

COMMENTARY

- While the New Economies composite indices were flat for the quarter, a number of Kensho sectors posted losses in Q3. Human Evolution was the worst performer, down 14%, driven by weakness in the Biotech space, as companies faced headwinds including regulatory and drug pricing risk.
- The exceptions were Clean Power and Final Frontiers, up 3% and 6%, respectively.
- Among Kensho subsectors, Clean Energy was the top performer in Q3, up 7%. Meanwhile, Genetic Engineering, which overlaps heavily with Human Evolution, was the laggard, down 19%.

QUARTERLY PERFORMANCE SUMMARY

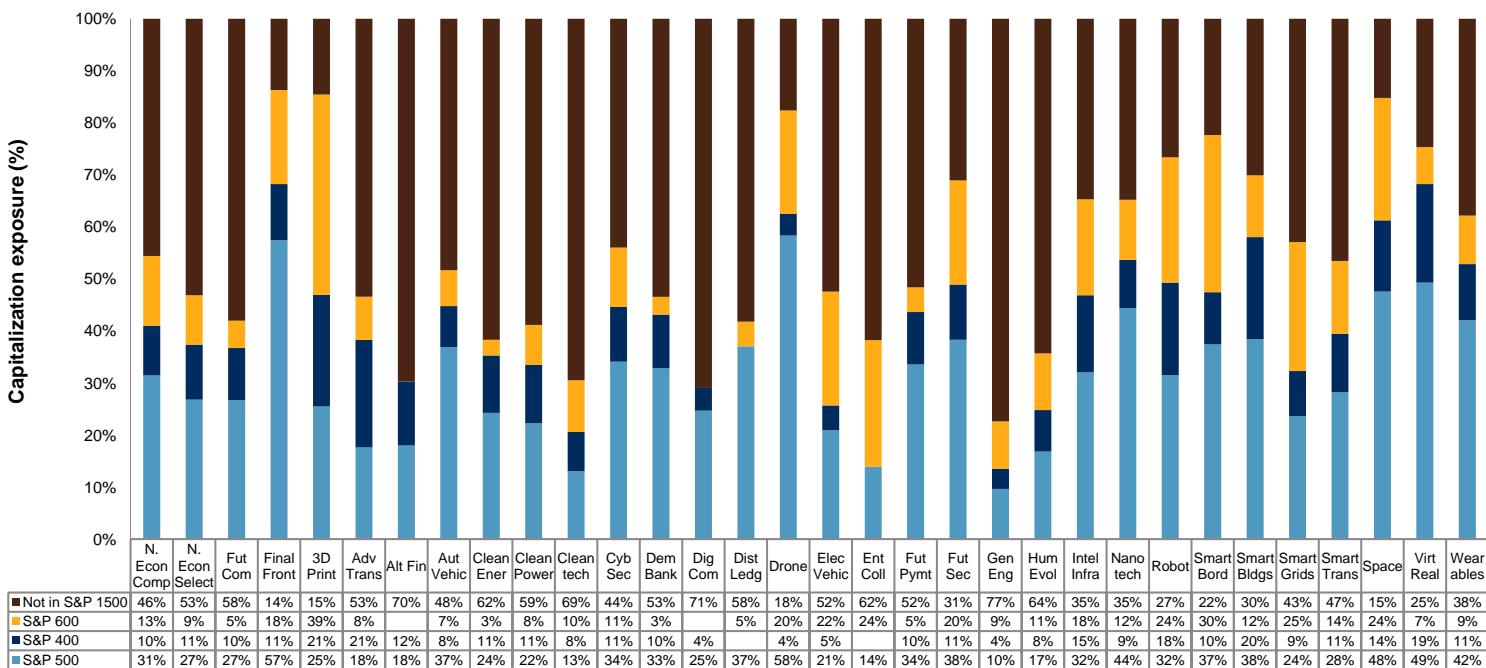
The S&P Kensho New Economies are a family of indices describing the industries and innovations of the Fourth Industrial Revolution. The rapid developments on artificial intelligence and robotics, coupled with exponential processing power and ubiquitous connectivity (IoT), are driving structural changes in the global economy, disrupting existing industries and forging new ones.

Composite Indices			
INDEX	QTD	YTD	12M
New Economies Composite	-0.32%	25.21%	-0.19%
New Economies Select	0.63%	23.77%	-2.65%
S&P Composite 1500®	1.53%	20.18%	3.39%

Subsectors			
INDEX	QTD	YTD	12M
Clean Energy	7.29%	22.80%	27.53%
Space	6.47%	38.41%	12.32%
Virtual Reality	4.59%	31.11%	-6.40%
Wearables	2.45%	15.26%	-6.62%
Drones	1.87%	29.32%	-3.73%
Nanotechnology	1.85%	16.36%	0.57%
Autonomous Vehicles	1.60%	13.36%	-5.33%
Smart Borders	1.18%	41.42%	20.15%
Future Payments	1.17%	33.36%	11.99%
Smart Grids	0.63%	29.08%	4.81%
Cleantech	0.08%	50.34%	30.14%
Smart Buildings	-0.67%	17.92%	-5.92%
Digital Communities	-1.34%	20.57%	1.85%
Cyber Security	-1.96%	25.90%	4.86%
Distributed Ledger	-2.70%	20.58%	-11.50%
Robotics	-3.60%	23.09%	-5.51%
Enterprise Collaboration	-4.08%	36.35%	23.43%
Alternative Finance	-5.76%	19.61%	-10.37%
Electric Vehicles	-7.85%	7.83%	-14.97%
3D Printing	-8.76%	10.43%	-19.75%
Advanced Transport Systems	-1.46%	6.05%	-16.27%
Genetic Engineering	-9.25%	5.15%	-25.69%

Sectors			
INDEX	QTD	YTD	12M
Final Frontiers	6.01%	38.49%	12.11%
Clean Power	3.01%	37.85%	30.05%
Future Security	-0.55%	27.42%	5.29%
Future Communication	-0.59%	27.86%	3.98%
Intelligent Infrastructure	-0.74%	22.86%	-1.67%
Democratized Banking	-2.38%	26.21%	0.73%
Smart Transportation	-5.53%	13.89%	-10.22%
Human Evolution	-3.80%	8.61%	-19.92%

PORTFOLIO EXPOSURE ACROSS CAP SPECTRUM



Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of September 30, 2019.

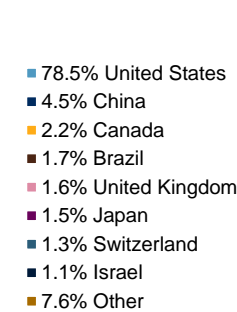
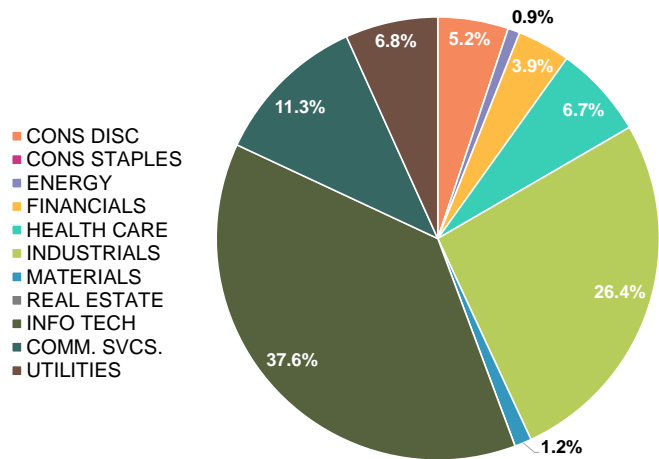
GICS SECTOR EXPOSURE SUMMARY

INDEX	CONS DISC	CONS STAPLES	ENERGY	FINANCIALS	HEALTH CARE	INDUSTRIALS	MATERIALS	REAL ESTATE	INFO TECH	COMM. SVCS.	UTILITIES
New Economies Composite	5.15%	0.00%	0.88%	3.87%	6.74%	26.45%	1.24%	0.00%	37.62%	11.30%	6.76%
New Economies Select	3.7%	0.0%	1.1%	1.8%	5.6%	17.5%	1.5%	0.0%	46.9%	5.1%	16.7%
Clean Power	3.5%	0.0%	3.1%	0.0%	0.0%	21.7%	4.3%	0.0%	26.2%	0.6%	40.6%
Democratized Banking	4.9%	0.0%	0.0%	30.6%	1.2%	0.0%	0.0%	0.0%	54.2%	9.1%	0.0%
Final Frontiers	0.0%	0.0%	4.0%	0.0%	0.0%	77.4%	3.4%	0.0%	15.2%	0.0%	0.0%
Future Communication	12.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	35.4%	51.6%	0.0%
Future Security	0.0%	0.0%	0.0%	0.0%	3.5%	39.5%	0.0%	0.0%	57.0%	0.0%	0.0%
Human Evolution	0.0%	0.0%	0.0%	0.0%	97.2%	0.0%	0.0%	0.0%	2.8%	0.0%	0.0%
Intelligent Infrastructure	7.0%	0.0%	1.8%	0.0%	0.0%	48.2%	0.0%	0.0%	37.2%	3.6%	2.3%
Smart Transportation	38.7%	0.0%	0.0%	0.9%	0.0%	21.5%	1.3%	0.0%	31.4%	6.2%	0.0%

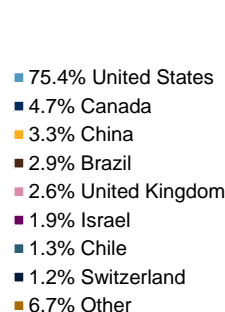
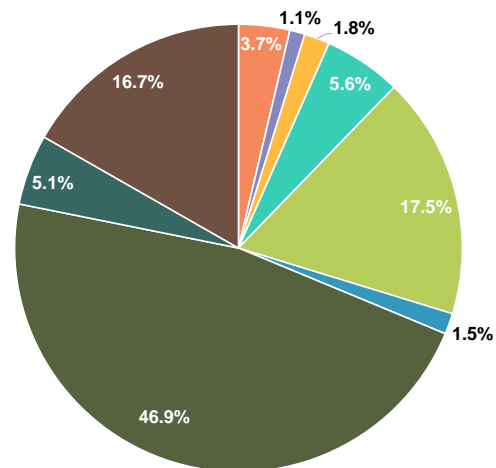
INDEX	CONS DISC	CONS STAPLES	ENERGY	FINANCIALS	HEALTH CARE	INDUSTRIALS	MATERIALS	REAL ESTATE	INFO TECH	COMM. SVCS.	UTILITIES
3D Printing	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	29.2%	0.0%	60.8%	0.0%	0.0%
Adv Transport Systems	7.7%	0.0%	0.0%	8.4%	0.0%	38.1%	0.0%	0.0%	26.6%	19.2%	0.0%
Alternative Finance	0.0%	0.0%	0.0%	77.5%	3.6%	0.0%	0.0%	0.0%	15.4%	3.5%	0.0%
Autonomous Vehicles	45.6%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	0.0%	43.0%	5.2%	0.0%
Clean Energy	6.5%	0.0%	5.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	85.3%
Cleantech	4.7%	0.0%	0.0%	0.0%	0.0%	39.6%	5.9%	0.0%	40.3%	0.0%	9.4%
Cyber Security	0.0%	0.0%	0.0%	0.0%	0.0%	19.9%	0.0%	0.0%	80.1%	0.0%	0.0%
Digital Communities	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	85.8%	0.0%
Distributed Ledger	8.2%	0.0%	0.0%	17.0%	0.0%	0.0%	0.0%	0.0%	64.2%	10.6%	0.0%
Drones	0.0%	0.0%	5.2%	0.0%	0.0%	75.6%	0.0%	0.0%	16.3%	2.9%	0.0%
Electric Vehicles	56.5%	0.0%	0.0%	0.0%	0.0%	27.0%	2.4%	0.0%	14.1%	0.0%	0.0%
Enterprise Collaboration	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	86.4%	13.6%	0.0%
Future Payments	3.9%	0.0%	0.0%	7.5%	0.0%	0.0%	0.0%	0.0%	69.8%	18.9%	0.0%
Genetic Engineering	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nanotechnology	0.0%	0.0%	0.0%	0.0%	46.8%	12.1%	9.3%	0.0%	31.8%	0.0%	0.0%
Robotics	4.9%	0.0%	1.7%	0.0%	53.5%	26.0%	0.0%	0.0%	13.9%	0.0%	0.0%
Smart Borders	0.0%	0.0%	0.0%	0.0%	18.2%	43.3%	0.0%	0.0%	38.5%	0.0%	0.0%
Smart Buildings	6.1%	0.0%	0.0%	0.0%	0.0%	45.4%	0.0%	0.0%	37.8%	10.7%	0.0%
Smart Grids	7.5%	0.0%	2.6%	0.0%	0.0%	49.0%	0.0%	0.0%	33.5%	0.0%	7.4%
Space	0.0%	0.0%	0.0%	0.0%	0.0%	80.3%	3.3%	0.0%	16.4%	0.0%	0.0%
Virtual Reality	20.6%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%	55.4%	17.7%	0.0%
Wearables	20.1%	0.0%	0.0%	0.0%	47.4%	0.0%	0.0%	0.0%	32.4%	0.0%	0.0%

BREAKDOWN OF INDEX WEIGHT BY TRADITIONAL SECTOR AND COUNTRY

S&P Kensho New Economies Composite



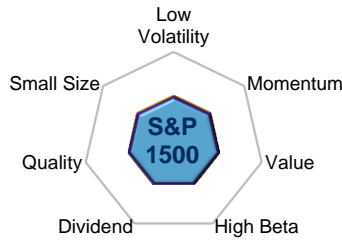
S&P Kensho New Economies Select



KEY TO FACTOR SCORINGS FOR INDICES

Factor Definitions

Each constituent of the S&P 1500 index is provided with a factor "score" for each of Beta, Volatility, Momentum, Dividend, Size, Value and Quality.



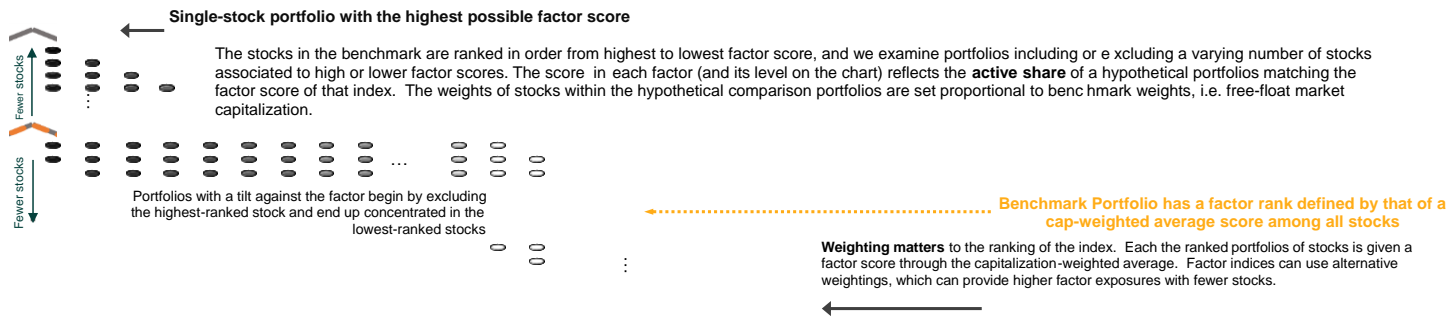
Factor	Measurement at single-stock level
<b>Volatility</b>	Trailing 12-month daily return volatility
<b>Momentum</b>	Twelve-month price change as of one month ago ("13 minus 1 momentum"), divided by the daily volatility during the twelve-month period that ended one month ago. For more details, see the <a href="#">S&amp;P Momentum</a> methodology
<b>Value</b>	The average of (normalized) earnings to price ratio, book to price ratio and sales to price ratio. For more details, see the <a href="#">S&amp;P Value</a> methodology.
<b>Beta</b>	Trailing 1 year beta of stock daily returns to the benchmark's return.
<b>Dividend</b>	Trailing 12-month dividend
<b>Quality</b>	The average of the (normalized) return on equity, the negative of the accruals ratio and the negative of the financial leverage ratio. For more details, see the <a href="#">S&amp;P Quality</a> methodology.
<b>Size</b>	Free-float market capitalization

Index Factor Ranking and Factor Diagram Scaling

Index Scores

Each index is provided a score in each factor from -100% to +100% based on how much of the total capitalization of the benchmark would must be excluded in order to provide a portfolio of stocks with similar exposure to that factor. This is done by examining a ranked series of hypothetical cap-weighted portfolios, including or excluding an increasing number of the stocks with the highest or lowest scores. An illustration of the process may be found at this link.

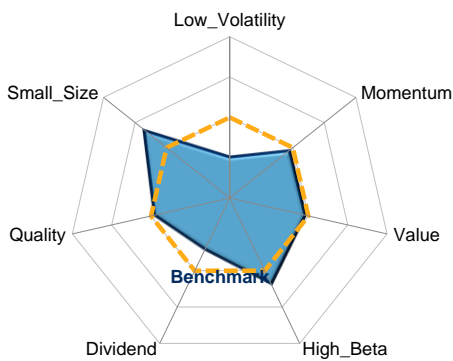
Factor Diagram Axis



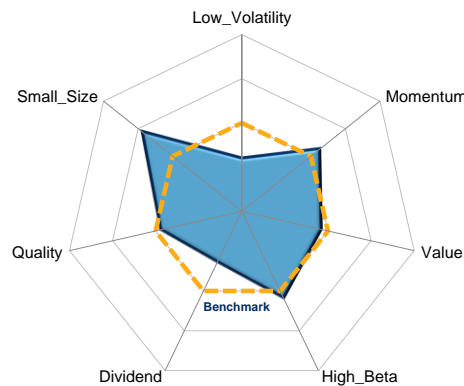
FACTOR EXPOSURE SUMMARY RELATIVE TO S&P 1500

- The diagrams below illustrate factor exposures relative to the S&P 1500 across Kensho sectors and subsectors.

S&P Kensho New Economies Composite



S&P Kensho New Economies Select



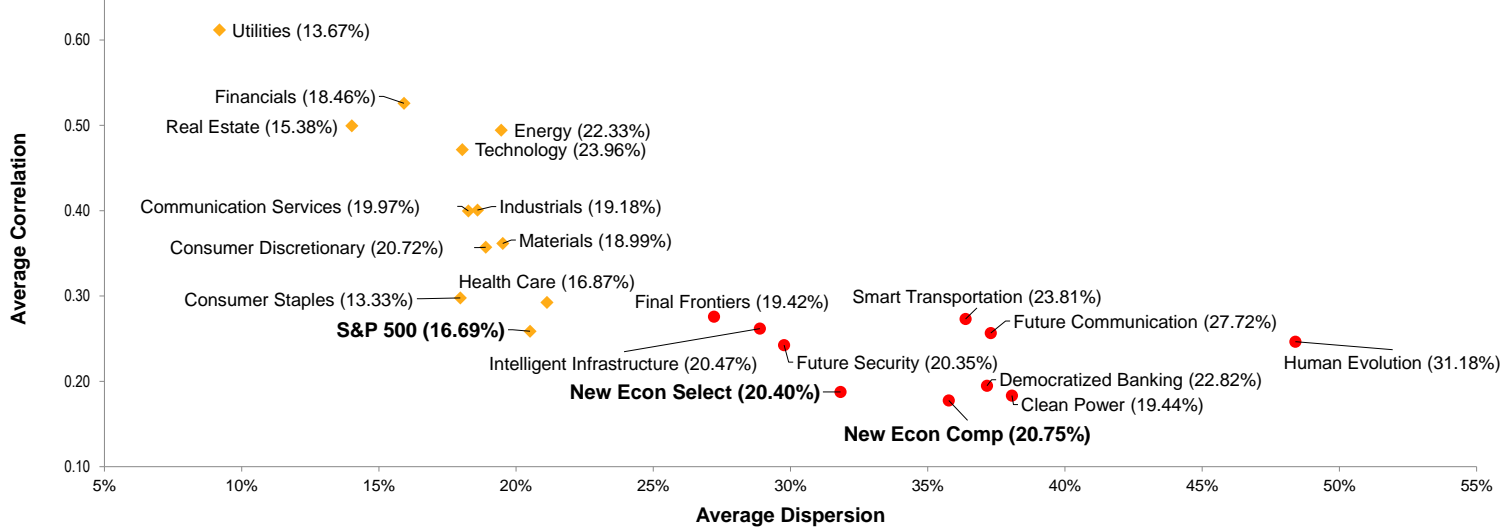
INDEX	LOW VOLATILITY	MOMENTUM	VALUE	HIGH BETA	DIVIDEND	QUALITY	SMALL SIZE
<b>S&amp;P Composite 1500®</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
New Economies Composite	-49.3%	-6.1%	-5.0%	17.4%	-29.8%	-5.5%	34.1%
New Economies Select	-40.6%	12.3%	-8.2%	8.4%	-36.6%	-6.6%	43.5%
Clean Power	-33.7%	23.7%	-0.3%	-36.0%	-3.7%	-41.8%	64.0%
Democratized Banking	-37.9%	8.3%	-24.0%	36.9%	-41.6%	6.0%	22.3%
Final Frontiers	-18.2%	6.2%	-5.3%	0.2%	-14.0%	-36.4%	41.5%
Future Communication	-87.2%	-36.5%	-13.9%	77.3%	-66.3%	-12.7%	17.4%
Future Security	-40.6%	-7.0%	-3.4%	10.0%	-26.4%	-12.7%	58.0%
Human Evolution	-70.7%	-19.5%	-32.9%	21.7%	-62.1%	-5.0%	59.1%
Intelligent Infrastructure	-47.6%	-18.4%	5.7%	23.6%	-35.6%	8.8%	54.7%
Smart Transportation	-82.5%	-41.3%	60.2%	49.4%	-20.4%	-16.4%	47.2%

COMMENTARY

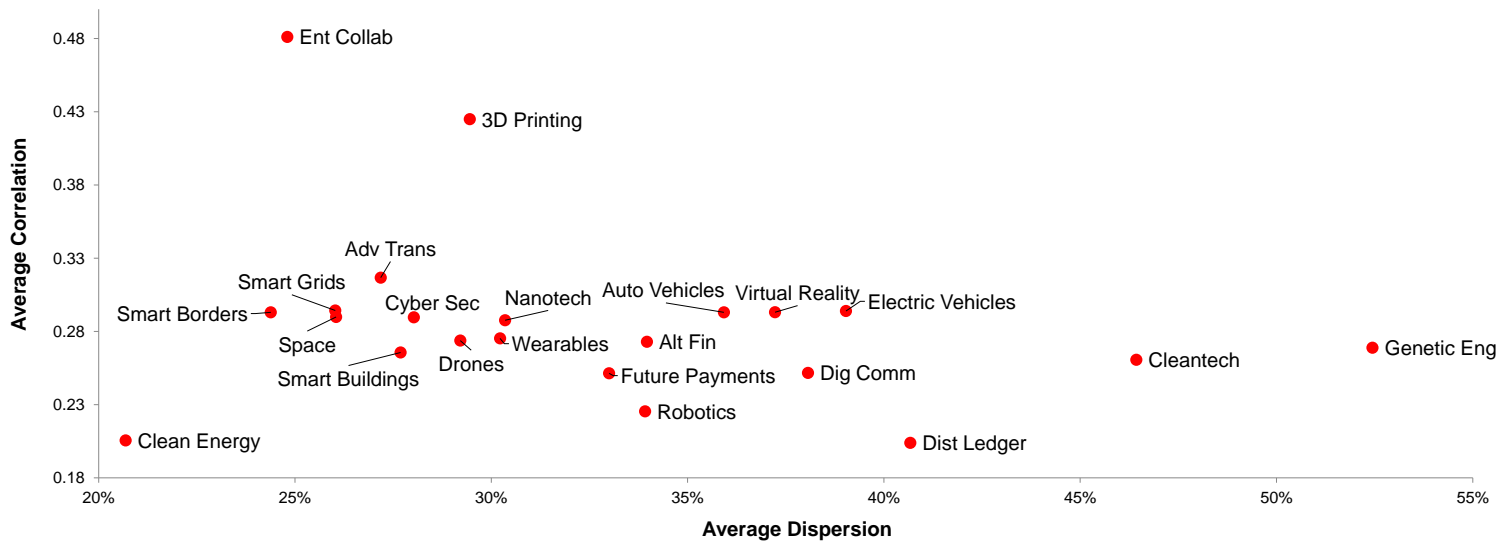
- Dispersion decreased across most S&P 500 and Kensho sectors and subsectors, especially in Robotics and Nanotechnology.
- Correlations decreased across all S&P 500 sectors and most Kensho sectors and subsectors, especially in Autonomous Vehicles and Clean Energy.

SECTOR DISPERSION AND CORRELATION

S&P 500 and Kensho Sectors Average Correlation and Dispersion (Trailing 12-Month Volatility)



Kensho Subsector Average Correlation and Dispersion (Trailing 12-Month Volatility)



#	Kensho Subsector	1Yr Risk	#	Kensho Subsector	1Yr Risk
1	Alt Fin	24.9%	12	Drones	22.0%
2	Dig Comm	26.4%	13	Genetic Eng	35.7%
3	Dist Ledger	24.6%	14	Nanotech	23.5%
4	Ent Collab	38.1%	15	Robotics	22.2%
5	Electric Vehicles	24.5%	16	Smart Borders	19.1%
6	3D Printing	28.9%	17	Smart Grids	20.7%
7	Adv Trans	22.9%	18	Smart Buildings	20.5%
8	Auto Vehicles	24.4%	19	Space	19.2%
9	Clean Energy	13.2%	20	Virtual Reality	26.8%
10	Cleantech	28.1%	21	Wearables	24.8%
11	Cyber Sec	22.0%	22	Future Payments	23.7%

NOTES

- The charts above decomposed volatility into its two main components: dispersion and correlation. The dispersion and correlation data points are each sector's average monthly value over the trailing 12 months. Trailing annualized volatility is included in parentheses. Index dispersions shown based on calendar month stock-level index-weighted dispersion. Index correlation based on single stock daily total returns during each calendar month. See "Implications of Sector Dispersion" for more information.
- See "At the Intersection of Diversification, Volatility and Correlation" for details on the relationship between correlation and dispersion.
- See "Dispersion: Measuring Market Opportunity" for the definition of index dispersion and more information on the uses of dispersion.

Sectors Relative to S&P Composite 1500

Sectors Relative to S&P 500<sup>®</sup>

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	New Economies Composite	New Economies Select	Democratized Banking	Human Evolution	Clean Power	Future Communication	Future Security	Human Evolution	Intelligent Infrastructure	Smart Transportation	New Economies Composite	New Economies Select	Democratized Banking	Human Evolution	Clean Power	Future Communication	Future Security	Human Evolution	Intelligent Infrastructure	Smart Transportation
New Economies Composite	1.00	0.88	0.53	0.59	0.57	0.45	0.65	0.73	0.65	0.55	1.00	0.89	0.55	0.59	0.57	0.49	0.65	0.74	0.69	0.59
New Economies Select	0.88	1.00	0.43	0.50	0.48	0.47	0.52	0.67	0.59	0.40	0.89	1.00	0.46	0.51	0.49	0.50	0.53	0.69	0.63	0.44
Democratized Banking	0.53	0.43	1.00	0.33	0.59	0.00	0.57	0.35	0.31	0.35	0.55	0.46	1.00	0.35	0.59	0.04	0.58	0.37	0.35	0.39
Human Evolution	0.59	0.50	0.33	1.00	0.35	0.11	0.37	0.36	0.18	0.21	0.59	0.51	0.35	1.00	0.36	0.14	0.38	0.37	0.21	0.24
Clean Power	0.57	0.48	0.59	0.35	1.00	-0.02	0.92	0.33	0.20	0.30	0.57	0.49	0.36	1.00	0.00	0.92	0.34	0.22	0.32	
Future Communication	0.45	0.47	0.00	0.11	-0.02	1.00	0.02	0.55	0.37	0.11	0.49	0.50	0.04	0.14	0.00	1.00	0.05	0.57	0.42	0.16
Future Security	0.65	0.52	0.57	0.37	0.92	0.02	1.00	0.42	0.27	0.33	0.65	0.53	0.58	0.38	0.92	0.05	1.00	0.43	0.29	0.35
Human Evolution	0.73	0.67	0.35	0.36	0.33	0.55	0.42	1.00	0.45	0.28	0.74	0.69	0.37	0.37	0.34	0.57	0.43	1.00	0.49	0.32
Intelligent Infrastructure	0.65	0.59	0.31	0.18	0.20	0.37	0.27	0.45	1.00	0.71	0.69	0.63	0.35	0.21	0.22	0.42	0.29	0.49	1.00	0.73
Smart Transportation	0.55	0.40	0.35	0.21	0.30	0.11	0.33	0.28	0.71	1.00	0.59	0.44	0.39	0.24	0.32	0.16	0.35	0.32	0.73	1.00

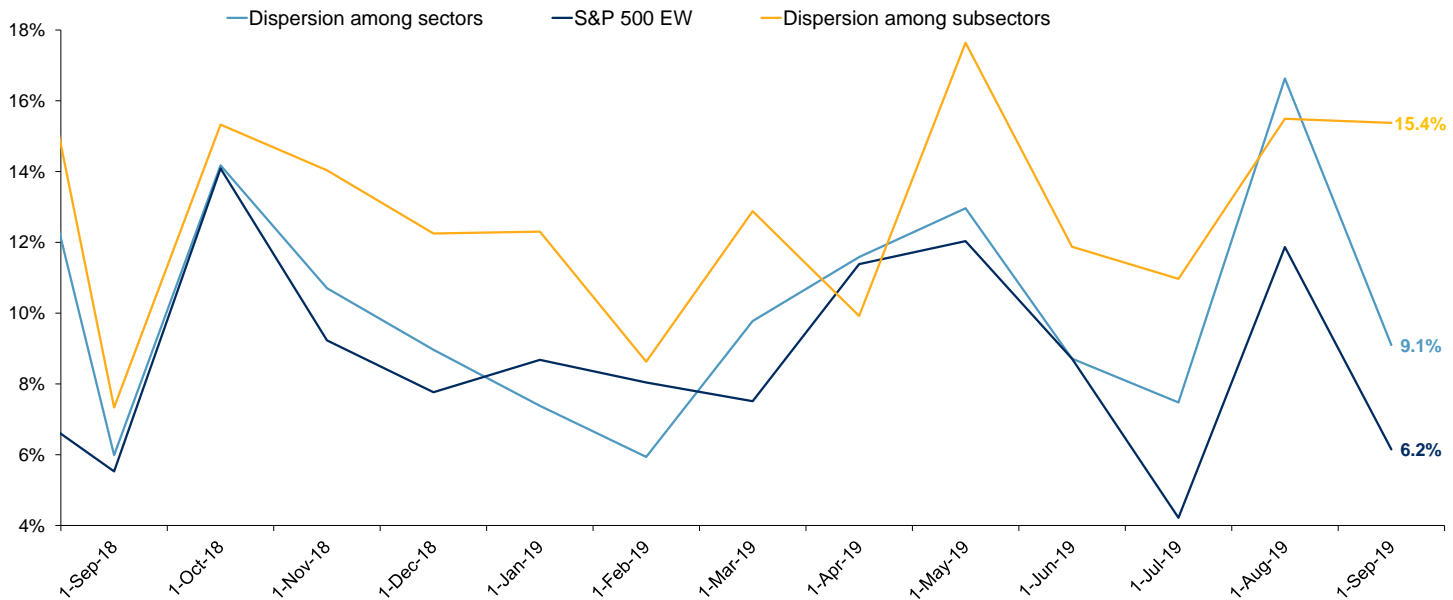
Subsectors Relative to S&P Composite 1500

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	Digital Communities	Distributed Ledger	Electric Vehicles	Ent. Collaboration	Future Payments	3D Printing	Advanced Transport	Alt Finance	Autonomous Vehicles	Clean Energy	Cleantech	Cyber Security	Drones	Genetic Engineering	Nanotechnology	Robotics	Smart Borders	Smart Buildings	Smart Grids	Space	Virtual Reality	Wearables
Digital Communities	1.00	0.25	0.18	0.42	0.63	0.36	0.15	0.11	0.36	-0.02	0.36	0.42	0.04	0.32	0.36	0.40	0.04	0.29	0.10	-0.03	0.53	0.41
Distributed Ledger	0.25	1.00	0.27	0.09	0.22	0.34	0.26	0.19	0.33	-0.32	0.09	0.32	0.26	0.16	0.19	0.37	0.21	0.27	0.27	0.00	0.39	0.18
Electric Vehicles	0.18	0.27	1.00	-0.20	-0.04	0.46	0.52	0.30	0.66	-0.09	0.26	0.08	0.27	0.16	0.32	0.41	0.23	0.42	0.51	0.18	0.39	0.22
Ent. Collaboration	0.42	0.09	-0.20	1.00	0.40	0.15	-0.10	0.02	-0.08	-0.10	0.22	0.48	0.19	0.28	0.18	0.12	0.19	0.06	-0.09	0.07	0.15	0.28
Future Payments	0.63	0.09	0.01	0.40	1.00	0.25	-0.05	0.02	0.19	0.03	0.26	0.31	-0.12	0.16	0.27	0.31	-0.01	0.23	-0.04	-0.14	0.36	0.27
3D Printing	0.36	0.34	0.48	0.15	0.25	1.00	0.29	0.27	0.45	-0.25	0.29	0.37	0.25	0.33	0.44	0.50	0.17	0.38	0.40	0.15	0.66	0.22
Advanced Transport	0.15	0.26	0.52	-0.10	-0.05	0.29	1.00	0.28	0.43	-0.13	0.07	0.24	0.09	0.18	0.41	0.39	0.10	0.38	0.43	0.06	0.20	0.19
Alt Finance	0.11	0.19	0.28	0.02	0.02	0.27	0.28	1.00	0.26	-0.27	0.21	0.22	0.25	0.33	0.21	0.29	0.22	0.23	0.32	0.29	0.11	0.04
Autonomous Vehicles	0.36	0.33	0.64	-0.08	0.19	0.45	0.43	0.26	1.00	-0.16	0.15	0.21	0.15	0.18	0.50	0.43	0.10	0.47	0.50	0.08	0.60	0.39
Clean Energy	-0.02	-0.32	-0.05	-0.10	0.03	-0.25	-0.13	-0.27	-0.16	1.00	0.21	-0.08	-0.22	-0.32	-0.20	-0.29	-0.03	-0.04	-0.10	-0.07	-0.19	-0.08
Cleantech	0.36	0.09	0.27	0.22	0.26	0.29	0.07	0.21	0.15	0.21	1.00	0.10	0.01	0.16	0.11	0.29	0.06	0.14	0.14	0.06	0.18	0.19
Cyber Security	0.42	0.32	0.09	0.48	0.31	0.37	0.24	0.22	0.21	-0.08	0.10	1.00	0.46	0.34	0.38	0.32	0.47	0.39	0.23	0.36	0.38	0.29
Drones	0.04	0.26	0.23	0.19	-0.12	0.25	0.09	0.25	0.15	-0.22	0.01	0.46	1.00	0.21	0.25	0.32	0.72	0.30	0.44	0.73	0.24	0.13
Genetic Engineering	0.32	0.16	0.16	0.28	0.16	0.33	0.18	0.33	0.18	-0.32	0.16	0.34	0.21	1.00	0.38	0.35	0.11	0.21	0.09	0.12	0.30	0.21
Nanotechnology	0.36	0.19	0.32	0.18	0.27	0.44	0.41	0.21	0.50	-0.20	0.11	0.38	0.25	0.38	1.00	0.63	0.27	0.48	0.40	0.23	0.44	0.44
Robotics	0.40	0.37	0.42	0.12	0.31	0.50	0.39	0.29	0.43	-0.29	0.29	0.32	0.32	0.35	0.63	1.00	0.32	0.50	0.47	0.26	0.46	0.38
Smart Borders	0.04	0.21	0.19	0.19	-0.01	0.17	0.10	0.22	0.10	-0.03	0.06	0.47	0.72	0.11	0.27	0.32	1.00	0.33	0.46	0.70	0.11	0.07
Smart Buildings	0.29	0.27	0.42	0.06	0.23	0.38	0.38	0.23	0.47	-0.04	0.14	0.39	0.30	0.21	0.48	0.50	0.33	1.00	0.42	0.23	0.42	0.24
Smart Grids	0.10	0.27	0.49	-0.09	-0.04	0.40	0.43	0.32	0.50	-0.10	0.14	0.23	0.44	0.09	0.40	0.47	0.46	0.42	1.00	0.50	0.32	0.19
Space	-0.03	0.00	0.16	0.07	-0.14	0.15	0.06	0.29	0.08	-0.07	0.06	0.36	0.73	0.12	0.23	0.26	0.70	0.23	0.50	1.00	0.05	0.05
Virtual Reality	0.53	0.39	0.39	0.15	0.36	0.66	0.20	0.11	0.60	-0.19	0.18	0.38	0.24	0.30	0.44	0.46	0.11	0.42	0.32	0.05	1.00	0.43
Wearables	0.41	0.18	0.23	0.28	0.27	0.22	0.19	0.04	0.39	-0.08	0.19	0.29	0.13	0.21	0.44	0.38	0.07	0.24	0.19	0.05	0.43	1.00

Correlation of weekly S&P 1500 and S&P 500 relative performance, three years to September 30, 2019

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Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of September 30, 2019.

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