

Credit Risk Trends and Investment Strategies in the "Chronic COVID" Economy

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June, 2020



Steve Kidd (Moderator)



Samuel Malone, Ph.D



Yukyung Choi

Agenda

1. U.S. and Europe: COVID, credit, and macro trends
2. Sector-level trends in credit risk
3. Selected investment strategy results for bond and equity markets

1

U.S. and Europe: COVID,
credit and macro trends

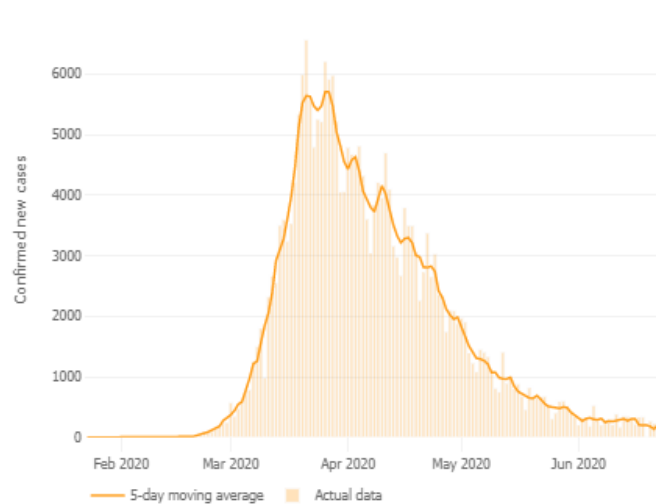
European countries have flattened the curve.

ITALY

New cases confirmed each day (5-day-average)

▼ DOWN

The first case of COVID-19 in Italy was reported 144 days ago on 1/30/2020. Since then, the country has reported 238,833 cases, and 34,675 deaths.



UNITED KINGDOM

New cases confirmed each day (5-day-average)

▼ DOWN

The first case of COVID-19 in United Kingdom was reported 144 days ago on 1/30/2020. Since then, the country has reported 307,682 cases, and 43,011 deaths.



SPAIN

New cases confirmed each day (5-day-average)

▼ DOWN

The first case of COVID-19 in Spain was reported 143 days ago on 1/31/2020. Since then, the country has reported 246,752 cases, and 28,325 deaths.

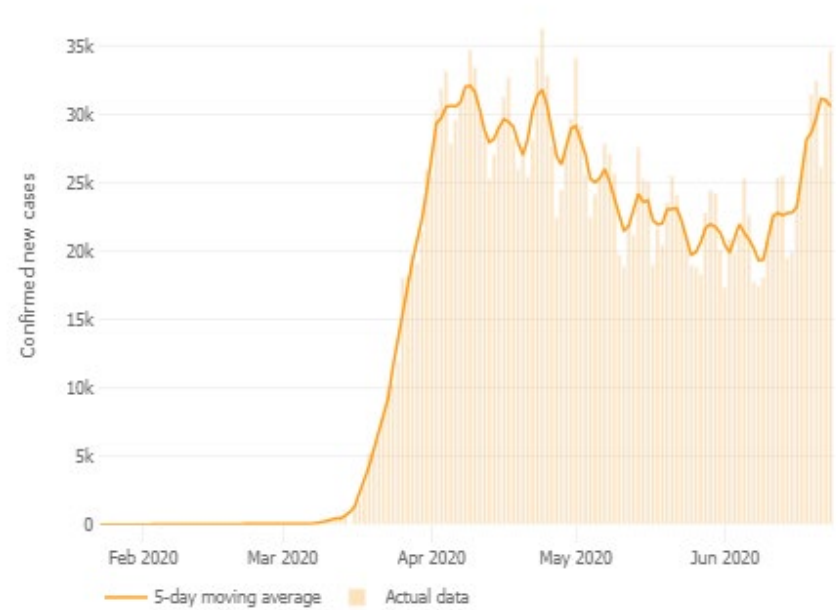


Source: Johns Hopkins Coronavirus Resource Center, New Cases, <https://coronavirus.jhu.edu/data/new-cases>, Accessed on: 6/24/2020

The U.S. has not.

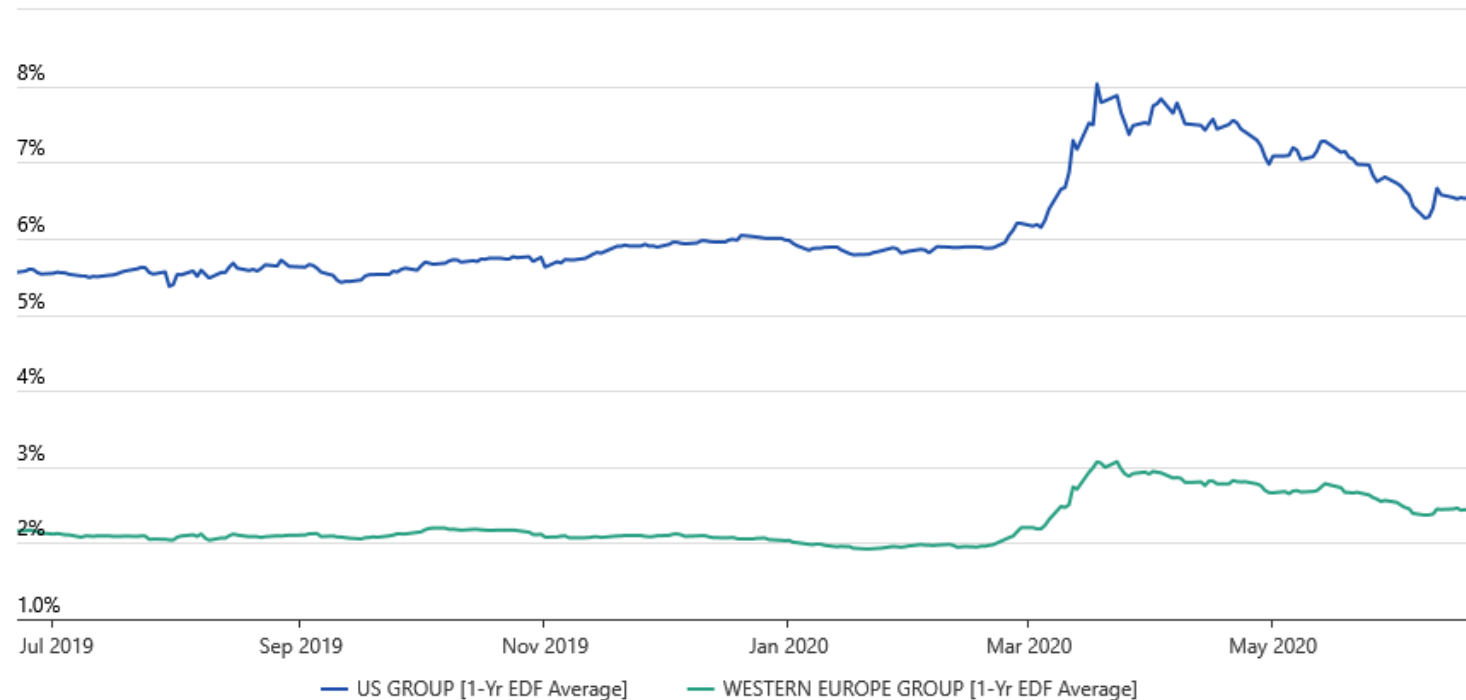
US | New cases confirmed each day (5-day-average) ▲ UP

The first case of COVID-19 in US was reported 152 days ago on 1/22/2020. Since then, the country has reported 2,347,022 cases, and 121,228 deaths.



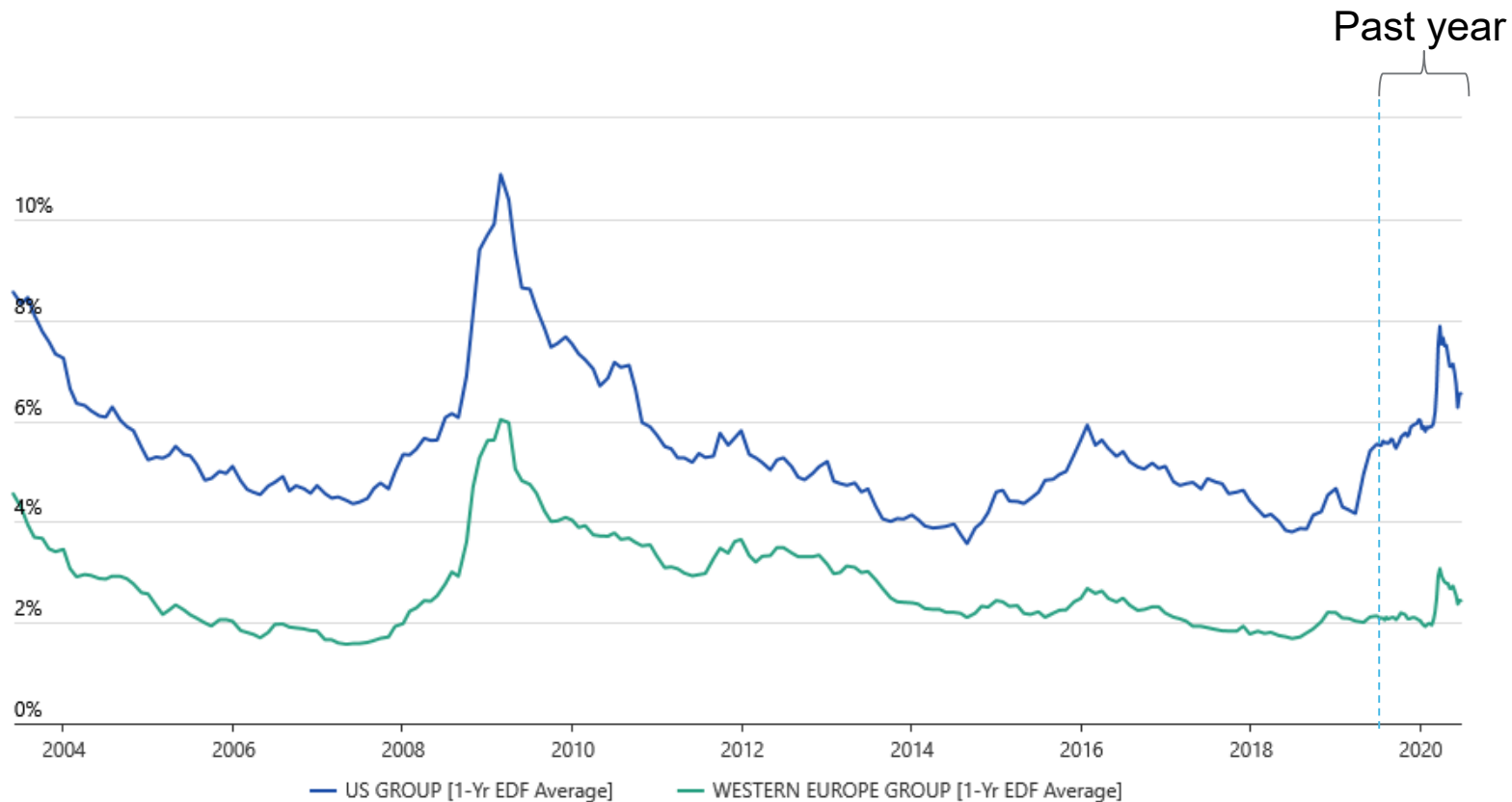
Source: Johns Hopkins Coronavirus Resource Center, New Cases, <https://coronavirus.jhu.edu/data/new-cases>, Accessed on: 6/24/2020

On average, default risk in the U.S. has jumped more sharply than in Europe during COVID...



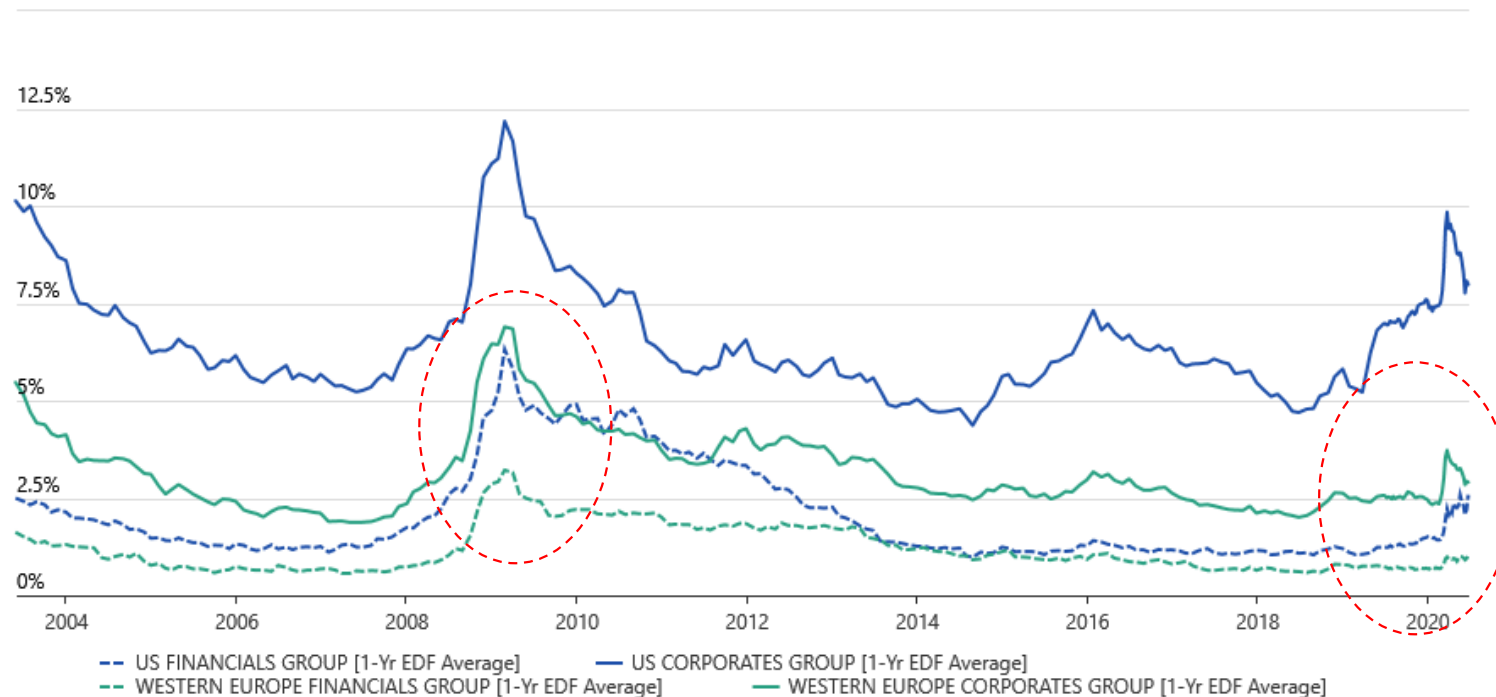
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...But it could just be a case of chronic pre-existing conditions.



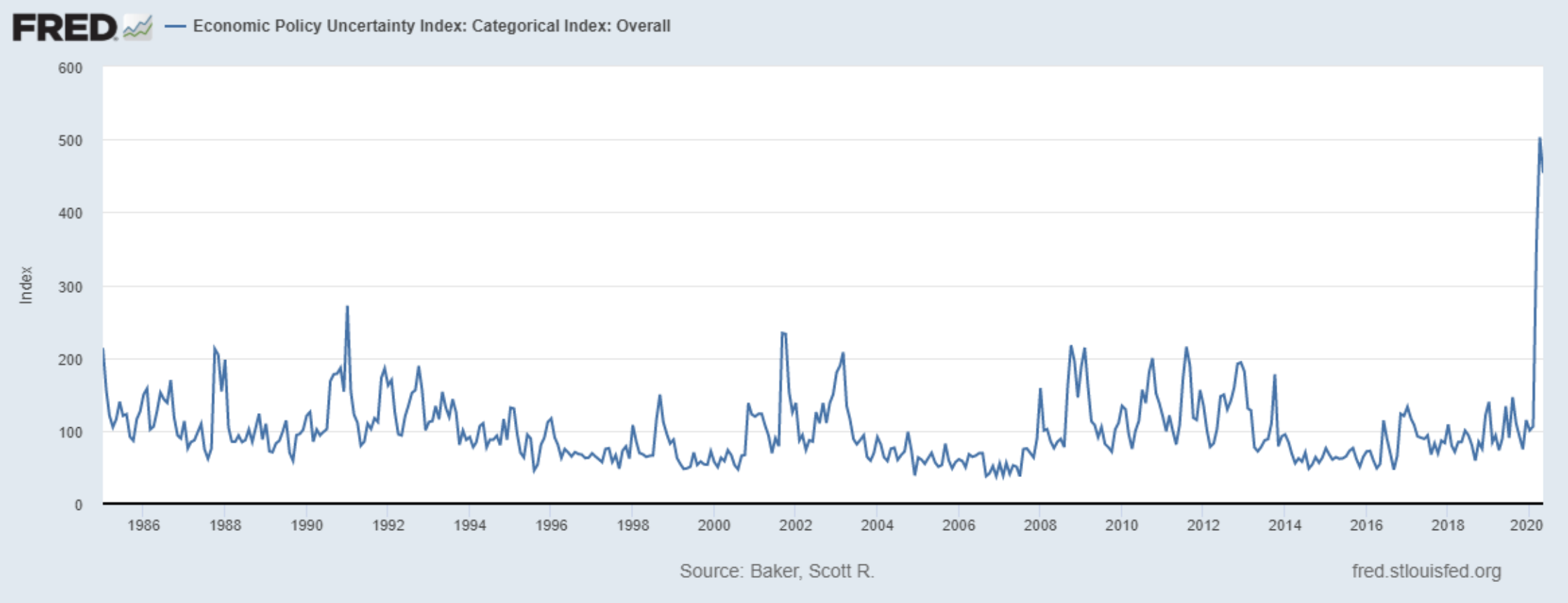
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U.S. Corporates are persistently riskier, whereas U.S. and European Financials decouple during periods of stress



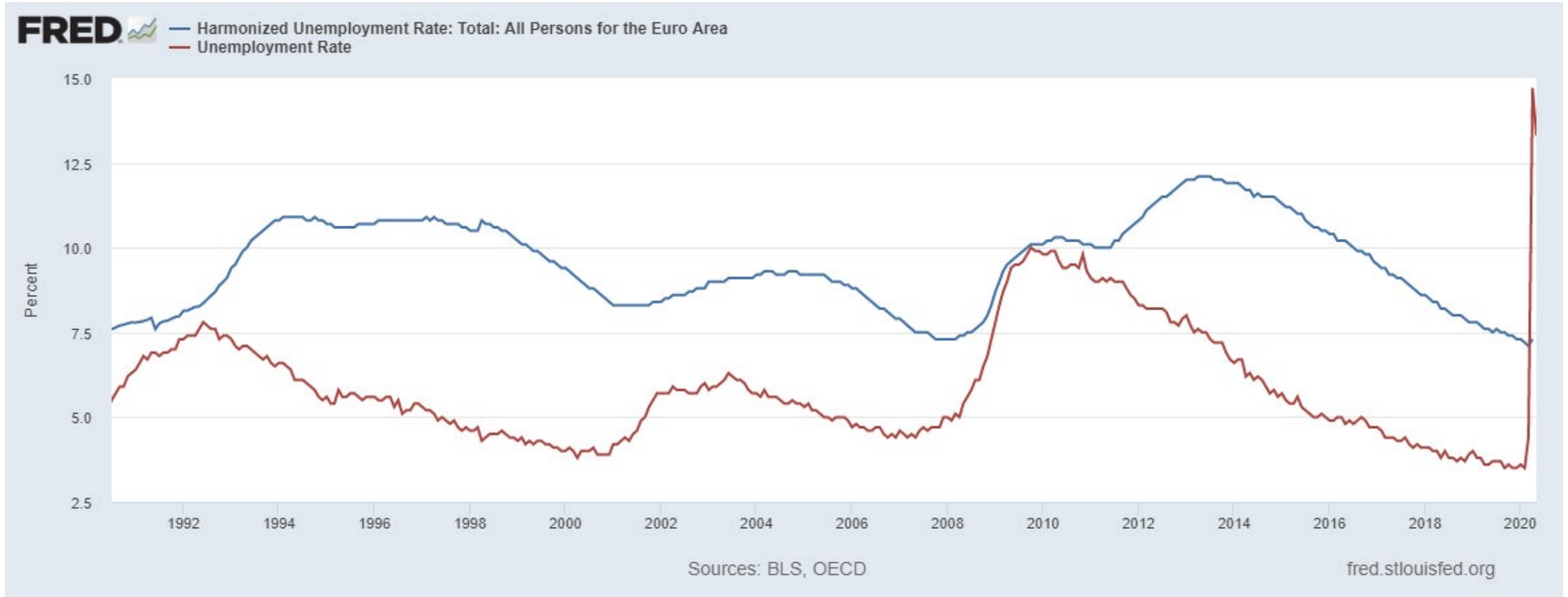
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To be sure, policy-induced uncertainty in the U.S., an unhealthy stressor, is at all-time highs...

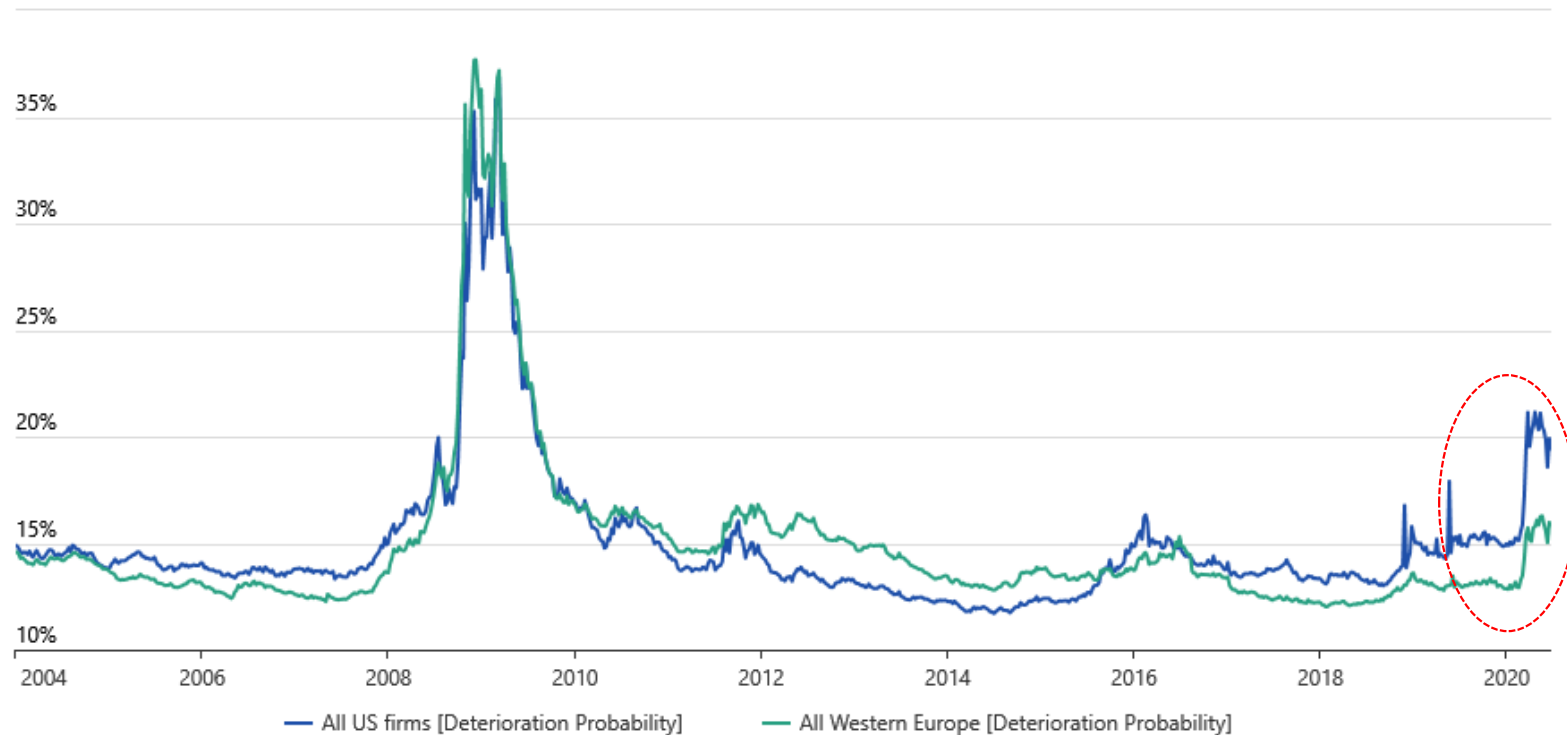


Baker, Scott R., Bloom, Nick and Davis, Stephen J., Economic Policy Uncertainty Index: Categorical Index: Overall [CATEPUINDXM], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CATEPUINDXM>, June 24, 2020

...While U.S. and European labor markets are currently experiencing a once-in-a-generation role reversal



So maybe it's no surprise that credit deterioration risk in the U.S. and Europe, like COVID infection rates, has diverged.



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Sector-level trends in credit risk

Let's focus now on sector trends in default risk

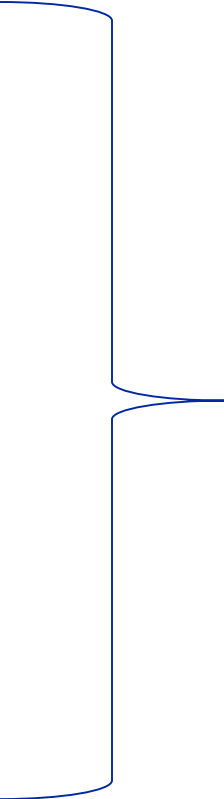
We highlight results for the most-affected sectors

- Oil, Gas, and Coal Expl/Prod
- Entertainment & Leisure
- Hotels & Restaurants
- Consumer Durables
- Air Transportation
- Automotive

Let's focus now on sector trends in default risk

We highlight results for the most-affected sectors

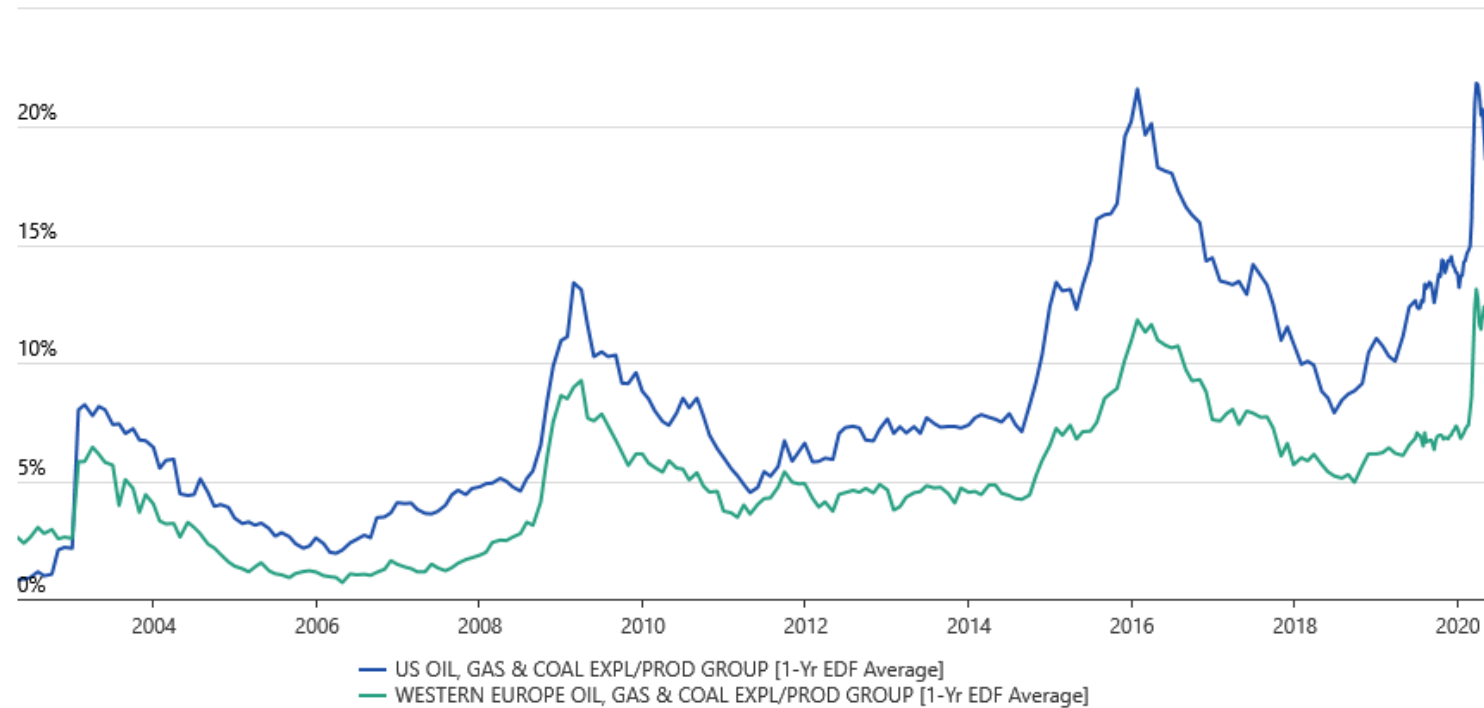
- Oil, Gas, and Coal Expl/Prod
- Entertainment & Leisure
- Hotels & Restaurants
- Consumer Durables
- Air Transportation
- Automotive



Source: Choi, Yukyung, Glenn Levine, and Samuel Malone, “The coronavirus pandemic: Assessing the impact on corporate credit risk, Moody’s Analytics, April 2020.

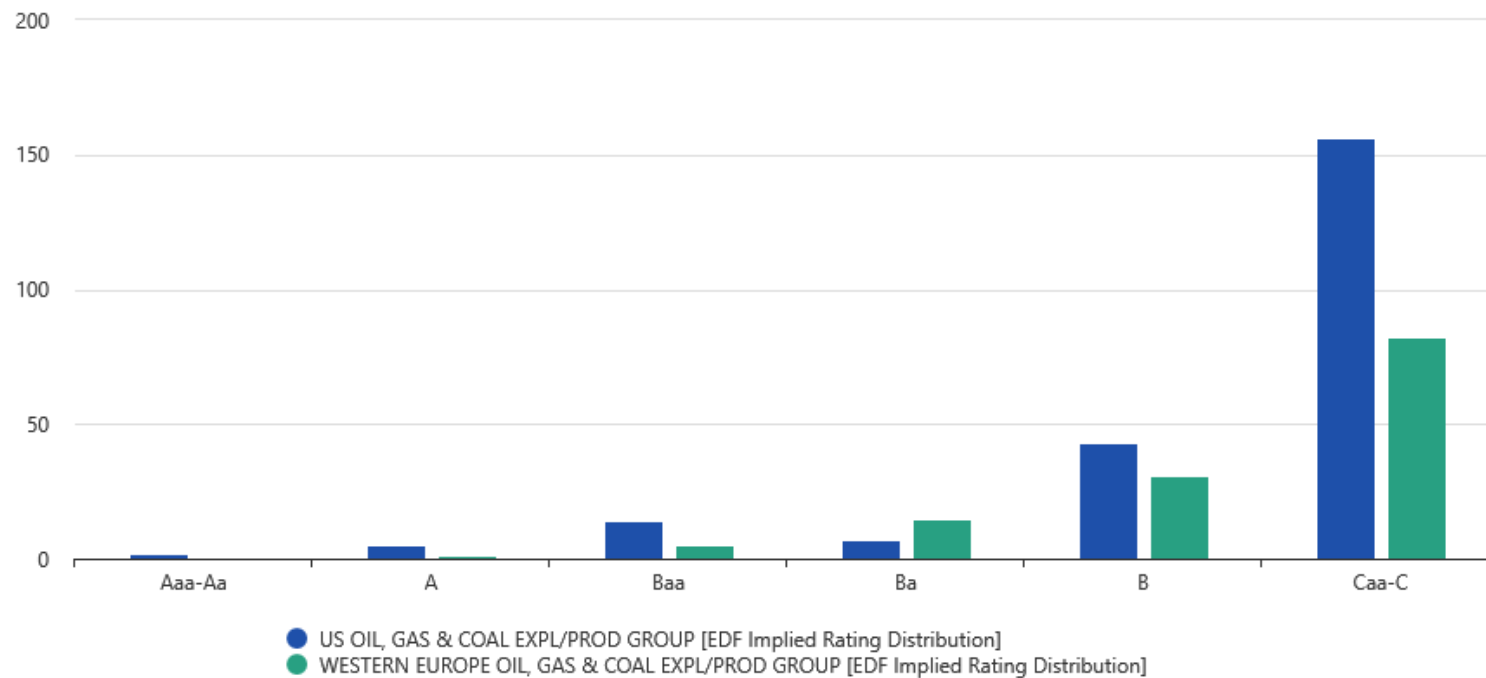
Most-viewed article on [Moody's Analytics](https://www.moodys.com) in 2020Q2.

Mean EDFs: Oil, Gas, and Coal Expl/Prod



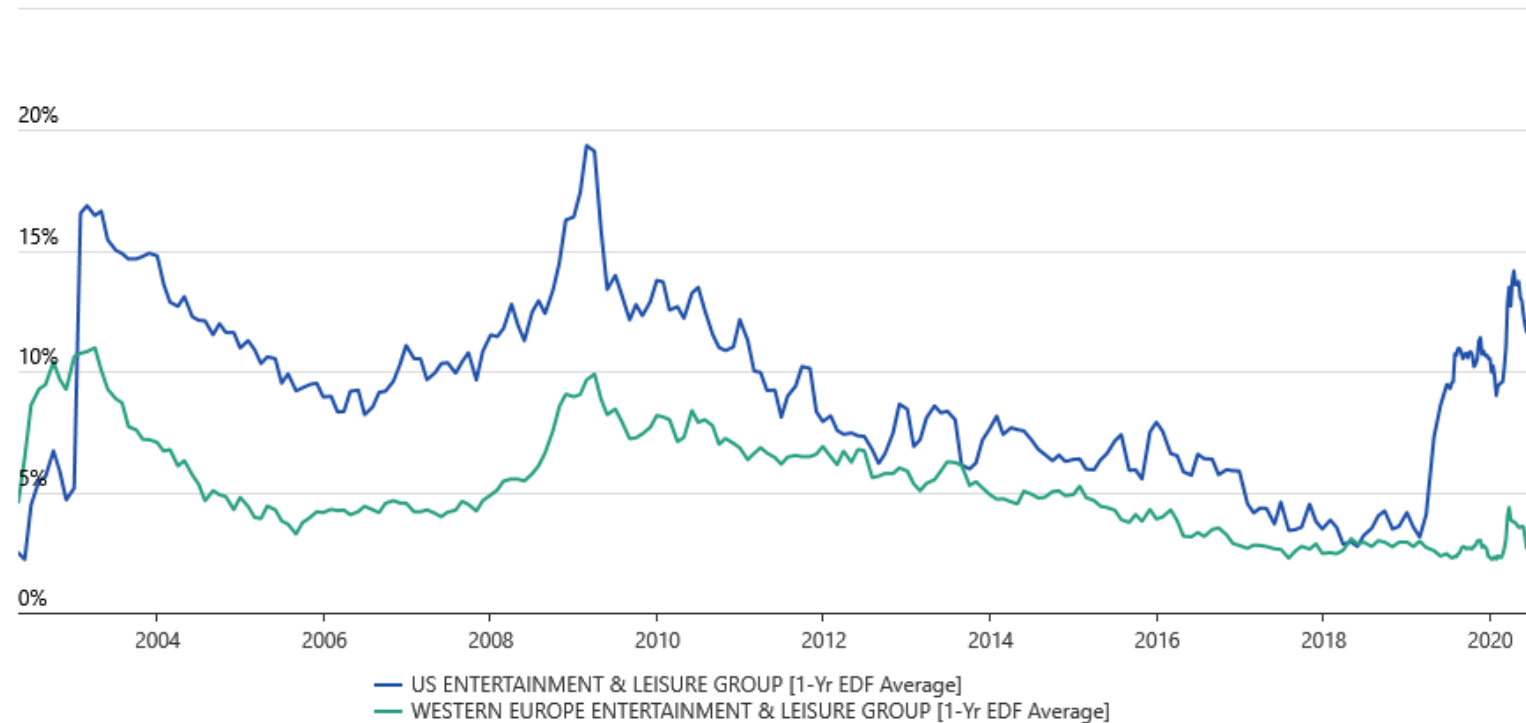
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Oil, Gas, and Coal Exploration/Production EDF-IR distribution: Europe vs U.S.



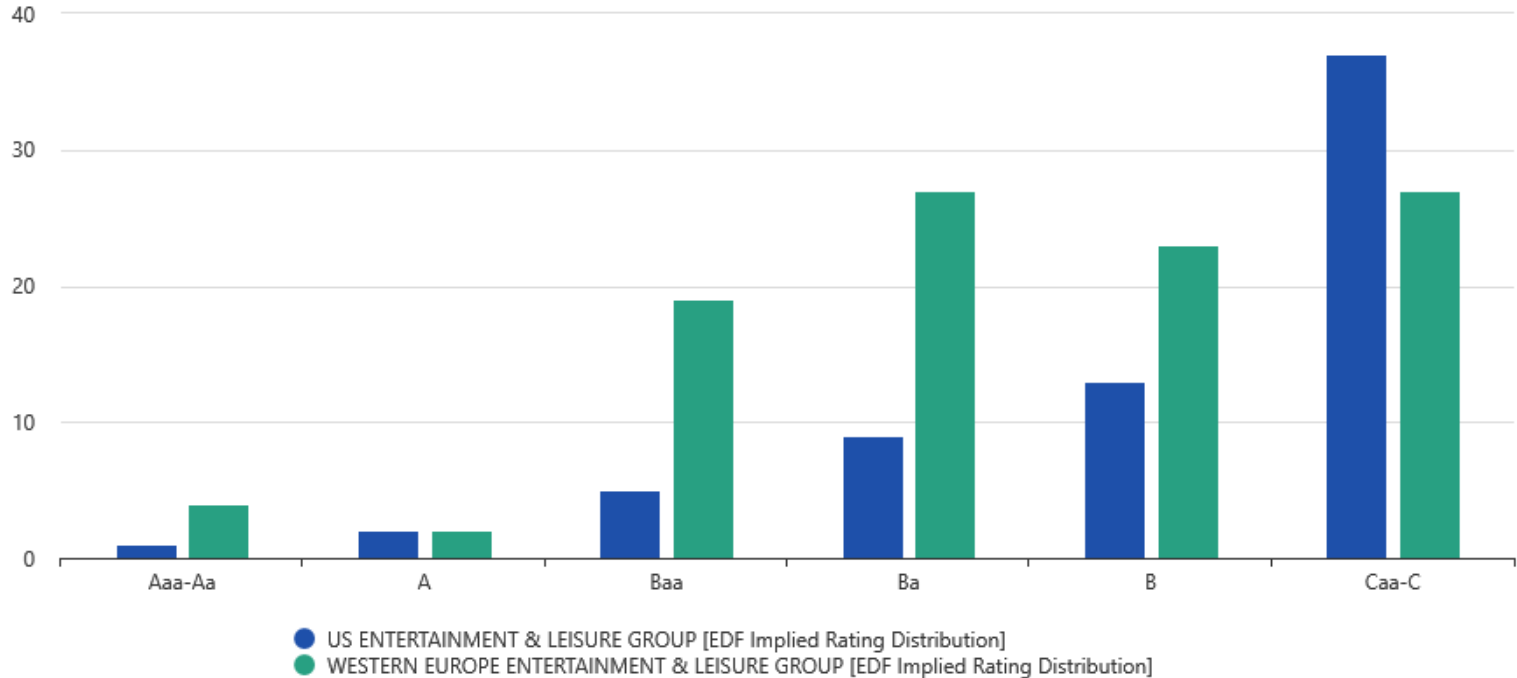
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Mean EDFs: Entertainment & Leisure



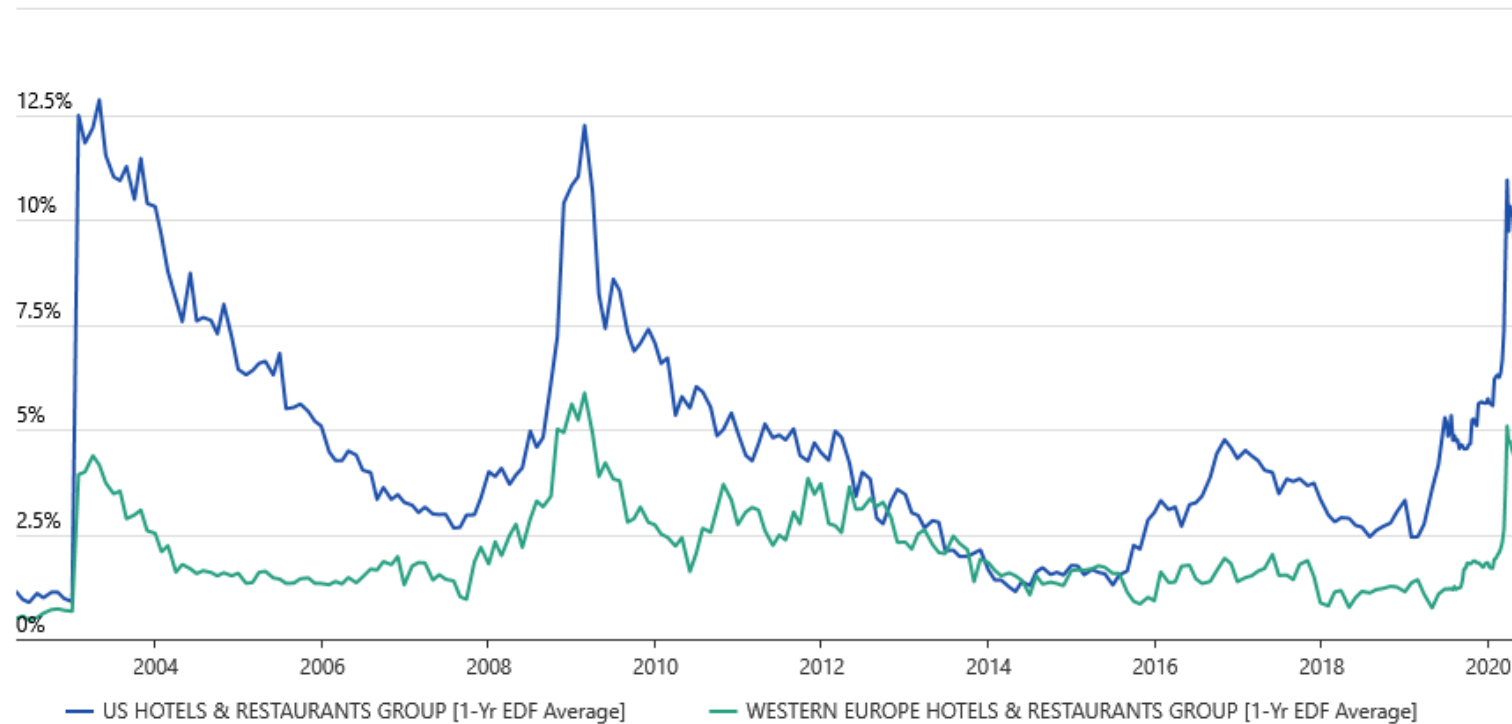
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Entertainment and Leisure EDF-IR distribution: Europe vs. U.S.



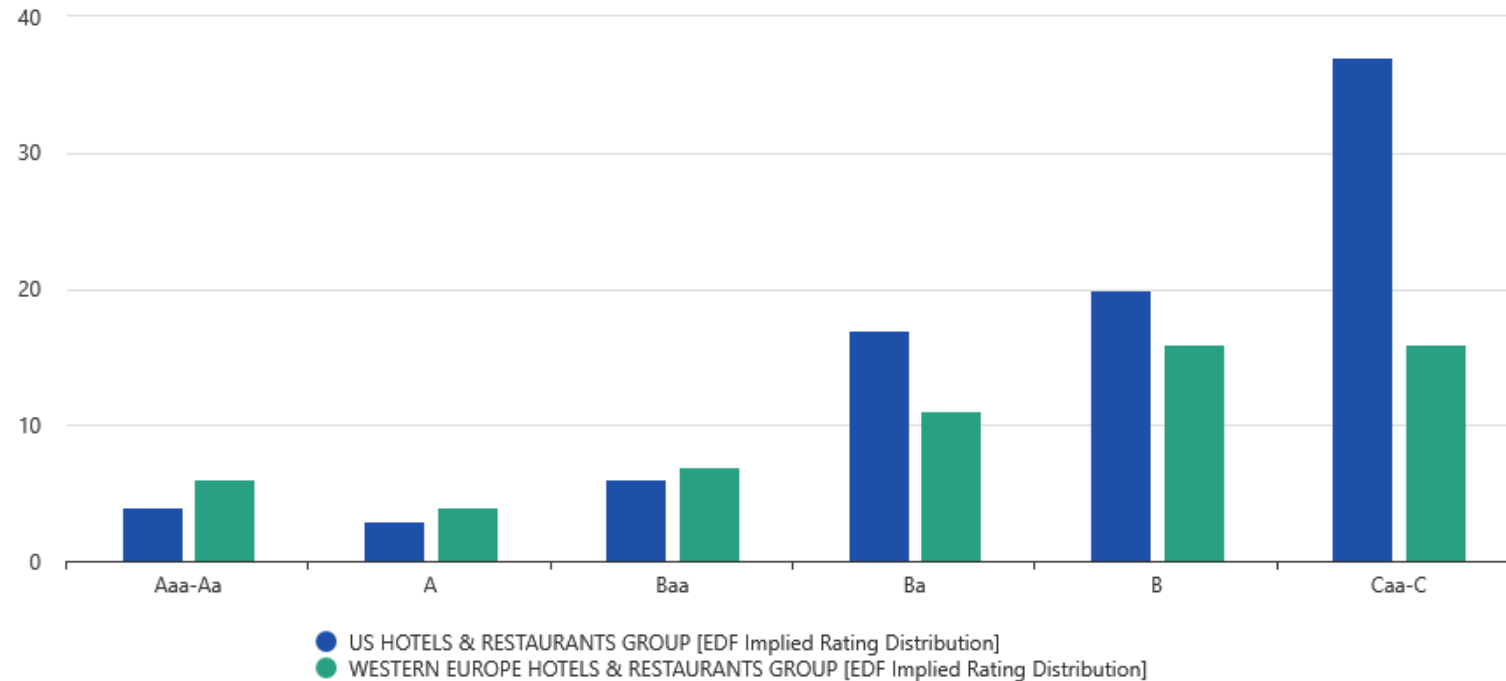
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Mean EDFs: Hotels & Restaurants



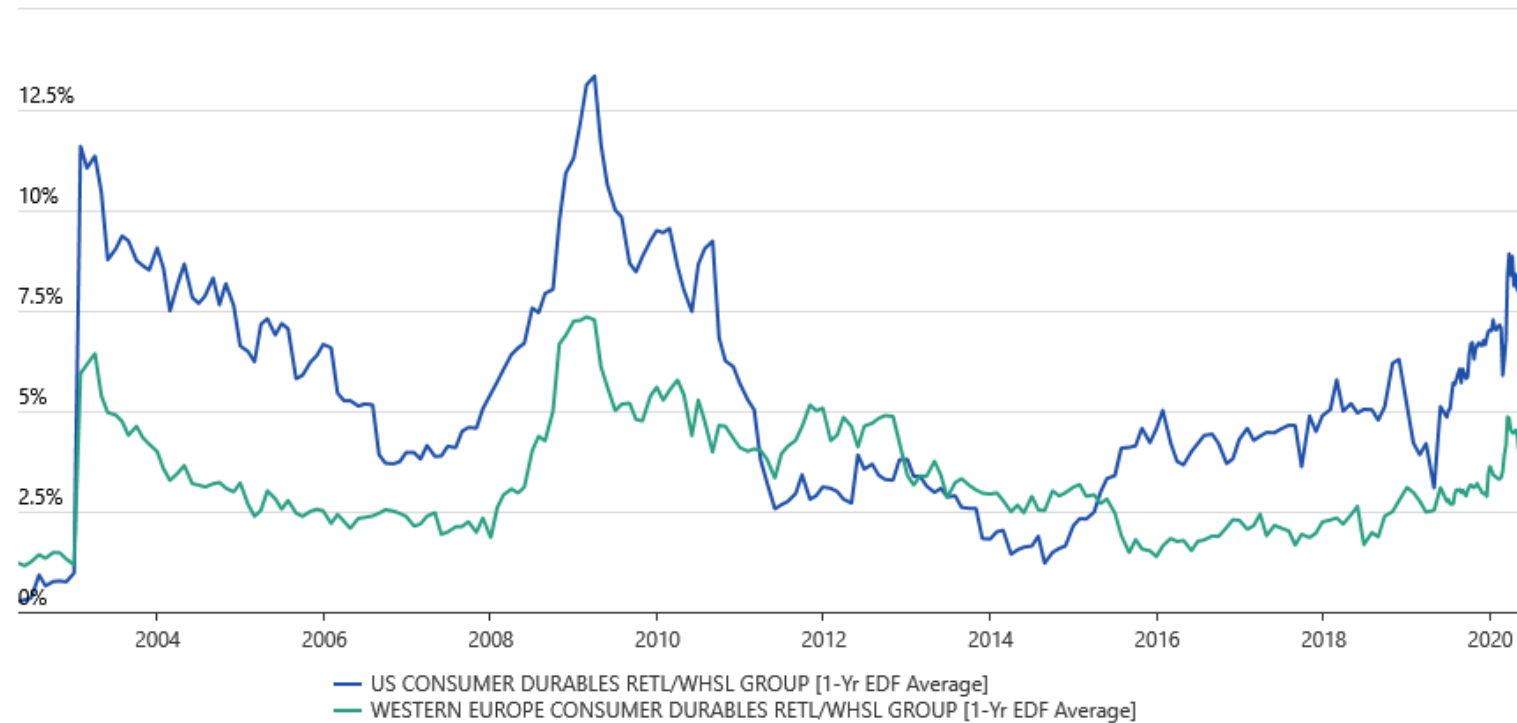
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Hotels and Restaurants EDF-IR distribution: Europe vs. U.S.



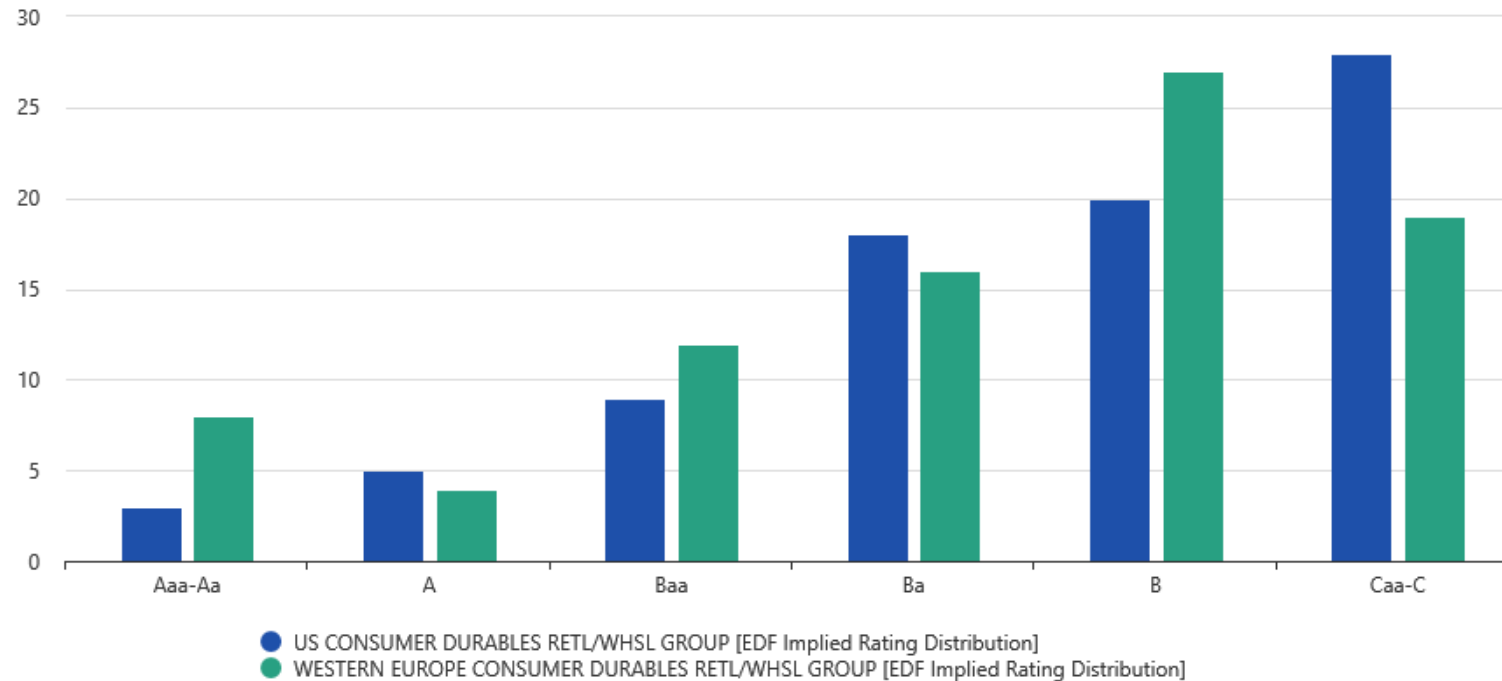
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Mean EDFs: Consumer Durables



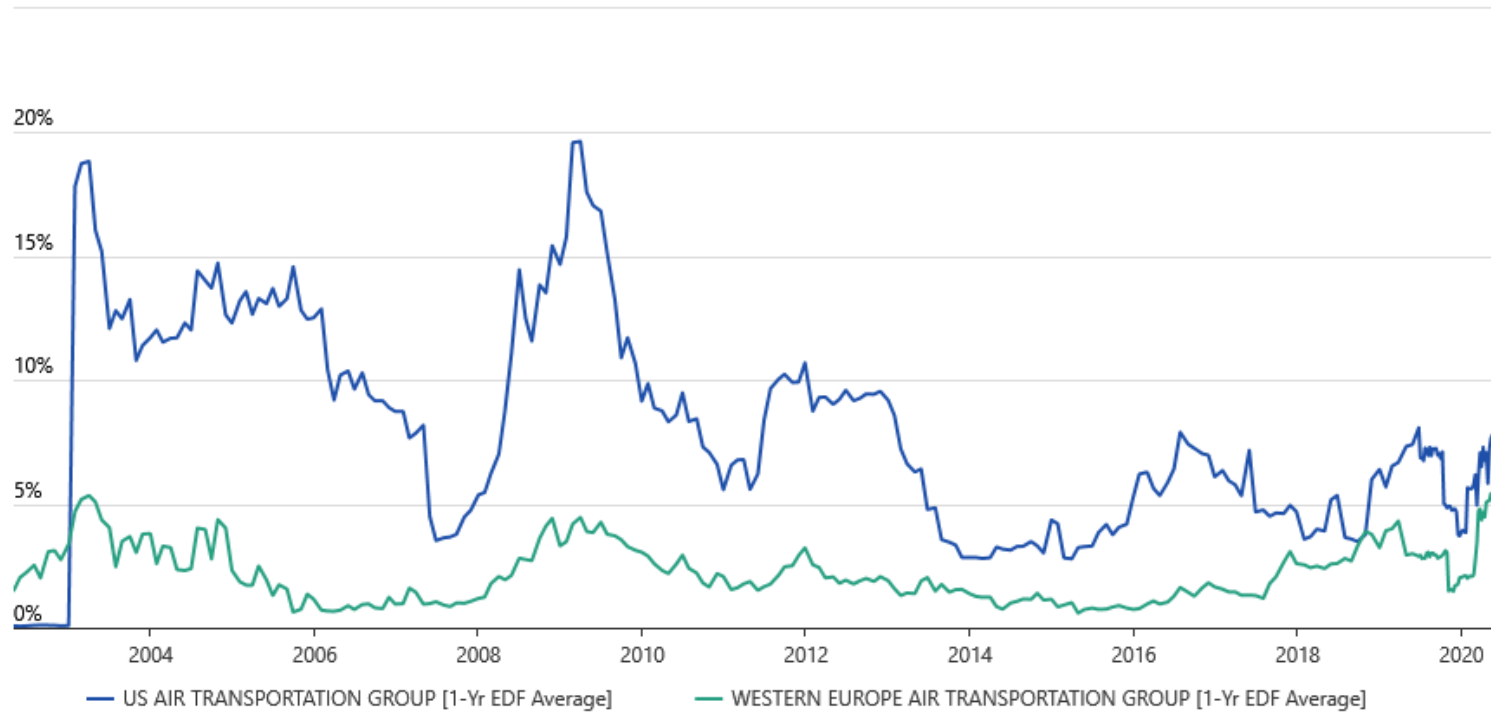
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Consumer Durables Retail/Wholesale EDF-IR distribution: Europe vs U.S.



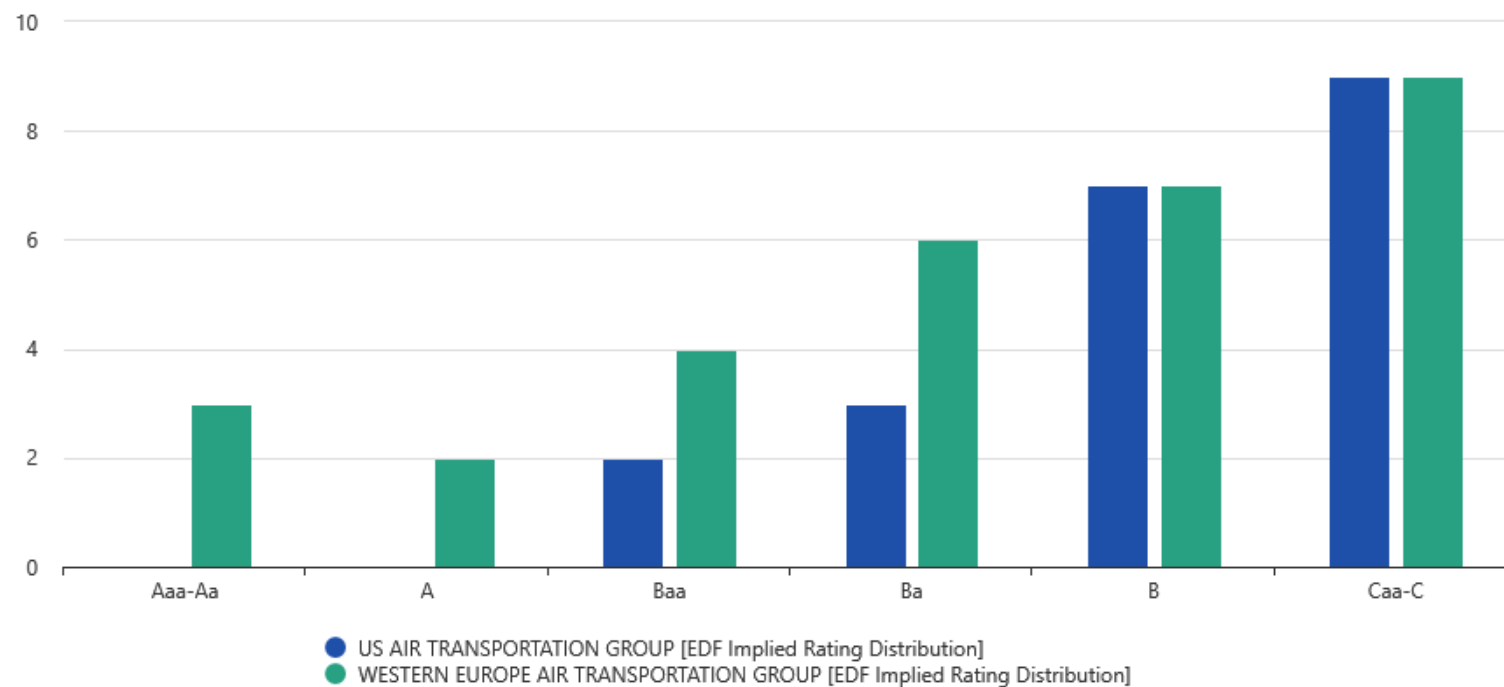
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Mean EDFs: Air Transportation



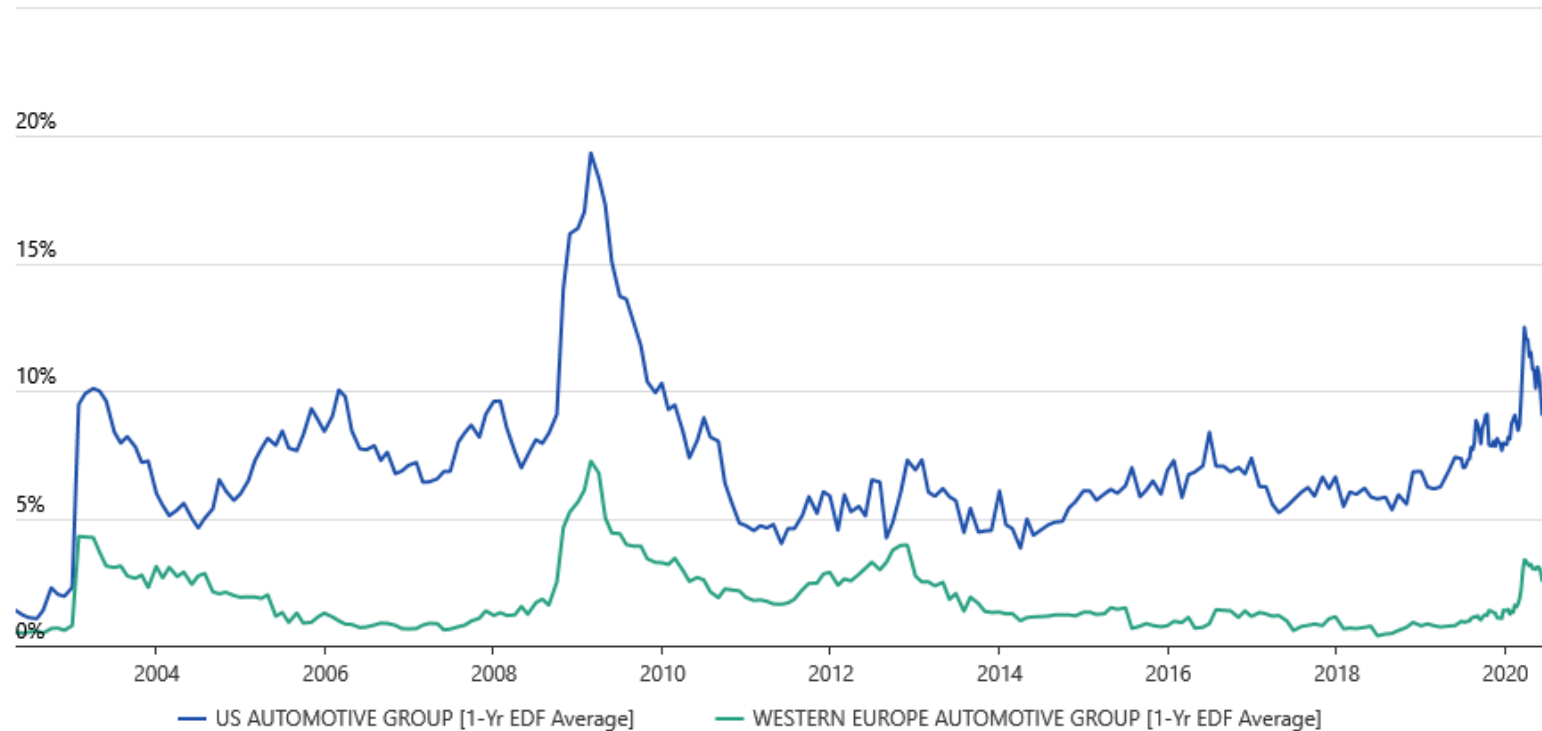
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Air Transportation EDF-IR distribution: Europe vs. U.S.



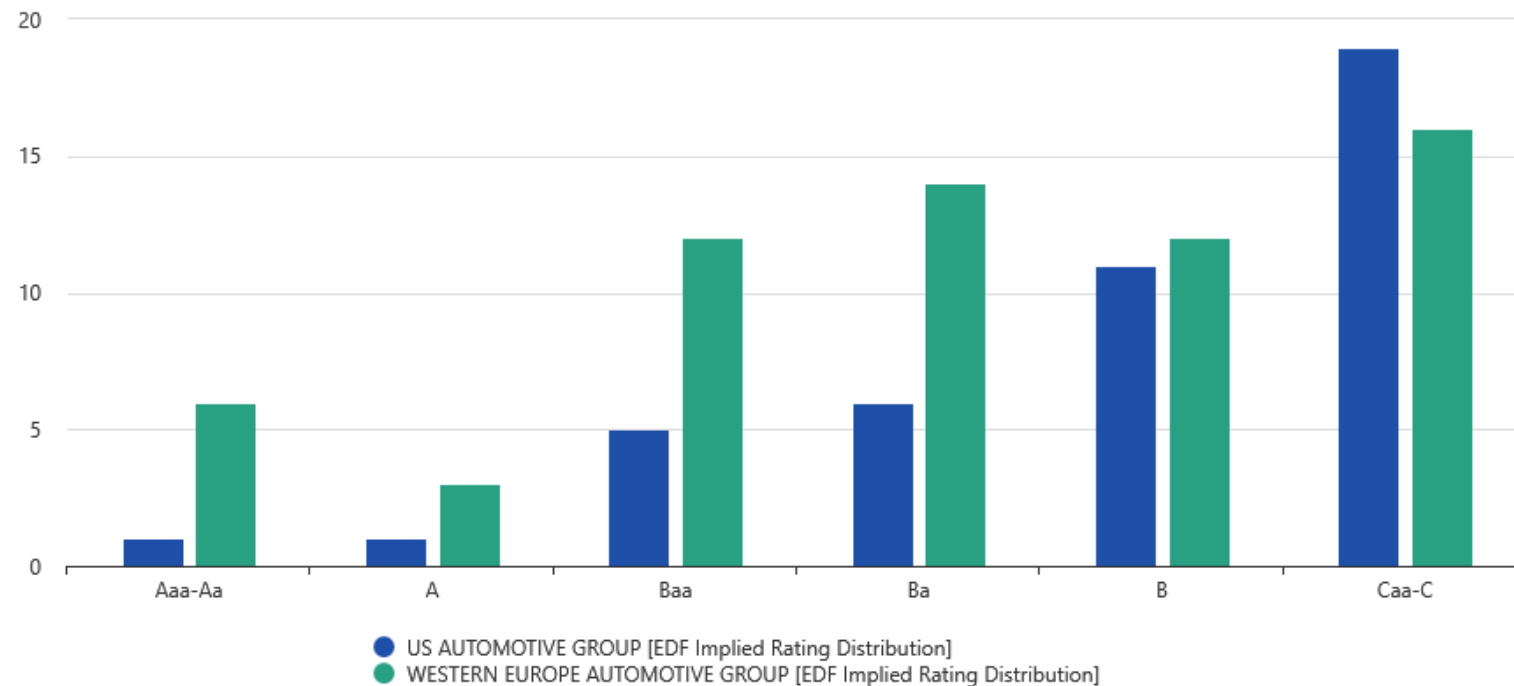
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Mean EDFs: Automotive



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Automotive EDF-IR distribution: Europe vs. U.S.



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3

Selected investment
strategy results for
bond and equity markets

3a

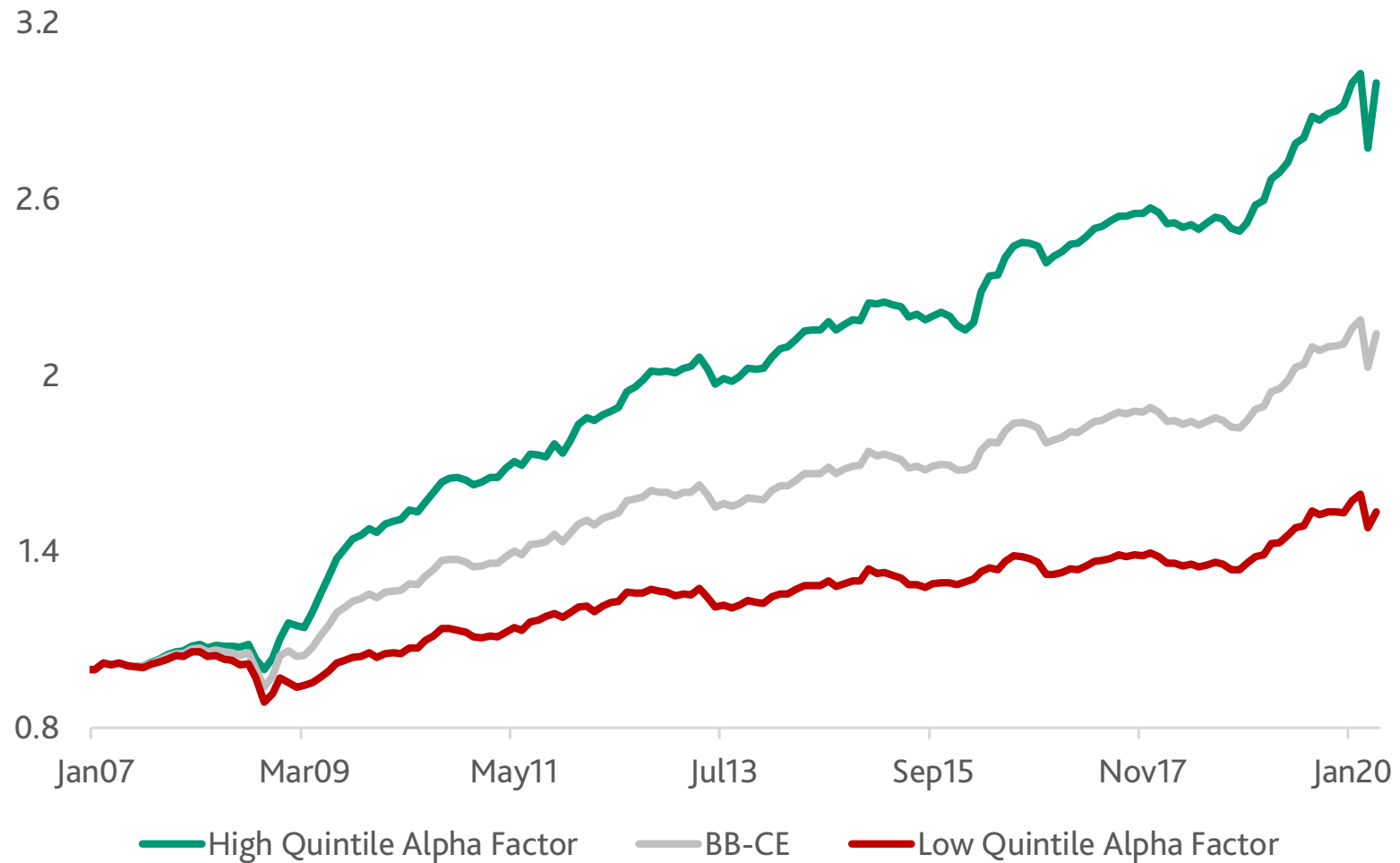
Fixed income strategies

We backtest strategies in USIG and USHY

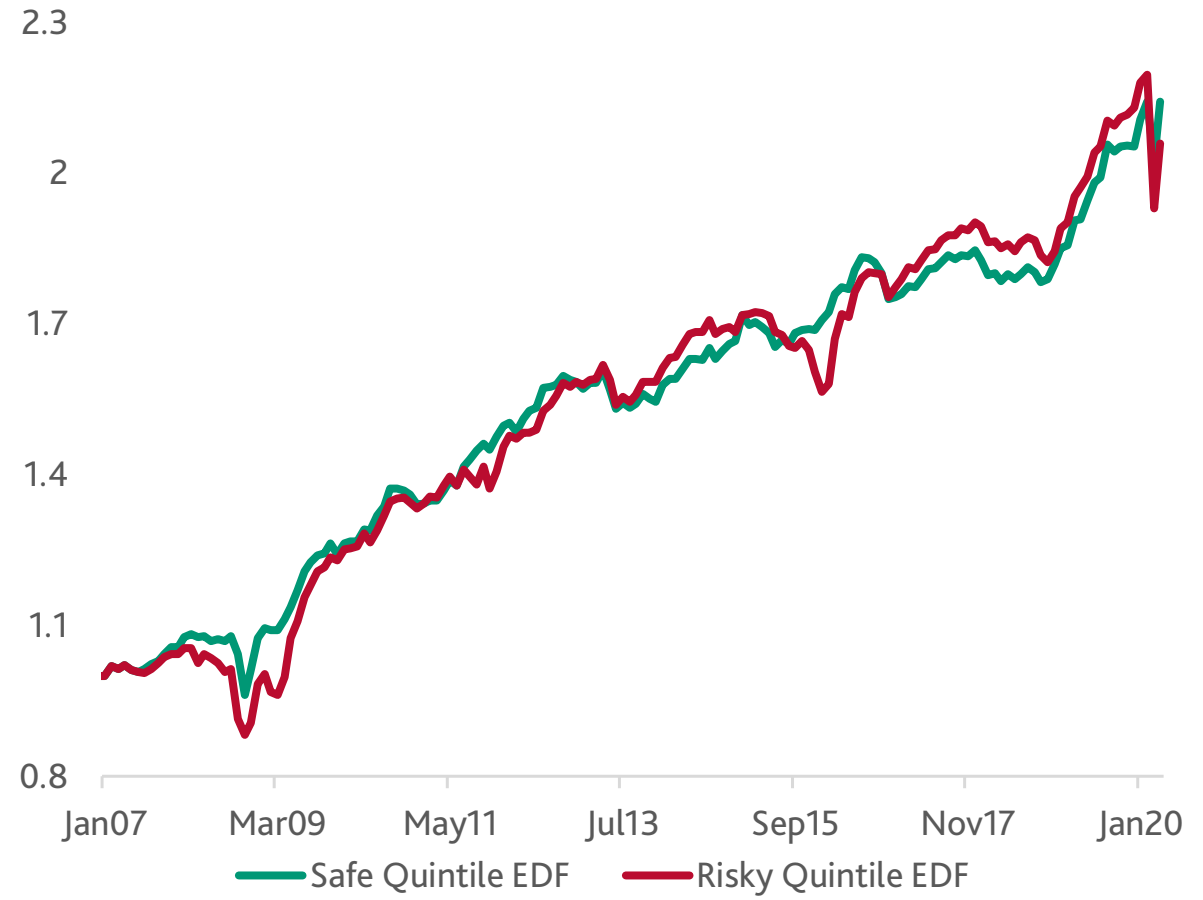
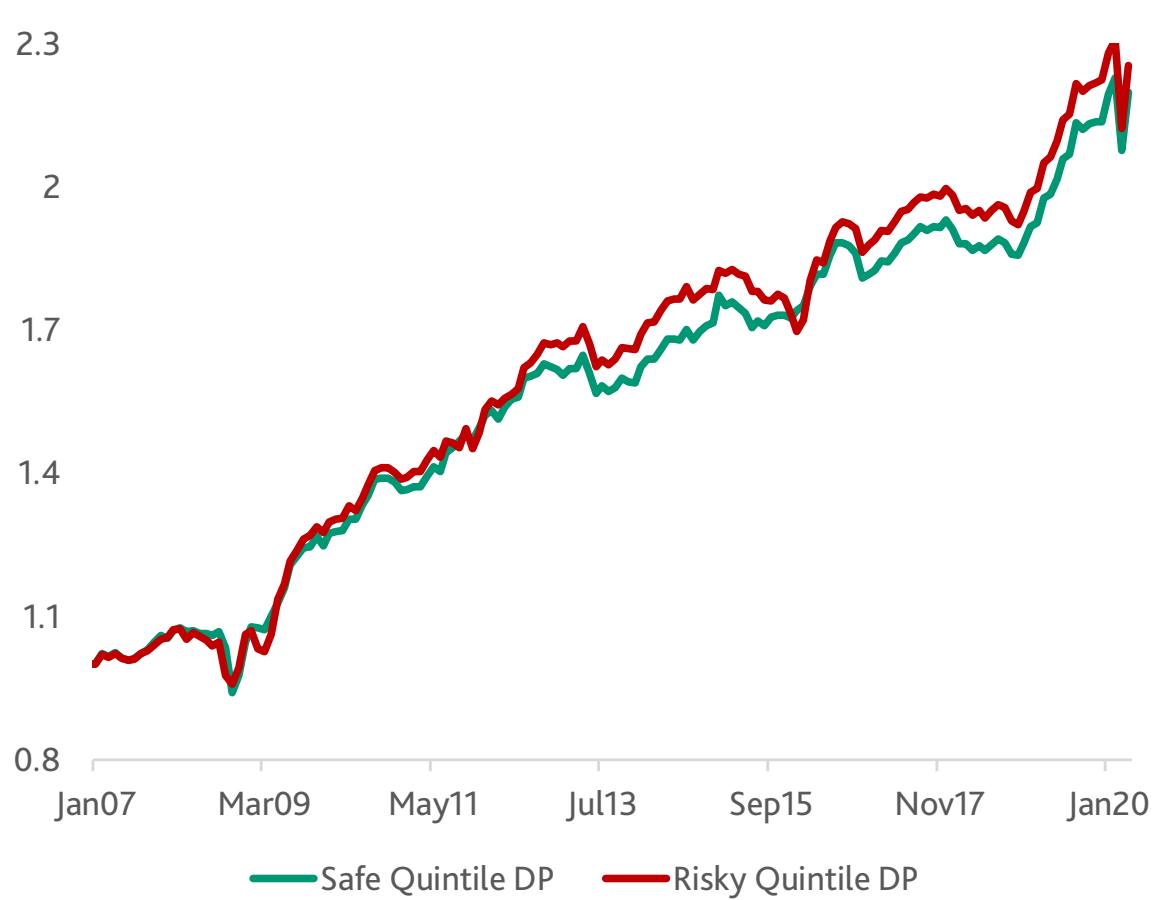
Strategies take into account duration and sector risk vis-à-vis the index

- In USIG, we sector bucket (Corporate/Financial) and duration bucket (5 groups) for 10 buckets in total.
- We form quintile portfolios by the strategy variable within each bucket, and combine, applying market weights, to form portfolio.
- In USHY, we duration-bucket only.
- This largely controls for duration/sector profile relative to index.
- In EUIG, we explore variations on these strategies.

USIG - Alpha Factor, Cumulative Returns



USIG – DP and EDF, Cumulative Returns

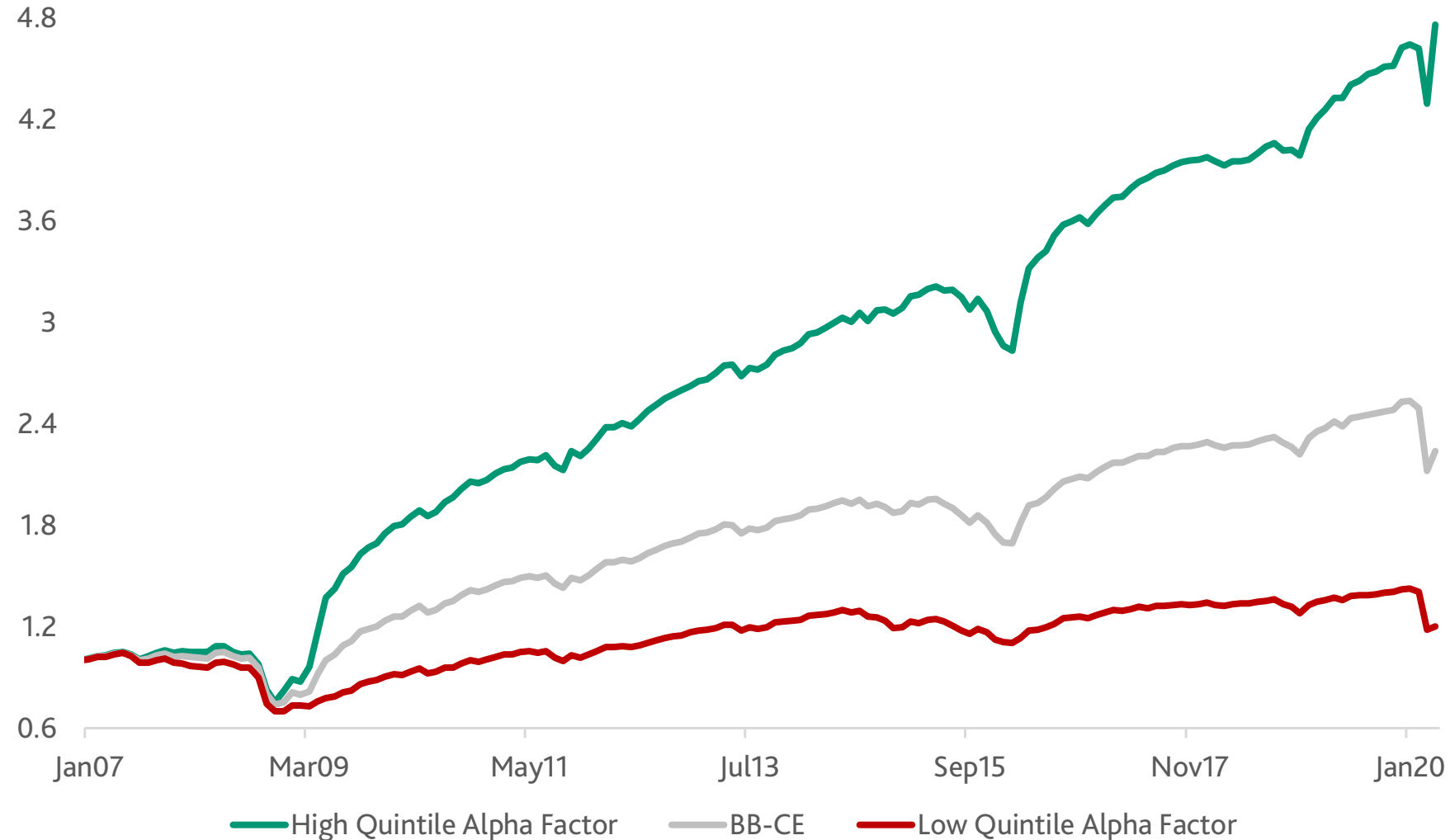


Fixed Income Strategies: Analysis

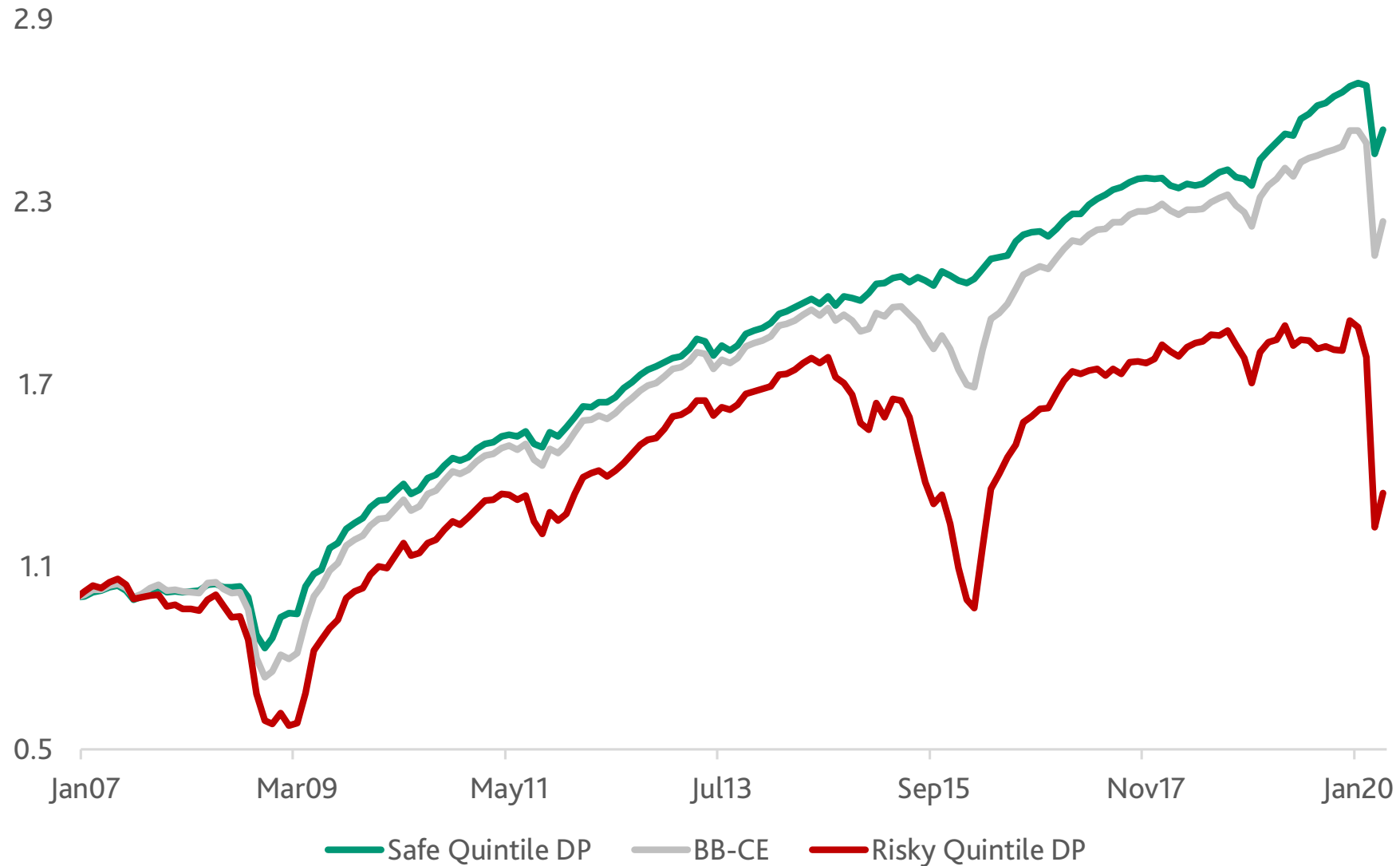
USIG

		AF Strategies		EDF Strategies		DP Strategies	
	BB_CE_USIG	High_Quintile_ Low_Quintile		Safe_Quintile	Risky_Quintile	Safe_Quintile	Risky_Quintile
		AF_USIG	_AF_USIG	_EDF_USIG	_EDF_USIG	_DP_USIG	_DP_USIG
mean return	0.5%	0.7%	0.3%	0.5%	0.5%	0.5%	0.5%
annualized mean return	5.9%	8.4%	3.4%	5.9%	5.7%	6.1%	6.3%
return sd	1.7%	1.8%	1.6%	1.6%	2.2%	1.7%	1.8%
annualized return sd	5.8%	6.3%	5.6%	5.6%	7.6%	5.9%	6.4%
annualized r_f	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
annualized SR	0.92	1.27	0.51	0.97	0.69	0.95	0.91
annualized IR	1.01	1.35	0.60	1.05	0.75	1.03	0.99
VaR_95_monthly	-1.6%	-1.5%	-1.7%	-1.6%	-2.5%	-1.5%	-2.0%
VaR_99_monthly	-5.6%	-4.0%	-5.9%	-4.2%	-6.1%	-4.6%	-4.8%
skewness	-0.58	-0.06	-1.33	-0.61	-1.19	-1.00	-0.26
kurtosis	5.73	5.80	7.42	6.48	10.27	8.71	5.36
Monthly Returns: June 2019-April 2020							
201906	2.2%	2.3%	1.9%	1.9%	2.4%	2.0%	2.1%
201907	0.6%	0.7%	0.4%	0.5%	0.6%	0.5%	0.6%
201908	3.0%	2.6%	3.3%	3.3%	2.5%	3.1%	3.0%
201909	-0.6%	-0.4%	-0.8%	-0.7%	-0.4%	-0.7%	-0.7%
201910	0.6%	0.7%	0.5%	0.5%	0.7%	0.6%	0.6%
201911	0.2%	0.3%	0.1%	0.1%	0.3%	0.2%	0.2%
201912	0.2%	0.6%	-0.2%	-0.1%	0.7%	0.0%	0.2%
202001	2.6%	2.7%	2.7%	2.6%	2.4%	2.8%	2.5%
202002	1.3%	1.0%	1.5%	1.7%	0.7%	1.5%	1.3%
202003	-7.4%	-8.4%	-7.2%	-5.5%	-12.1%	-6.8%	-8.0%
202004	5.6%	8.0%	3.6%	5.8%	6.7%	5.8%	6.2%

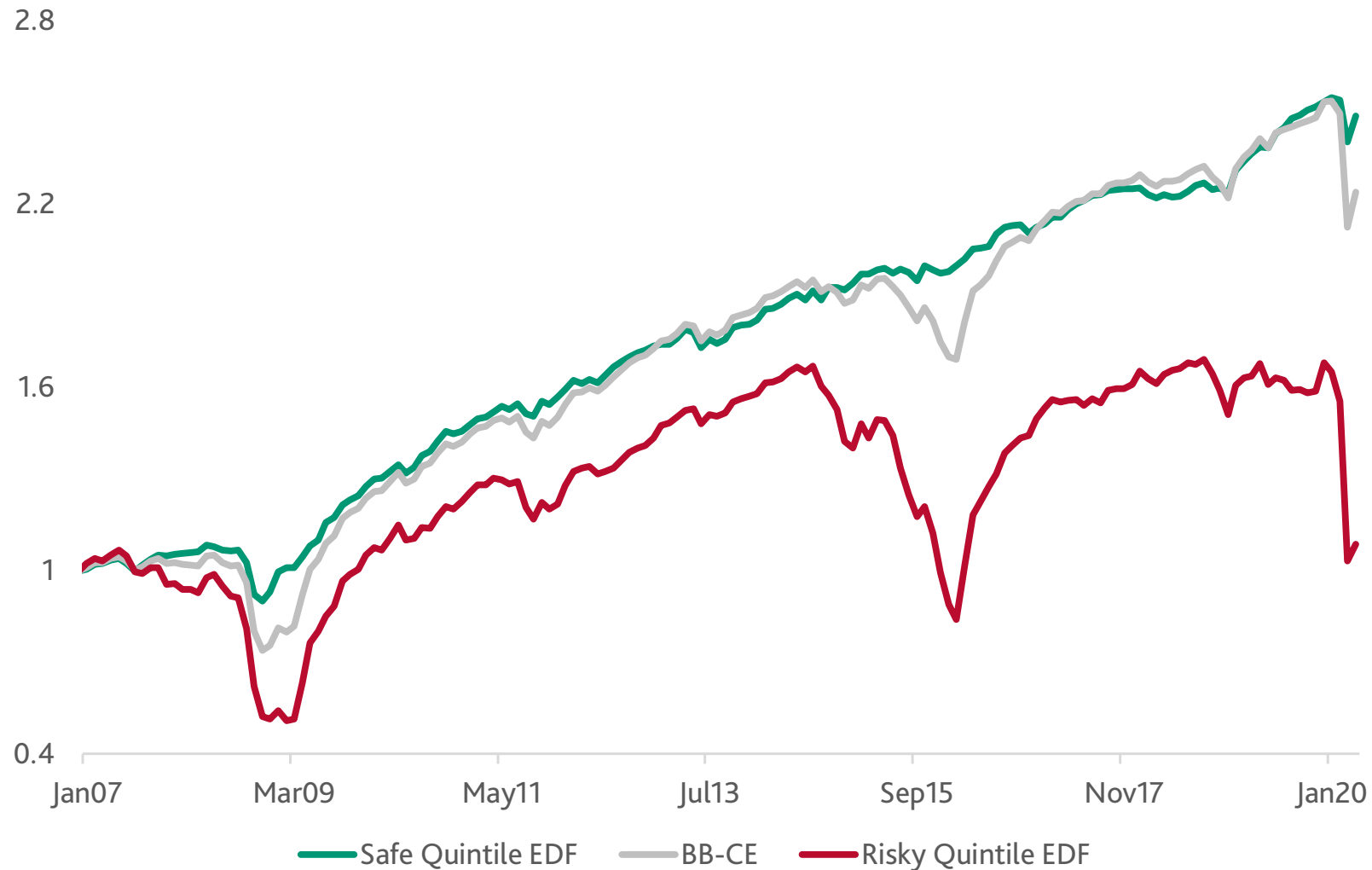
USHY – Alpha Factor, Cumulative Returns



USHY – DP, Cumulative Returns



USHY – EDF, Cumulative Returns

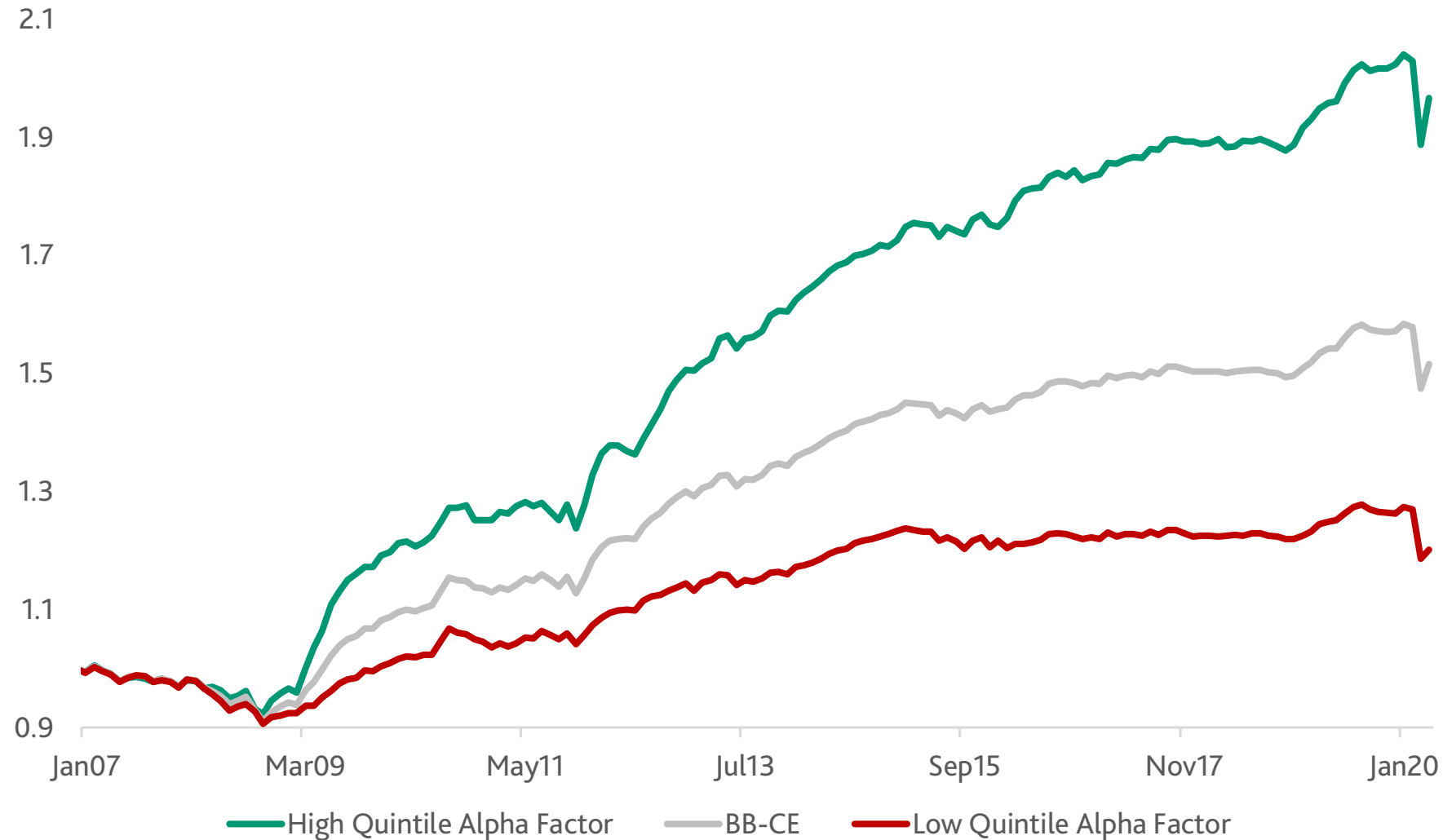


Fixed Income Strategies: Analysis

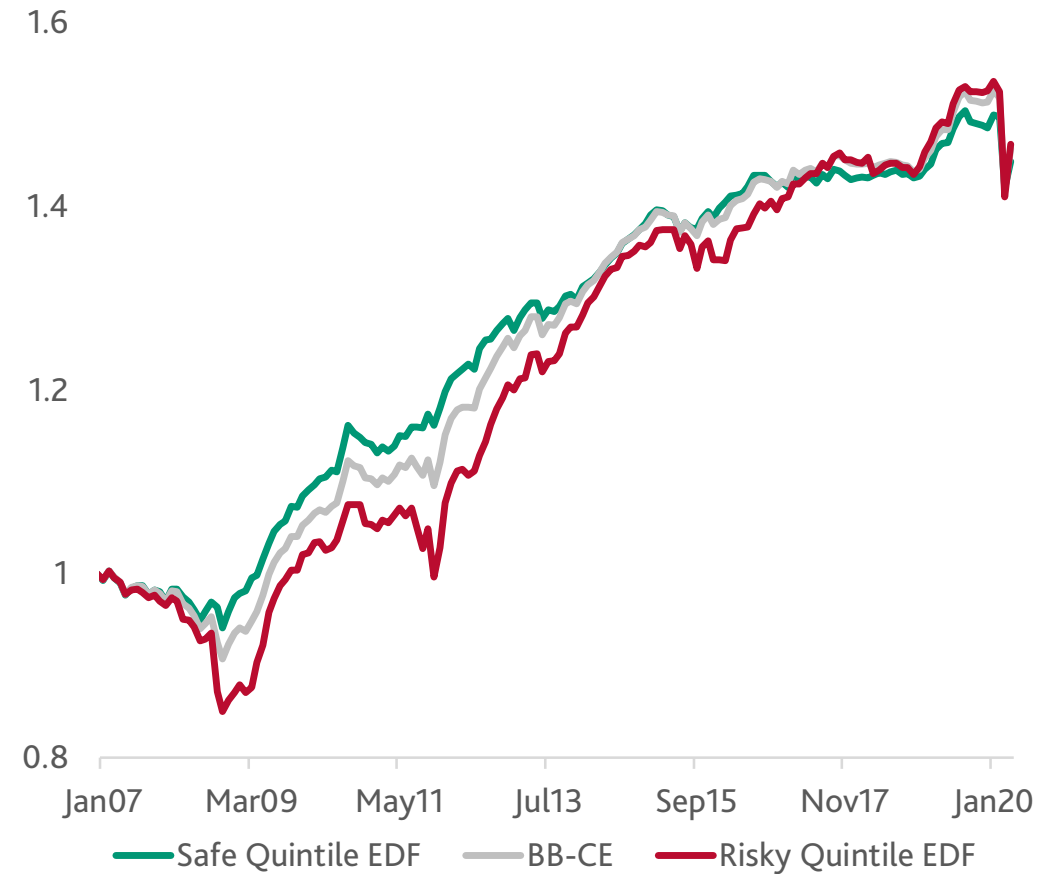
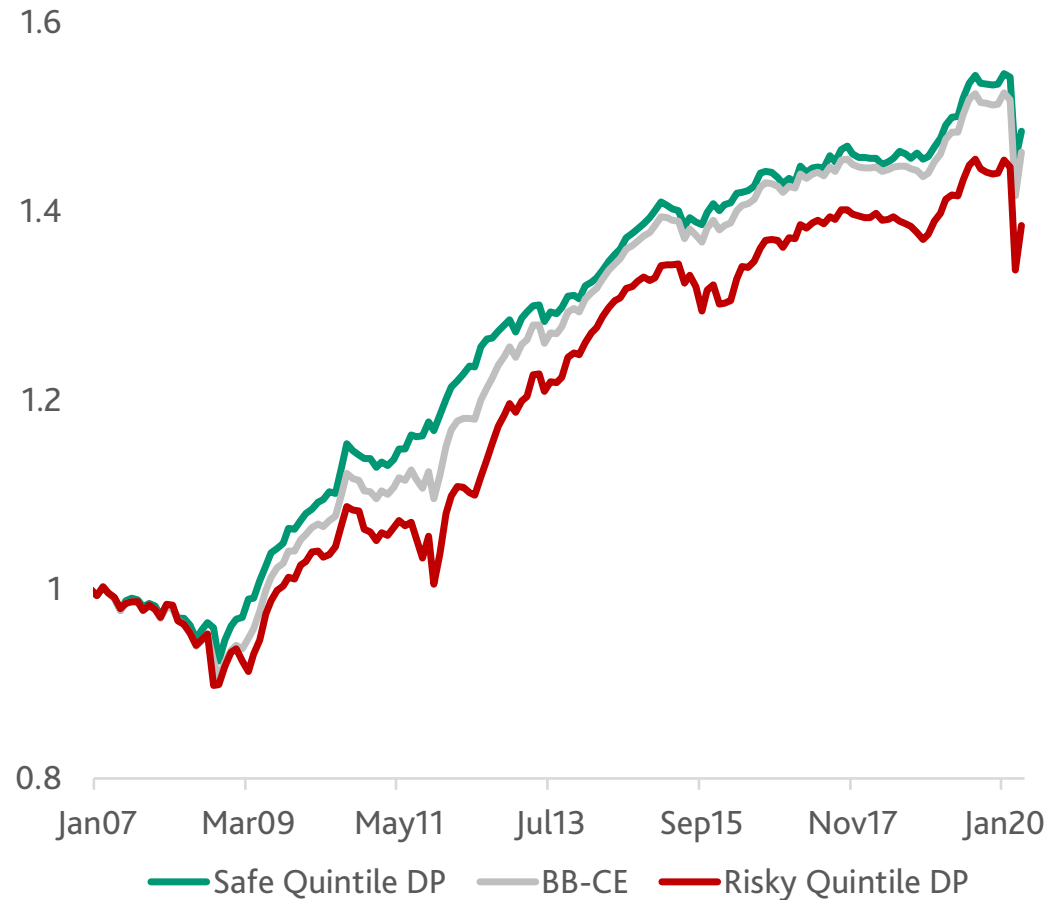
USHY

		AF Strategies		EDF Strategies		DP Strategies	
	BB_CE_USHY	High_Quintile _AF_USHY	Low_Quintile _AF_USHY	Safe_Quintile _EDF_USHY	Risky_Quintile _EDF_USHY	Safe_Quintile _DP_USHY	Risky_Quintile _DP_USHY
mean return	0.5%	1.0%	0.2%	0.6%	0.2%	0.6%	0.3%
annualized mean return	6.6%	12.5%	1.8%	7.0%	2.7%	7.3%	4.0%
return sd	2.9%	3.5%	2.6%	1.7%	5.8%	2.1%	5.3%
annualized return sd	10.2%	12.1%	9.0%	5.9%	20.1%	7.1%	18.4%
annualized r_f	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
annualized SR	0.60	0.99	0.15	1.11	0.11	0.95	0.19
annualized IR	0.65	1.03	0.20	1.20	0.14	1.02	0.22
VaR_95_monthly	-2.7%	-2.7%	-3.2%	-1.6%	-6.7%	-1.7%	-6.6%
VaR_99_monthly	-10.7%	-7.8%	-10.2%	-4.5%	-18.8%	-6.3%	-16.0%
skewness	-1.59	1.42	-3.67	-1.46	-0.86	-1.27	-0.90
kurtosis	13.00	12.92	22.02	11.38	11.39	13.63	11.45
Monthly Returns: June 2019-April 2020							
201906	2.0%	1.7%	1.6%	2.0%	1.2%	2.2%	1.2%
201907	0.5%	0.6%	0.3%	0.7%	-0.4%	0.7%	-0.2%
201908	0.3%	0.8%	0.1%	1.2%	-2.1%	1.0%	-1.5%
201909	0.4%	0.4%	0.5%	0.4%	0.2%	0.3%	0.4%
201910	0.3%	0.6%	0.4%	0.7%	-0.7%	0.8%	-0.5%
201911	0.5%	0.2%	0.4%	0.5%	0.4%	0.4%	-0.2%
201912	2.1%	2.3%	1.2%	0.7%	5.8%	0.7%	5.5%
202001	0.1%	0.5%	0.3%	0.5%	-1.7%	0.4%	-1.2%
202002	-1.6%	-0.5%	-1.3%	-0.3%	-5.8%	-0.3%	-5.3%
202003	-14.9%	-7.1%	-16.1%	-5.5%	-33.7%	-8.3%	-31.1%
202004	5.4%	10.9%	1.9%	3.5%	5.2%	3.2%	9.0%

EUIG - Alpha Factor



EUIG – DP and EDF, Cumulative Returns



Bucketing scheme: duration only; Weighting scheme: Market Value-Weighted

Fixed Income Strategies: Analysis

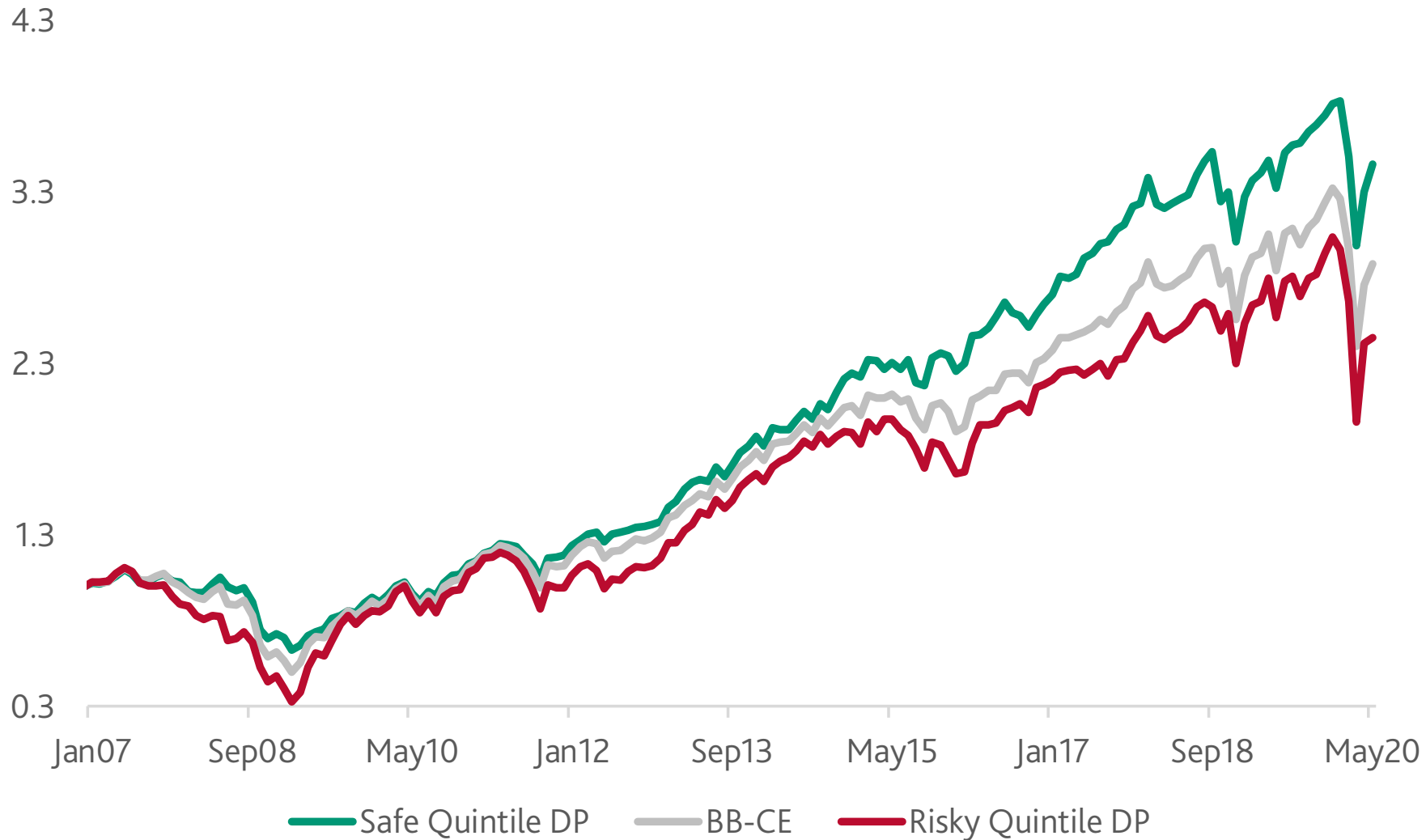
EUIG

		AF Strategies		EDF Strategies		DP Strategies	
	BB_CE_EUIG	High_Quintile	Low_Quintile_	Safe_Quintile	Risky_Quintile	Safe_Quintile	Risky_Quintile
		_AF_EUIG	_AF_EUIG	_EDF_EUIG	_EDF_EUIG	_DP_EUIG	_DP_EUIG
mean return	0.2%	0.4%	0.1%	0.2%	0.3%	0.3%	0.2%
annualized mean return	2.9%	5.2%	1.4%	2.8%	3.0%	3.0%	2.6%
return sd	1.0%	1.3%	0.9%	0.9%	1.4%	0.9%	1.3%
annualized return sd	3.6%	4.5%	3.2%	3.0%	5.0%	3.2%	4.6%
annualized r_f	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
annualized SR	0.67	1.04	0.29	0.78	0.50	0.79	0.44
annualized IR	0.81	1.15	0.44	0.94	0.60	0.94	0.55
VaR_95_monthly	-1.3%	-1.2%	-1.3%	-1.1%	-1.9%	-1.0%	-1.5%
VaR_99_monthly	-2.7%	-3.1%	-1.9%	-1.7%	-5.8%	-2.4%	-5.1%
skewness	-1.87	-0.69	-2.41	-1.47	-1.67	-1.89	-1.73
kurtosis	12.26	7.34	15.64	9.09	9.36	11.56	9.56
Monthly Returns: June 2019-April 2020							
201906	1.3%	1.6%	0.9%	1.3%	1.1%	1.0%	1.4%
201907	1.1%	1.1%	0.9%	1.0%	1.1%	0.9%	1.0%
201908	0.4%	0.4%	0.4%	0.6%	0.4%	0.4%	0.3%
201909	-0.6%	-0.5%	-0.7%	-0.5%	-0.7%	-0.8%	-0.4%
201910	-0.1%	0.2%	-0.2%	0.0%	-0.3%	-0.1%	0.0%
201911	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%
201912	0.1%	0.3%	-0.1%	0.0%	0.1%	-0.2%	0.2%
202001	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%	0.7%
202002	-0.5%	-0.5%	-0.3%	-0.2%	-0.5%	-0.1%	-0.7%
202003	-6.7%	-7.0%	-6.5%	-5.7%	-7.5%	-5.2%	-7.5%
202004	3.2%	4.2%	1.3%	2.1%	3.5%	2.0%	4.0%

3b

Equity strategies

S&P 500 – DP, Cumulative Returns



S&P 500 – EDF, Cumulative Returns

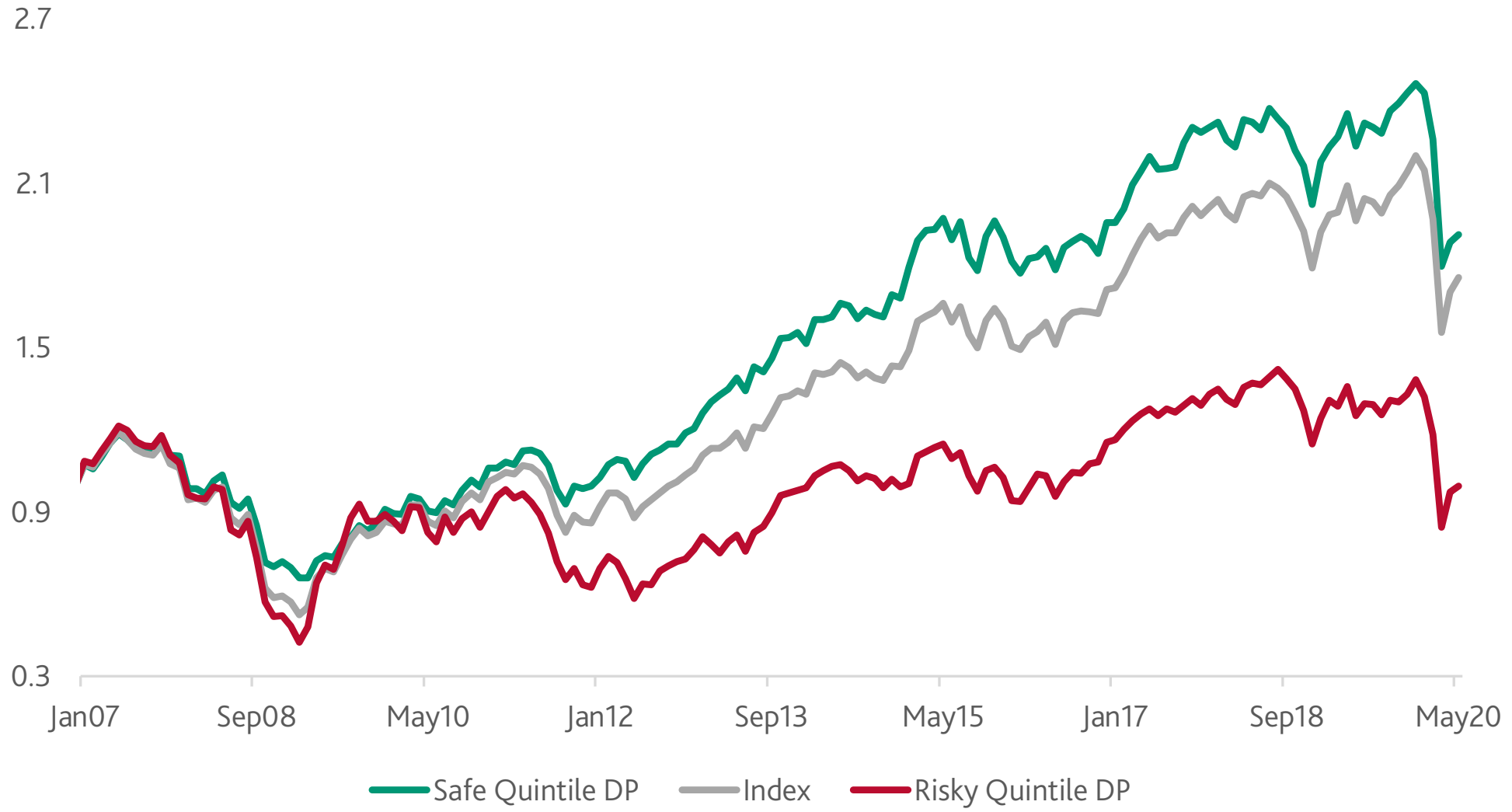


Equity Strategies: Analysis

S&P 500

		EDF Strategies			DP Strategies	
	BB_CE_US_Equity	Safe_Quintile_EDF_US_Equity	Risky_Quintile_EDF_US_Equity	Safe_Quintile_DP_US_Equity	Risky_Quintile_DP_US_Equity	
mean return	0.8%	0.8%	0.8%	0.9%	0.8%	
annualized mean return	9.6%	9.5%	9.8%	10.4%	9.9%	
return sd	5.3%	3.6%	8.4%	4.2%	7.4%	
annualized return sd	18.2%	12.5%	29.2%	14.7%	25.5%	
annualized r_f	0.5%	0.5%	0.5%	0.5%	0.5%	
annualized SR	0.50	0.72	0.32	0.67	0.37	
annualized IR	0.53	0.76	0.34	0.71	0.39	
VaR_95_monthly	-9.0%	-5.9%	-12.2%	-6.8%	-10.2%	
VaR_99_monthly	-14.6%	-11.1%	-21.4%	-12.4%	-20.3%	
skewness	-0.61	-1.02	0.14	-1.07	0.34	
kurtosis	3.01	2.09	4.81	2.97	5.69	
Monthly Returns: June 2019-May 2020						
201906	7.6%	6.5%	8.6%	6.3%	8.1%	
201907	0.9%	1.2%	1.6%	1.2%	1.1%	
201908	-3.0%	0.9%	-9.4%	0.3%	-4.3%	
201909	3.4%	1.0%	7.4%	1.8%	3.9%	
201910	1.3%	0.1%	1.2%	1.1%	0.9%	
201911	3.3%	1.9%	5.0%	1.6%	4.4%	
201912	2.6%	2.3%	3.8%	1.8%	3.2%	
202001	-1.8%	1.6%	-5.3%	0.4%	-2.4%	
202002	-9.1%	-8.5%	-12.2%	-8.4%	-10.2%	
202003	-19.0%	-11.0%	-32.9%	-14.8%	-26.4%	
202004	14.7%	9.5%	23.8%	10.4%	23.4%	
202005	4.5%	5.5%	0.4%	5.0%	1.4%	

Europe 600 – DP, Cumulative Returns



Europe 600 – EDF, Cumulative Returns



Equity Strategies: Analysis

Europe STOXX 600

	EDF Strategies			DP Strategies	
	BB_CE_Europe_Equity	Safe_Quintile_EDF_Europe_Equity	Risky_Quintile_EDF_Europe_Equity	Safe_Quintile_DP_Europe_Equity	Risky_Quintile_DP_Europe_Equity
mean return	0.5%	0.7%	0.2%	0.5%	0.2%
annualized mean return	5.7%	8.1%	2.1%	6.0%	2.9%
return sd	5.0%	3.4%	7.6%	4.3%	6.9%
annualized return sd	17.4%	11.7%	26.3%	14.8%	24.0%
annualized r_f	0.5%	0.5%	0.5%	0.5%	0.5%
annualized SR	0.30	0.65	0.06	0.37	0.10
annualized IR	0.33	0.70	0.08	0.40	0.12
VaR_95_monthly	-7.4%	-5.2%	-10.8%	-6.5%	-10.4%
VaR_99_monthly	-15.8%	-10.7%	-21.0%	-12.7%	-18.0%
skewness	-0.82	-1.08	-0.37	-1.25	-0.07
kurtosis	3.67	2.03	4.28	4.03	4.47
Monthly Returns: June 2019-May 2020					
201906	4.1%	3.9%	3.2%	3.8%	3.5%
201907	-0.6%	0.2%	-1.5%	-0.7%	-0.2%
201908	-2.0%	0.3%	-5.1%	-0.8%	-3.0%
201909	3.4%	1.0%	5.4%	3.6%	4.2%
201910	1.7%	0.5%	1.7%	1.1%	-0.3%
201911	2.4%	2.4%	2.0%	1.6%	2.0%
201912	2.7%	0.9%	4.0%	1.5%	4.0%
202001	-2.3%	0.9%	-5.4%	-1.4%	-4.3%
202002	-8.4%	-6.4%	-10.3%	-7.0%	-10.4%
202003	-21.0%	-12.1%	-34.0%	-20.5%	-28.6%
202004	9.4%	5.6%	14.8%	4.8%	15.1%
202005	3.1%	4.4%	1.1%	1.5%	2.3%

Conclusion

The next chapter for Chronic COVID markets

- Vulnerable sectors will likely be subject to further shocks and elevated rates of bankruptcy and default
- A number of policy risks (i.e. wavering fiscal policy support, failure to maintain control over virus spread) could lead to an accelerated bankruptcy timetable
- Safety-first strategies in bond and equity markets will continue to add value to investors as volatility remains high

Questions & Answers

Moody's Webinars

Coronavirus Live

events.moody's.io/coronavirus

coronavirus@moody's.com

Full webinars schedule

events.moody's.io

events.emea@moody's.com

Coming next:

Credit Risk Metrics and Bond Spreads: Dynamics and Trading Strategies (Malone and Choi, at the Virtual CreditEdge and RiskCalc User Forum, July 28th)

A microscopic view of a cell, likely a bacterium, with a pipette tip positioned over it. The image is illuminated with blue and red light, creating a dramatic, high-contrast effect. The cell's internal structure is visible, and the pipette tip is in sharp focus.

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