large & Mid Cap USD Index returned 26.84%, and the Solactive US Large Cap Index yielded 162.86%. The respective MDV-strategies Solactive Developed ex US Minimum Downside Volatility and Solactive US Large Cap Minimum Downside Volatility outperformed these benchmarks by 69.20 and 37.34 percentage points with +96.04% and +200.20%, respectively. The broad Solactive All Country Minimum Downside Volatility had a total return of 173.17% during this period. Once more, volatility was lower for the MDV-strategies. Over a time period spanning from May 2006 until the end of Q1 2020, Minimum Downside Volatility indices' performance was either better or aligned with that of comparable minimum volatility indices, whereas their performance was slightly worse or similar to them during the most recent market downturns.

Performance relative to comparable strategies: During the two most recent market sell-offs (those of 2018 and 2020), the performance of MDV indices was slightly worse or aligned with that of comparable minimum volatility indices (which focus on minimizing the overall volatility of a portfolio). However, over a longer time frame from May 2006 until the end of Q1 2020, MDV indices' performance was either better or similar to that of minimum volatility indices. Therefore, it may be implied that by minimizing only downside volatility, investors can protect



themselves to certain degree from market downturns without sacrificing too much upside potential during times of calm or bull markets.

Charts: Slightly Better Picture for the MDV-Indices

Chart 1: Ratio MDV index levels against benchmarks, 1st quarter of 2020

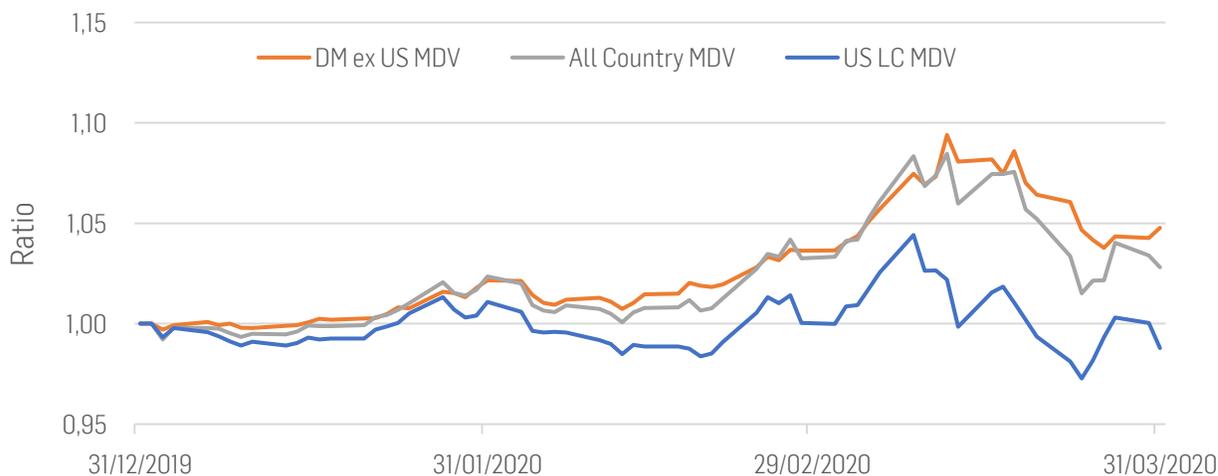
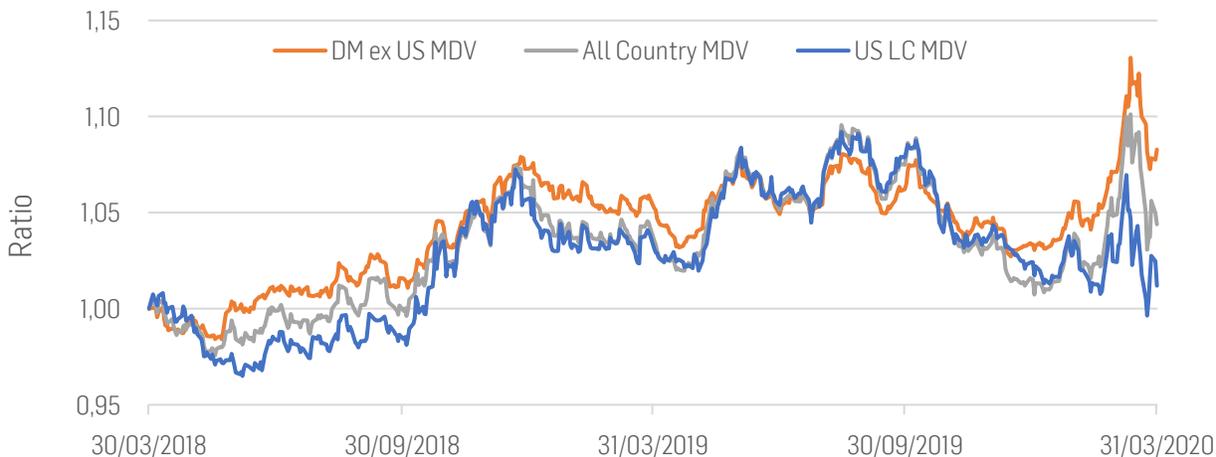


Chart 2: Ratio MDV index levels against benchmarks, last two years



Final Remarks

For some equity indices, the first quarter of 2020 was the worst first quarter ever. Obviously, as the above shows, our MDV-indices were just a slightly better place to hide. To get a better understanding of how MDV performs, we present a bigger picture and examine other turbulent market phases as well as a longer time period. What we observe from the ex-post performance analyses is that the MDV-strategies deliver a reduced volatility during a downturn. At the same time, they do not seem to give up on the upside, although the US-version underperforms



in a bull market environment. This combination – not taking the full downswing while holding up well on the way up – yields to an outperformance over a time period that includes crises, bear markets, recoveries, and bull markets. Hence, if we regard a timeframe that is long enough to include turbulent periods, e.g. May-2006 until today, the magic of the simple but very powerful MDV-approach becomes visible. Going forward, as the nature of capital markets will most likely not change with times of significantly elevated volatility and times of muted and stable volatility, our Minimum Downside Volatility concept offers investors some protection on the downside while trying to capture enough upside to outperform a given benchmark. Especially in time horizons that go through one or more regime shifts in which the volatility levels change materially, the MDV-strategy may perform well in comparison to the broad equity market.

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Contact

Solactive AG
German Index Engineering
Platz der Einheit 1
60327 Frankfurt am Main
Germany

Tel.: +49 (0) 69 719 160 00
Fax: +49 (0) 69 719 160 25
Email: info@solactive.com
Website: www.solactive.com

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Timo Pfeiffer
Chief Markets Officer
Tel.: +49 (0) 69 719 160 320
Email: timo.pfeiffer@solactive.com

Dr. Axel Haus
Team Head Qualitative Research
Tel.: +49 (0) 69 719 160 319
Email: axel.haus@solactive.com

Fabian Colin
Head of Sales
Tel.: +49 (0) 69 719 160 220
Email: fabian.colin@solactive.com