

Review of 2021 S&P GSCI Rebalancing

S&P GSCI ADVISORY PANEL MEETING

Pro-Forma 2021 S&P GSCI Rebalance

Final results will be published in November 2020

Mark Berkenkopf
Associate Director
Commodity Index Group

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**S&P Dow Jones
Indices**

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Overview

- No membership changes
- Investment Support Level: **US\$ 210 billion**
- Minimal changes to sector weights
- Largest percent weight increases: **Gold, Chicago Wheat and Soybeans**
- Largest weight percent decreases: **WTI Crude Oil, Brent Crude Oil and RBOB Gasoline**
- **WTI Crude Oil** will continue to hold the largest weight in the index.
- Largest World Production Average increase: **Soybeans (7.6%)**
- Largest percentage volume increase: **Silver (16.66%)**
- Largest percentage volume decrease: **Corn (-19.73%)**

World Production Quantity Sources

- **Crude Oil** and **Natural Gas** data provided by IEA
- **Copper** data provided by ICSG
- **Lead** data provided by ILZSG
- **Nickel** data provided by INSG
- No additional changes to reported sources for 2021

WORLD PRODUCTION QUANTITY SOURCES	
Commodity	Source
Wheat	FAOSTATS
Corn	FAOSTATS
Soybeans	FAOSTATS
Lean Hogs	FAOSTATS and UN Data
Cattle	FAOSTATS and UN Data
Coffee	FAOSTATS
Sugar	U.S. Department of Agriculture (USDA)
Cocoa	FAOSTATS
Cotton	U.S. Department of Agriculture (USDA)
Gold	U.S. Geological Survey (USGS)
Silver	U.S. Geological Survey (USGS)
Crude Oil	UN Data and IEA
Natural Gas	UN Data and IEA
Aluminum	U.S. Geological Survey (USGS)
Copper	USGS and International Copper Study Group
Lead	USGS and International Lead and Zinc Study Group
Nickel	USGS and International Nickel Study Group
Zinc	U.S. Geological Survey (USGS)

World Production Issues & Resolutions

WTI Crude Oil and Natural Gas

Issue

- The UN Data 2017 World Production data will not be made available.

Resolution

- Utilized 2017 Production data from the International Energy Agency (IEA) for 2017.
 - Obtained 2013 through 2016 Production data from UN Data, and used the 2017 Production data from IEA to calculate the World Production Average.

World Production Issues & Resolutions (Cont.)

Copper

Issue

- The 2017 USGS Copper Minerals Yearbook World Production data will not be made available.

Resolution

- Utilized data from the International Copper Study Group to formulate an estimate for the 2017 Copper World Production data.
 - Obtained the International Copper Study Group 2016 – 2017 World Production data to calculate a year-over-year percentage change.
 - Compared the yearly percentage change between the International Copper Study Group and the USGS Minerals Yearbook to confirm the trends are similar. The 4-year average percent return difference between the two sources was 0.46%.
 - Applied the 4-year average percent return difference to the 2017 International Copper Study Group world Copper production to calculate an estimate of the 2017 USGS Minerals Yearbook Copper World Production.

World Production Issues & Resolutions (Cont.)

Lead

Issue

- The 2017 USGS Lead Minerals Yearbook World Production data will not be made available.

Resolution

- Utilized data from the International Lead and Zinc Study Group to formulate an estimate for the 2017 Lead World Production data.
 - Obtained the International Lead and Zinc Study Group 2015 – 2017 World Production data to calculate a year-over-year percentage change.
 - Compared the yearly percentage change between the International Lead and Zinc Study Group and the USGS Minerals Yearbook to confirm the trends are similar. The 2-year average percent return difference between the two sources was 4.2%.
 - Applied the 2-year average percent return difference to the 2017 International Lead and Zinc Study Group world Lead production to calculate an estimate of the 2017 USGS Minerals Yearbook Lead World Production.

World Production Issues & Resolutions (Cont.)

Nickel

Issue

- The 2017 USGS Nickel Minerals Yearbook World Production data will not be made available.

Resolution

- Utilized data from the International Nickel Study Group to formulate an estimate for the 2017 Lead World Production data.
 - Obtained the International Nickel Study Group press release from October 2018 to obtain the World Production data for Nickel in 2017.

World Production Averages (WPA)

WORLD PRODUCTION AVERAGE COMPARISONS				
Commodity	WPQ Units	2020 WPA	2021 WPA	Percentage Change
Wheat	M ton	722,164,585	740,527,832	2.5%
Corn	M ton	1,016,567,342	1,079,790,527	6.2%
Soybeans	M ton	296,726,183	319,193,687	7.6%
Lean Hogs	1000 M ton	41,552,392	42,099,187	1.3%
Cattle	M ton	60,238,537	61,910,132	2.8%
Coffee	M ton	8,941,803	9,007,432	0.7%
Sugar	M ton	173,720,600	174,081,600	0.2%
Cocoa	M ton	4,651,853	4,808,290	3.4%
Cotton	M ton	24,660,238	24,662,720	0.0%
Gold	1 Kg	2,984,000	3,108,000	4.2%
Silver	1 M ton	26,220	26,600	1.4%
Crude Oil	1000 M ton	3,779,857,044	3,817,246,522	1.0%
Natural Gas	1 Petajoule	37,478	38,268	2.1%
Aluminum	1000 M ton	61,248,000	63,580,000	3.8%
Copper	1000 M ton	22,073,200	22,764,800	3.1%
Lead	1000 M ton	10,549,000	10,849,600	2.8%
Nickel	1 M ton	1,944,000	1,996,000	2.7%
Zinc	1000 M ton	13,340,000	13,600,000	1.9%

WPA Comparison Table (2016 – 2021)

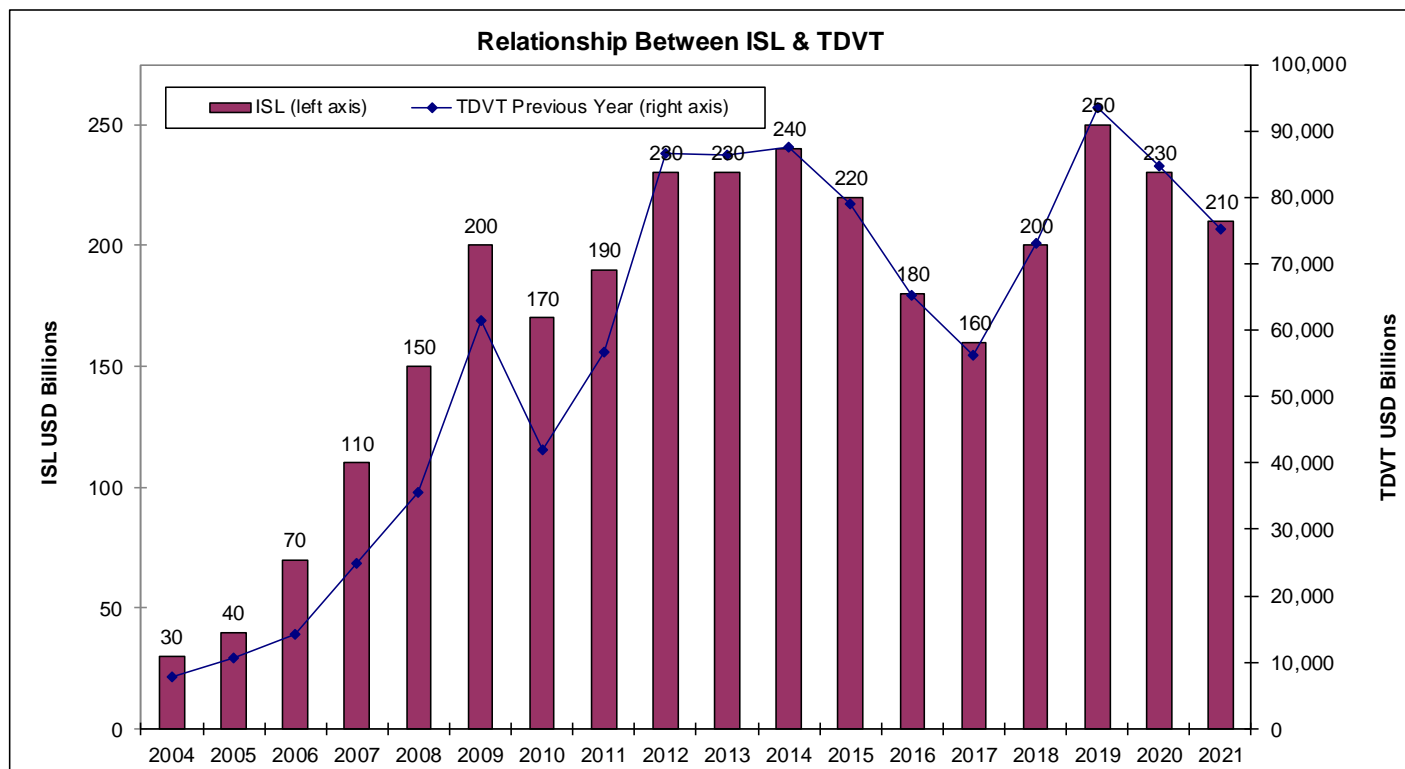
WORLD PRODUCTION AVERAGE COMPARISON TABLE

Commodity	Unit	2016	2017	2018	2019	2020	2021
Wheat	1000 M ton	678,027,825	684,023,002 0.9%	690,423,419 0.9%	710,379,591 2.9%	722,164,585 1.7%	740,527,832 2.5%
Corn	1000 M ton	852,546,224	889,771,187 4.4%	932,688,170 4.8%	964,917,628 3.5%	1,016,567,342 5.4%	1,079,790,527 6.2%
Soybeans	1000 M ton	244,561,496	253,588,379 3.7%	270,502,922 6.7%	281,947,576 4.2%	296,726,183 5.2%	319,193,687 7.6%
Lean Hogs	1000 M ton	39,767,313	40,561,411 2.0%	40,600,373 0.1%	41,004,075 1.0%	41,552,392 1.3%	42,099,187 1.3%
Cattle	1000 M ton	51,514,494	53,177,821 3.2%	54,796,100 3.0%	56,877,204 3.8%	60,238,537 5.9%	61,910,132 2.8%
Coffee	1000 M ton	8,381,239	8,556,349 2.1%	8,677,280 1.4%	8,756,024 0.9%	8,941,803 2.1%	9,007,432 0.7%
Sugar	1000 M ton	158,969,400	161,909,000 1.8%	168,296,600 3.9%	173,191,200 2.9%	173,720,600 0.3%	174,081,600 0.2%
Cocoa	1000 M ton	4,498,280	4,482,378 -0.4%	4,499,853 0.4%	4,515,547 0.3%	4,651,853 3.0%	4,808,290 3.4%
Cotton	1000 M ton	25,278,836	25,818,139 2.1%	26,509,414 2.7%	25,568,018 -3.6%	24,660,238 -3.6%	24,662,720 0.0%
Gold	1 Kg	2,544,000	2,644,000 3.9%	2,790,000 5.5%	2,894,000 3.7%	2,984,000 3.1%	3,108,000 4.2%
Silver	1 M ton	23,420	24,480 4.5%	24,700 0.9%	25,680 4.0%	26,220 2.1%	26,600 1.4%
Crude Oil	1000 M ton	3,623,323,516	3,642,593,890 0.5%	3,661,383,369 0.5%	3,718,068,764 1.5%	3,779,857,044 1.7%	3,817,246,522 1.0%
Natural Gas	1 Petajoule	33,382	34,398 3.0%	35,300 2.6%	36,612 3.7%	37,478 2.4%	38,268 2.1%
Aluminum	1000 M ton	47,090,000	48,692,000 3.4%	52,096,000 7.0%	58,178,000 11.7%	61,248,000 5.3%	63,580,000 3.8%
Copper	1000 M ton	19,100,000	19,680,000 3.0%	20,440,000 3.9%	21,300,000 4.2%	22,073,200 3.6%	22,764,800 3.1%
Lead	1000 M ton	9,484,000	9,894,000 4.3%	10,322,000 4.3%	10,480,000 1.5%	10,549,000 0.7%	10,849,600 2.8%
Nickel	1 M ton	1,516,000	1,658,000 9.4%	1,784,000 7.6%	1,870,000 4.8%	1,944,000 4.0%	1,996,000 2.7%
Zinc	1000 M ton	12,380,000	12,580,000 1.6%	12,860,000 2.2%	13,220,000 2.8%	13,340,000 0.9%	13,600,000 1.9%

Investment Support Level (ISL)

- Purpose of ISL:

- Estimate for liquidity
- Trigger for CPW Changes
- Not an accurate estimate of commodity investment space



ISL Commentary

- ISL recommendation level: **US\$ 210 billion**
- **8.7% decrease** from recommended level of **US\$ 230 billion** for 2020

ISL DETERMINATION CALCULATION MODEL

Year	ISL	% Change In ISL	TDVT	% Change In TDVT	% Change In TDVT Captured By ISL Change
2004	30	0.00%	7828.4	33.82%	0.00%
2005	40	33.33%	10582.1	35.18%	94.76%
2006	70	75.00%	14301.3	35.15%	213.39%
2007	110	57.14%	24964	74.56%	76.64%
2008	150	36.36%	35670.6	42.89%	84.79%
2009	200	33.33%	61399.1	72.13%	46.21%
2010	170	-15.00%	41984.7	-31.62%	47.44%
2011	190	11.76%	56608.4	34.83%	33.78%
2012	230	21.05%	86698.5	53.15%	39.61%
2013	230	0.00%	86253.4	-0.51%	0.00%
2014	240	4.35%	87565.9	1.52%	285.73%
2015	220	-8.33%	78917.0	-9.88%	84.37%
2016	180	-18.18%	65320.9	-17.23%	105.53%
2017	160	-11.11%	56214.9	-13.94%	79.70%
2018	200	25.00%	73173.6	30.17%	82.87%
2019	250	25.00%	93533.4	27.82%	89.85%
2020	230	-8.00%	84814.5	-9.32%	85.82%
2021	210	-8.70%	75288.6	-11.23%	77.42%

ISL AVERAGE CALCULATION

Average Excluding Current Year	85.32%
Average With Current Year	84.88%

2021 S&P GSCI CPW Calculation – Pro Forma

- All data subject to revisions based on revised data from designated sources
- Official 2021 S&P GSCI CPW announcement – **November 2020**

2021 S&P GSCI CONTRACT PRODUCTION WEIGHT CALCULATION - PRO FORMA

Symbol	Commodity	CF	Contract Size	Lot Size	ISL	WPA	Volume	TQT	% TQT	CPW	ACRP	TDW	RPDW	TDVT _(BIII)	TVM
W	Chicago Wheat	36.7437	5000	100	210	740,527,832	30,974,283	4,214,910,719	0.684811651	18633.54	5.310625	98955.7434	3.74%	822.5	104.8
KW	Kansas Wheat	36.7437	5000	100	210	740,527,832	14,256,085	1,939,935,962	0.315188349	8576.191	4.579583333	39275.3814	1.48%	326.4	104.8
C	Corn	39.3683	5000	100	210	1,079,790,527	84,982,196	10,793,226,530		42509.52	3.581875	152263.7870	5.75%	1522	126.1
S	Soybeans	36.7437	5000	100	210	319,193,687	55,664,768	7,574,736,349		11728.36	8.955	105027.4638	3.97%	2492.4	299.3
KC	Coffee	2204.623	37500	100	210	9,007,432	13,768,616	234,200,178		19857.99	1.114166667	22125.1105	0.84%	575.3	327.9
SB	Sugar	2204.623	112000	100	210	174,081,600	41,358,864	2,101,126,936		383784.3	0.124333333	47717.1813	1.80%	575.9	152.2
CC	Cocoa	1	10	1	210	4,808,290	11,360,075	113,600,750		4.80829	2479.916667	11924.1585	0.45%	281.7	297.9
CT	Cotton	2204.623	50000	100	210	24,662,720	8,607,528	195,215,418		54372.00	0.619516667	33684.3602	1.27%	266.6	99.8
LH	Lean Hogs	2204.623	40000	100	210	42,099,187	13,568,164	246,176,584		92812.84	0.608854167	56509.4844	2.13%	330.4	73.7
LC	Live Cattle	2204.623	40000	100	210	61,910,132	16,598,707	301,161,822	0.80266721	109554.8	1.0783125	118134.3103	4.46%	715.9	76.4
FC	Feeder Cattle	2204.623	50000	100	210	61,910,132	3,264,585	74,039,530	0.19733279	26933.66	1.3719375	36951.2982	1.40%	223.9	76.4
CL	WTI Crude Oil	7.33	1000	1	210	3,817,246,522	349,472,405	47,676,999,318	0.474794079	13284.94	43.42666667	576920.6611	21.78%	15176.4	331.7
HO	Heating Oil	315	42000	1	210	3,817,246,522	47,049,200	6,273,226,667	0.062472281	75118.71	1.439916667	108164.6825	4.08%	2845.4	331.7
RB	RBOB Gasoline	354.9	42000	1	210	3,817,246,522	47,638,808	5,637,728,757	0.056143639	76060.08	1.289225	98058.5566	3.70%	2579.5	331.7
LCO	Brent Crude Oil	7.33	1000	1	210	3,817,246,522	235,151,425	32,080,685,539	0.319477311	8939.108	47.69916667	426388.0023	16.10%	11216.5	331.7
LGO	Gas Oil	1	100	1	210	3,817,246,522	87,475,220	8,747,522,000	0.08711269	332.5306	434.3958333	144449.9071	5.45%	3799.9	331.7
NG	Natural Gas	947086.289	10000	1	210	38,268	152,609,050	1,611,353		36243.22	2.048	74226.1146	2.80%	3125.4	531
MAL	Aluminum	1	25	1	210	63,580,000	66,074,130	1,651,853,250		63.58000	1673.333333	106390.5333	4.02%	2764.1	327.6
MCU	Copper	1	25	1	210	22,764,800	33,706,512	842,662,800		22.76480	5776.5	131500.8672	4.97%	4867.6	466.8
MNI	Nickel	1	6	1	210	1,996,000	20,765,827	124,594,962		1.996000	13691.89583	27329.0241	1.03%	1705.9	787.2
MPB	Lead	1	25	1	210	10,849,600	11,700,692	292,517,300		10.84960	1877.625	20371.4802	0.77%	549.2	340
MZN	Zinc	1	25	1	210	13,600,000	25,813,296	645,332,400		13.60000	2199.583333	29914.3333	1.13%	1419.5	598.4
GC	Gold	32.15075	100	1	210	3,108,000	87,924,473	273,475,651		99.92453	1662.133333	166087.8921	6.27%	14614.2	1109.7
SI	Silver	32150.75	5000	1	210	26,600	26,743,343	4,159,054		855.2100	18.63633333	15937.9786	0.60%	2492	1971.8

2021 S&P GSCI CPW Comparison

2021 S&P GSCI CPW COMPARISON

Symbol	Commodity	2020 CPW	2021 CPW	% Change
W	Chicago Wheat	18073.64	18633.54	3.10%
KW	Kansas Wheat	8461.355	8576.191	1.36%
C	Corn	40020.53	42509.52	6.22%
S	Soybeans	10902.82	11728.36	7.57%
KC	Coffee	19713.3	19857.99	0.73%
SB	Sugar	382988.4	383784.3	0.21%
CC	Cocoa	4.651853	4.80829	3.36%
CT	Cotton	54366.53	54372	0.01%
LH	Lean Hogs	91607.36	92812.84	1.32%
LC	Live Cattle	104808.8	109554.8	4.53%
FC	Feeder Cattle	27994.45	26933.66	-3.79%
CL	WTI Crude Oil	13539.79	13284.94	-1.88%
HO	Heating Oil	67232.46	75118.71	11.73%
RB	RBOB Gasoline	81545.36	76060.08	-6.73%
LCO	Brent Crude Oil	8684.505	8939.108	2.93%
LGO	Gas Oil	304.687	332.5306	9.14%
NG	Natural Gas	35495.32	36243.22	2.11%
MAL	Aluminum	61.24800	63.58000	3.81%
MCU	Copper	22.07320	22.76480	3.13%
MNI	Nickel	1.944000	1.996000	2.67%
MPB	Lead	10.54900	10.84960	2.85%
MZN	Zinc	13.34000	13.60000	1.95%
GC	Gold	95.93784	99.92453	4.16%
SI	Silver	842.9927	855.21	1.45%

2021 ACRP Comparison

- Price increases for the **Agriculture and Precious Metals sector**
- Price decreases within the **Energy sector**

2021 ACRP COMPARISON				
Symbol	Commodity	2020 ACRP	2021 ACRP	% Change
W	Chicago Wheat	489.25	531.0625	8.55%
KW	Kansas Wheat	459.625	457.9583333	-0.36%
C	Corn	380.0208333	358.1875	-5.75%
S	Soybeans	883.5	895.5	1.36%
KC	Coffee	102.2583333	111.4166667	8.96%
SB	Sugar	12.30916667	12.43333333	1.01%
CC	Cocoa	2279.666667	2479.916667	8.78%
CT	Cotton	71.89833333	61.95166667	-13.83%
LH	Hogs	69.51875	60.88541667	-12.42%
LC	Live Cattle	115.2979167	107.83125	-6.48%
FC	Feeder Cattle	144.1666667	137.19375	-4.84%
CL	WTI Crude Oil	57.9675	43.42666667	-25.08%
HO	Heating Oil	1.970875	1.439916667	-26.94%
RB	RBOB Gasoline	1.7234	1.289225	-25.19%
LCO	Brent Crude Oil	65.7375	47.69916667	-27.44%
LGO	Gas Oil	605.7083333	434.3958333	-28.28%
NG	Natural Gas	2.830333333	2.048	-27.64%
MAL	Aluminum	1868.770833	1673.333333	-10.46%
MCU	Copper	6120.479167	5776.5	-5.62%
MNI	Nickel	12801.25	13691.89583	6.96%
MPB	Lead	1992.791667	1877.625	-5.78%
MZN	Zinc	2608.791667	2199.583333	-15.69%
GC	Gold	1319.666667	1662.133333	25.95%
SI	Silver	15.43383333	18.63633333	20.75%

Yearly Volume Comparison

- Strong reported volume across **Livestock sector**
- Relatively flat and lower reported volume within the **Energy and Metals sectors**

2021 YEARLY VOLUME COMPARISON				
Symbol	Commodity	2020 Volume	2021 Volume	% Change
W	Chicago Wheat	31,586,965	30,974,283	-1.94%
KW	Kansas Wheat	14,787,751	14,256,085	-3.60%
C	Corn	105,875,479	84,982,196	-19.73%
S	Soybeans	51,251,633	55,664,768	8.61%
KC	Coffee	14,392,155	13,768,616	-4.33%
SB	Sugar	37,179,960	41,358,864	11.24%
CC	Cocoa	11,611,458	11,360,075	-2.16%
CT	Cotton	8,136,483	8,607,528	5.79%
LH	Lean Hogs	15,206,501	13,568,164	-10.77%
LC	Live Cattle	16,988,912	16,598,707	-2.30%
FC	Feeder Cattle	3,630,192	3,264,585	-10.07%
CL	WTI Crude Oil	354,052,948	349,472,405	-1.29%
HO	Heating Oil	41,858,730	47,049,200	12.40%
RB	RBOB Gasoline	50,769,899	47,638,808	-6.17%
LCO	Brent Crude Oil	227,091,767	235,151,425	3.55%
LGO	Gas Oil	79,672,838	87,475,220	9.79%
NG	Natural Gas	133,428,622	152,609,050	14.38%
MAL	Aluminum	64,412,185	66,074,130	2.58%
MCU	Copper	36,885,728	33,706,512	-8.62%
MNI	Nickel	23,539,853	20,765,827	-11.78%
MPB	Lead	12,170,998	11,700,692	-3.86%
MZN	Zinc	30,777,795	25,813,296	-16.13%
GC	Gold	78,037,247	87,924,473	12.67%
SI	Silver	22,923,350	26,743,343	16.66%
Total Volume		1,466,269,449	1,486,528,252	1.38%

2021 Dollar Weight Comparison – Pro Forma

2021 COMMODITY DOLLAR WEIGHT COMPARISON - PRO FORMA

Symbol	Commodity	2020 CPW	2021 CPW	2021 ACRP	2020 TDW	2021 TDW	2020 RPDW	2021 RPDW	Difference (basis pts)
W	Chicago Wheat	18073.64	18633.54	5.310625	88425.2837	98955.74336	2.85%	3.74%	89
KW	Kansas Wheat	8461.355	8576.191	4.579583333	38890.50292	39275.38137	1.25%	1.48%	23
C	Corn	40020.53	42509.52	3.581875	152086.3516	152263.787	4.90%	5.75%	85
S	Soybeans	10902.82	11728.36	8.955	96326.4147	105027.4638	3.11%	3.97%	86
KC	Coffee	19713.3	19857.99	1.114166667	20158.49203	22125.11053	0.65%	0.84%	19
SB	Sugar	382988.4	383784.3	0.124333333	47142.68047	47717.1813	1.52%	1.80%	28
CC	Cocoa	4.651853	4.808290	2479.916667	10604.67422	11924.15851	0.34%	0.45%	11
CT	Cotton	54366.53	54372.00	0.619516667	39088.62896	33684.3602	1.26%	1.27%	1
LH	Lean Hogs	91607.36	92812.84	0.608854167	63684.29158	56509.48435	2.05%	2.13%	8
LC	Live Cattle	104808.8	109554.8	1.0783125	120842.3629	118134.3103	3.90%	4.46%	56
FC	Feeder Cattle	27994.45	26933.66	1.3719375	40358.66542	36951.29817	1.30%	1.40%	9
CL	WTI Crude Oil	13539.79	13284.94	43.42666667	784867.7768	576920.6611	25.31%	21.78%	-352
HO	Heating Oil	67232.46	75118.71	1.439916667	132506.7746	108164.6825	4.27%	4.08%	-19
RB	RBOB Gasoline	81545.36	76060.08	1.289225	140535.2734	98058.55664	4.53%	3.70%	-83
LCO	Brent Crude Oil	8684.505	8939.108	47.69916667	570897.6474	426388.0023	18.41%	16.10%	-231
LGO	Gas Oil	304.687	332.5306	434.3958333	184551.455	144449.9071	5.95%	5.45%	-50
NG	Natural Gas	35495.32	36243.22	2.048	100463.5874	74226.11456	3.24%	2.80%	-44
MAL	Aluminum	61.24800	63.58000	1673.333333	114458.476	106390.5333	3.69%	4.02%	33
MCU	Copper	22.07320	22.76480	5776.5	135098.5607	131500.8672	4.36%	4.97%	61
MNI	Nickel	1.944000	1.996000	13691.89583	24885.63	27329.02408	0.80%	1.03%	23
MPB	Lead	10.54900	10.84960	1877.625	21021.95929	20371.4802	0.68%	0.77%	9
MZN	Zinc	13.34000	13.60000	2199.583333	34801.28083	29914.33333	1.12%	1.13%	1
GC	Gold	95.93784	99.92453	1662.133333	126605.9695	166087.8921	4.08%	6.27%	219
SI	Silver	842.9927	855.2100	18.63633333	13010.60883	15937.97863	0.42%	0.60%	18

2021 Sector Weight Comparison – Pro Forma

S&P GSCI SECTOR WEIGHTS			
Sector	2020 Weight	2021 Weight	Difference (basis pts)
Energy	61.71%	53.93%	-778
Agriculture	15.89%	19.29%	341
Livestock	7.25%	7.99%	74
Industrial Metals	10.65%	11.91%	126
Precious Metals	4.50%	6.87%	237

- Largest sector percentage increase: **Agriculture**
 - Attributed to percentage weight increases in **Chicago Wheat and Soybeans**
- Largest percentage decrease: **Energy**
 - Attributed to percentage weight decreases in **WTI Crude Oil and Brent Crude Oil**

Market Disruption Events

Number of Days with Market Disruption Events (September 2019 - August 2020)											
Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020
5	2	0	0	3	2	13	11	13	7	4	3

- Large amount of market disruption events in March, April and May 2020
- Market disruption events were mostly in the Livestock sector (Lean Hogs, Live Cattle, Feeder Cattle) and Dairy futures
- Limits for Livestock sector have expanded and market disruption events have reduced

Component Candidate Screening Review

CONTRACTS TESTED FOR INCLUSION

Soybean Oil	E-Micro Gold Futures (MGC)
Soybean Meal	miNY Gold Futures (QO)
Nonfat Dry Milk	Oman Crude Oil
Hard Red Spring Wheat	ICE WTI Crude
Brent Crude Oil Last Day Financial (BZ)	ICE NYH (RBOB) Gasoline (Monthly)
Copper (HG)	ICE Heating Oil
Platinum (PL)	Tin (SN)
Natural Gas (Henry Hub) Last-day Financial (HH)	Gold (Moscow Exchange)
E-mini Crude Oil (QM)	Refined Silver (Moscow Exchange)
Natural Gas (Henry Hub) Penultimate Financial (HP)	Brent Oil
Chicago Ethanol (Platts) (CU)	Robusta Coffee - 10 Tonne
Palladium Futures (PA)	White Sugar
Mont Belvieu LDH Propane (OPIS) Futures (B0)	

Component Candidate Screening Review (Cont.)

Eligibility Criteria for inclusion:

- RPDW – at least 1% for a contract that is not included in S&P GSCI
- TDVT – minimum **US\$ 15 billion** for contracts not represented in S&P GSCI
minimum **US\$ 30 billion** for components not represented in S&P GSCI
- TQT – minimum **25%** for components not represented in S&P GSCI
- TVM Lower Level – 30 for Contracts not represented in S&P GSCI
- TVM Upper Level – 200 for components not represented in S&P GSCI

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S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

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