

Review of 2022 S&P GSCI Rebalancing

S&P GSCI ADVISORY PANEL MEETING

Pro Forma 2022 S&P GSCI Rebalance

Final results will be published in November 2021

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**S&P Dow Jones
Indices**

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Overview

- No membership changes
- Investment Support Level: **US\$ 230 billion**
- Minimal changes to sector weights
- Largest percent weight increases: **Brent Crude Oil, Copper and Corn**
- Largest weight percent decreases: **WTI Crude Oil, Gold and Live Cattle**
- **WTI Crude Oil** will continue to hold the largest weight
- Largest World Production Average increase: **Soybeans (4.6%)**
- Largest percentage volume increase: **Corn (9.05%)**
- Largest percentage volume decrease: **Gold (-29.10%)**

World Production Quantity Sources

- **Crude Oil** and **Natural Gas** production data provided by International Energy Agency (IEA) for 2017 and 2018
- No additional changes to reported sources for 2022

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	U.S. Geological Survey (USGS)
Lead	U.S. Geological Survey (USGS)
Nickel	U.S. Geological Survey (USGS)
Zinc	U.S. Geological Survey (USGS)

World Production Issues & Resolutions

WTI Crude Oil and Natural Gas

Issue

- The UN Data 2017 and 2018 World Production data were not made available.

Resolution

- Utilized 2017 and 2018 Production data from the International Energy Agency (IEA)
- We will use International Energy Agency (IEA) as the new data source going forward
- International Energy Agency (IEA) production data will be incorporated year-by-year

World Production Averages (WPA)

WORLD PRODUCTION AVERAGE COMPARISONS				
Commodity	WPQ Units	2021 WPA	2022 WPA	Percentage Change
Wheat	M ton	740,527,832	744,992,805	0.6%
Corn	M ton	1,079,790,527	1,096,590,952	1.6%
Soybeans	M ton	319,193,687	333,936,604	4.6%
Lean Hogs	1000 M ton	42,099,187	42,882,833	1.9%
Cattle	M ton	61,910,132	63,586,878	2.7%
Coffee	M ton	9,007,432	9,376,819	4.1%
Sugar	M ton	174,081,600	176,971,200	1.7%
Cocoa	M ton	4,808,290	5,013,083	4.3%
Cotton	M ton	24,662,720	24,585,384	-0.3%
Gold	1 Kg	3,108,000	3,184,000	2.4%
Silver	1 M ton	26,600	27,600	3.8%
Crude Oil	1000 M ton	3,817,246,522	3,866,576,722	1.3%
Natural Gas	1 Petajoule	38,268	39,758	3.9%
Aluminum	1000 M ton	63,580,000	65,892,000	3.6%
Copper	1000 M ton	22,764,800	23,580,000	3.6%
Lead	1000 M ton	10,849,600	11,020,000	1.6%
Nickel	1 M ton	1,996,000	2,016,000	1.0%
Zinc	1000 M ton	13,600,000	13,440,000	-1.2%

WPA Comparison Table (2017 – 2022)

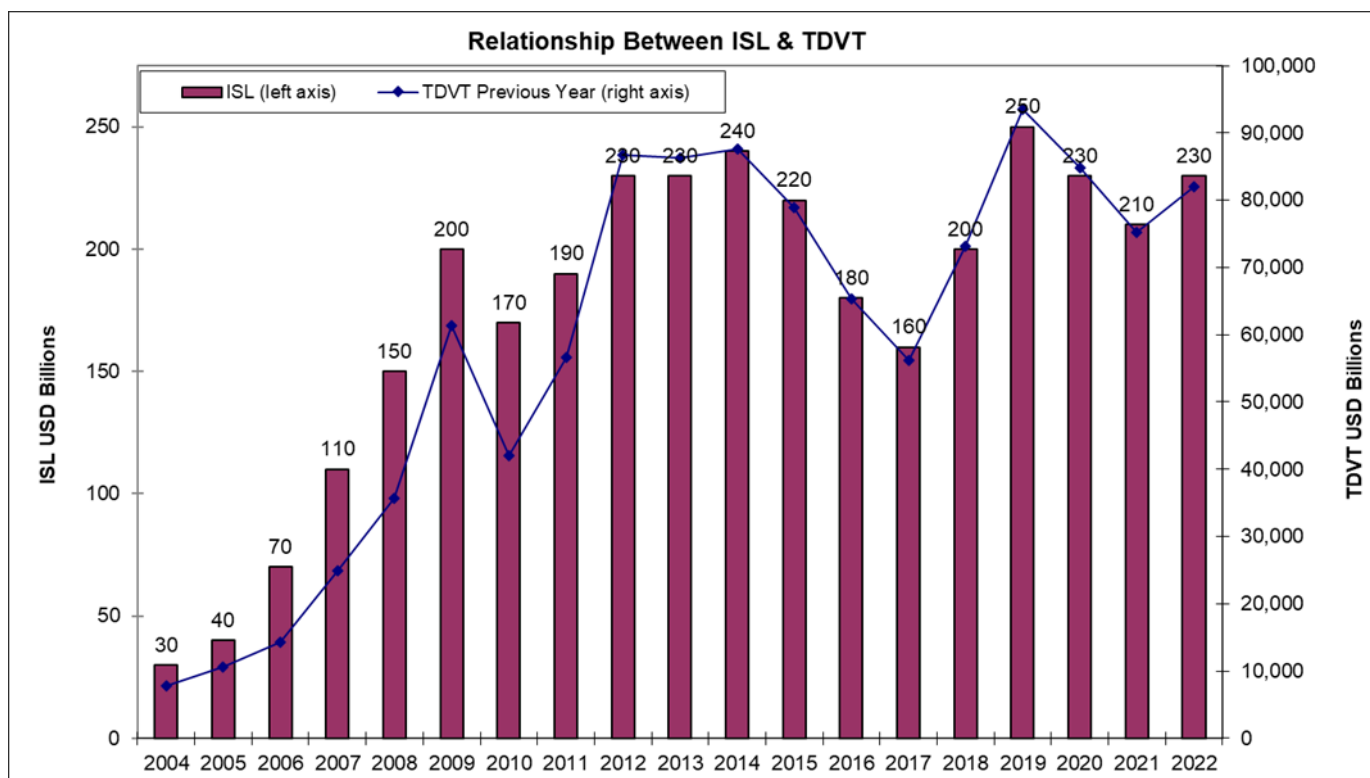
WORLD PRODUCTION AVERAGE COMPARISON TABLE

Commodity	Unit	2017	2018	2019	2020	2021	2022
Wheat	1000 M ton	684,023,002	690,423,419 0.9%	710,379,591 2.9%	722,164,585 1.7%	740,527,832 2.5%	744,992,805 0.6%
Corn	1000 M ton	889,771,187	932,688,170 4.8%	964,917,628 3.5%	1,016,567,342 5.4%	1,079,790,527 6.2%	1,096,590,952 1.6%
Soybeans	1000 M ton	253,588,379	270,502,922 6.7%	281,947,576 4.2%	296,726,183 5.2%	319,193,687 7.6%	333,936,604 4.6%
Lean Hogs	1000 M ton	40,561,411	40,600,373 0.1%	41,004,075 1.0%	41,552,392 1.3%	42,099,187 1.3%	42,882,833 1.9%
Cattle	1000 M ton	53,177,821	54,796,100 3.0%	56,877,204 3.8%	60,238,537 5.9%	61,910,132 2.8%	63,586,878 2.7%
Coffee	1000 M ton	8,556,349	8,677,280 1.4%	8,756,024 0.9%	8,941,803 2.1%	9,007,432 0.7%	9,376,819 4.1%
Sugar	1000 M ton	161,909,000	168,296,600 3.9%	173,191,200 2.9%	173,720,600 0.3%	174,081,600 0.2%	176,971,200 1.7%
Cocoa	1000 M ton	4,482,378	4,499,853 0.4%	4,515,547 0.3%	4,651,853 3.0%	4,808,290 3.4%	5,013,083 4.3%
Cotton	1000 M ton	25,818,139	26,509,414 2.7%	25,568,018 -3.6%	24,660,238 -3.6%	24,662,720 0.0%	24,585,384 -0.3%
Gold	1 Kg	2,644,000	2,790,000 5.5%	2,894,000 3.7%	2,984,000 3.1%	3,108,000 4.2%	3,184,000 2.4%
Silver	1 M ton	24,480	24,700 0.9%	25,680 4.0%	26,220 2.1%	26,600 1.4%	27,600 3.8%
Crude Oil	1000 M ton	3,642,593,890	3,661,383,369 0.5%	3,718,068,764 1.5%	3,779,857,044 1.7%	3,817,246,522 1.0%	3,866,576,722 1.3%
Natural Gas	1 Petajoule	34,398	35,300 2.6%	36,612 3.7%	37,478 2.4%	38,268 2.1%	39,758 3.9%
Aluminum	1000 M ton	48,692,000	52,096,000 7.0%	58,178,000 11.7%	61,248,000 5.3%	63,580,000 3.8%	65,892,000 3.6%
Copper	1000 M ton	19,680,000	20,440,000 3.9%	21,300,000 4.2%	22,073,200 3.6%	22,764,800 3.1%	23,580,000 3.6%
Lead	1000 M ton	9,894,000	10,322,000 4.3%	10,480,000 1.5%	10,549,000 0.7%	10,849,600 2.8%	11,020,000 1.6%
Nickel	1 M ton	1,658,000	1,784,000 7.6%	1,870,000 4.8%	1,944,000 4.0%	1,996,000 2.7%	2,016,000 1.0%
Zinc	1000 M ton	12,580,000	12,860,000 2.2%	13,220,000 2.8%	13,340,000 0.9%	13,600,000 1.9%	13,440,000 -1.2%

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\$ 230 billion**
- **9.52% increase** from recommended level of **US\$ 210 billion** for 2021

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%
2022	230	9.52%	82045.7	8.97%	106.12%

ISL AVERAGE CALCULATION

Average Excluding Current Year	84.88%
Average With Current Year	86.00%

2022 S&P GSCI CPW Calculation – Pro Forma

- All data subject to revisions based on revised data from designated sources
- Official 2022 S&P GSCI CPW announcement – **November 2021**

2022 S&P GSCI CONTRACT PRODUCTION WEIGHT CALCULATION - PRO FORMA

Symbol	Component	Commodity	CF	Contract Size	Lot Size	ISL	WPA	Volume	TQT	% TQT	CPW	ACRP	TDW	RPDW	TDVT _(BII)	TVM
W	Wheat	Chicago Wheat	36.7437	5000	100	230	7,44,992,805	32,278,726	4,392,416,387	0.710841451	19458.43	6.539166667	127241.9168	3.64%	1055.4	126.1
KW	Wheat	Kansas Wheat	36.7437	5000	100	230	7,44,992,805	13,130,452	1,786,762,357	0.289158549	7915.366	6.175	48877.3851	1.40%	405.4	126.1
C	Corn	Corn	39.3683	5000	100	230	1,096,590,952	92,675,550	11,770,326,633	1	43170.92	5.297291667	228688.9548	6.54%	2454.6	163.1
S	Soybeans	Soybeans	36.7437	5000	100	230	333,936,604	60,634,382	8,250,990,238	1	12270.07	13.22979167	162330.4698	4.64%	4010.9	375.6
KC	Coffee	Coffee	2204.623	37500	100	230	9,376,819	12,073,152	205,360,826	1	20672.35	1.408208333	29110.9755	0.83%	637.6	332.9
SB	Sugar	Sugar	2204.623	112000	100	230	176,971,200	32,245,359	1,638,139,586	1	390154.8	0.162416667	63367.6421	1.81%	586.6	140.7
CC	Cocoa	Cocoa	1	10	1	230	5,013,083	10,320,791	103,207,910	1	5.013083	2479.416667	12429.5215	0.36%	255.9	312.9
CT	Cotton	Cotton	2204.623	50000	100	230	24,585,384	8,139,651	184,604,148	1	54201.50	0.810291667	43919.0238	1.26%	329.8	114.1
LH	Lean Hogs	Lean Hogs	2204.623	40000	100	230	42,882,833	11,487,774	208,430,630	1	94540.48	0.871479167	82390.0587	2.36%	400.5	73.9
LC	Cattle	Live Cattle	2204.623	40000	100	230	63,586,878	14,146,672	256,672,855	0.78927144	110644.1	1.18775	131417.5298	3.76%	672.1	77.7
FC	Cattle	Feeder Cattle	2204.623	50000	100	230	63,586,878	3,021,630	68,529,404	0.21072856	29541.00	1.474520833	43558.8199	1.25%	222.8	77.7
CL	Crude Oil	WTI Crude Oil	7.33	1000	1	230	3,866,576,722	281,180,743	38,360,265,075	0.437260893	12392.85	57.37916667	711091.4056	20.34%	16133.9	344.9
HO	Crude Oil	Heating Oil	315	42000	1	230	3,866,576,722	38,302,673	5,107,023,067	0.058213922	70902.91	1.726633333	122423.3278	3.50%	2777.7	344.9
RB	Crude Oil	RBOB Gasoline	354.9	42000	1	230	3,866,576,722	46,212,745	5,468,963,905	0.062339612	85545.41	1.771666667	151557.9514	4.34%	3438.7	344.9
LGO	Crude Oil	Brent Crude Oil	7.33	1000	1	230	3,866,576,722	227,452,583	31,030,366,030	0.353708858	10024.82	59.93833333	600871.0028	17.19%	13633.1	344.9
LCO	Crude Oil	Gas Oil	1	100	1	230	3,866,576,722	77,619,341	7,761,934,100	0.088476715	342.1020	488.5625	167138.2084	4.78%	3792.2	344.9
NG	Natural Gas	Natural Gas	947086.289	10000	1	230	39,758	124,406,722	1,313,573	1	37653.94	3.091916667	116422.8447	3.33%	3846.6	502.2
MAL	Aluminum	Aluminum	1	25	1	230	65,892,000	55,580,268	1,389,506,700	1	65.892000	2219.303333	146234.3352	4.18%	3083.7	320.5
MCU	Copper	Copper	1	25	1	230	23,580,000	30,330,404	758,260,100	1	23.580000	8596.875	202714.3125	5.80%	6518.7	488.8
MNI	Nickel	Nickel	1	6	1	230	2,016,000	16,118,987	96,713,922	1	2.016000	17299.6875	34876.1700	1.00%	1673.1	729.2
MPB	Lead	Lead	1	25	1	230	11,020,000	10,295,481	257,387,025	1	11.020000	2083.041667	22955.1192	0.66%	536.1	355
MZN	Zinc	Zinc	1	25	1	230	13,440,000	20,647,686	516,192,150	1	13.440000	2799.5025	37625.3136	1.08%	1445.1	583.8
GC	Gold	Gold	32.15075	100	1	230	3,184,000	62,339,274	193,896,796	1	102.3680	1818.833333	186190.3307	5.33%	11338.5	925.6
SI	Silver	Silver	32150.75	5000	1	230	27,600	22,103,439	3,437,469	1	887.3607	25.30541667	22455.0322	0.64%	2796.7	1893

2022 S&P GSCI CPW Comparison

2022 S&P GSCI CPW COMPARISON				
Symbol	Commodity	2021 CPW	2022 CPW	% Change
W	Chicago Wheat	18633.54	19458.43	4.43%
KW	Kansas Wheat	8576.191	7915.366	-7.71%
C	Corn	42509.52	43170.92	1.56%
S	Soybeans	11728.36	12270.07	4.62%
KC	Coffee	19857.99	20672.35	4.10%
SB	Sugar	383784.3	390154.8	1.66%
CC	Cocoa	4.808290	5.013083	4.26%
CT	Cotton	54372.00	54201.50	-0.31%
LH	Lean Hogs	92812.84	94540.48	1.86%
LC	Live Cattle	109554.8	110644.1	0.99%
FC	Feeder Cattle	26933.66	29541.00	9.68%
CL	WTI Crude Oil	13284.94	12392.85	-6.72%
HO	Heating Oil	75118.71	70902.91	-5.61%
RB	RBOB Gasoline	76060.08	85545.41	12.47%
LCO	Brent Crude Oil	8939.108	10024.82	12.15%
LGO	Gas Oil	332.5306	342.1020	2.88%
NG	Natural Gas	36243.22	37653.94	3.89%
MAL	Aluminum	63.58000	65.89200	3.64%
MCU	Copper	22.76480	23.58000	3.58%
MNI	Nickel	1.996000	2.016000	1.00%
MPB	Lead	10.84960	11.02000	1.57%
MZN	Zinc	13.60000	13.44000	-1.18%
GC	Gold	99.92453	102.3680	2.45%
SI	Silver	855.2100	887.3607	3.76%

2022 ACRP Comparison

- Price increases for all commodities except for Cocoa
- Cocoa prices were flat
- Natural Gas and Copper had the largest percent change

2022 ACRP COMPARISON				
Symbol	Commodity	2021 ACRP	2022 ACRP	% Change
W	Chicago Wheat	531.0625	653.916667	23.13%
KW	Kansas Wheat	457.9583333	617.5	34.84%
C	Corn	358.1875	529.7291667	47.89%
S	Soybeans	895.5	1322.979167	47.74%
KC	Coffee	111.4166667	140.8208333	26.39%
SB	Sugar	12.43333333	16.24166667	30.63%
CC	Cocoa	2479.916667	2479.416667	-0.02%
CT	Cotton	61.95166667	81.02916667	30.79%
LH	Hogs	60.88541667	87.14791667	43.13%
LC	Live Cattle	107.83125	118.775	10.15%
FC	Feeder Cattle	137.19375	147.4520833	7.48%
CL	WTI Crude Oil	43.42666667	57.37916667	32.13%
HO	Heating Oil	1.439916667	1.726633333	19.91%
RB	RBOB Gasoline	1.289225	1.771666667	37.42%
LCO	Brent Crude Oil	47.69916667	59.93833333	25.66%
LGO	Gas Oil	434.3958333	488.5625	12.47%
NG	Natural Gas	2.048	3.091916667	50.97%
MAL	Aluminum	1673.333333	2219.303333	32.63%
MCU	Copper	5776.5	8596.875	48.82%
MNI	Nickel	13691.89583	17299.6875	26.35%
MPB	Lead	1877.625	2083.041667	10.94%
MZN	Zinc	2199.583333	2799.5025	27.27%
GC	Gold	1662.133333	1818.833333	9.43%
SI	Silver	18.63633333	25.30541667	35.79%

Yearly Volume Comparison

- Volume increase for Corn, Soybeans and Chicago Wheat
- Volume decrease for other 21 commodities
- Largest decrease: Gold and Nickel

2022 YEARLY VOLUME COMPARISON				
Symbol	Commodity	2021 Volume	2022 Volume	% Change
W	Chicago Wheat	30,974,283	32,278,726	4.21%
KW	Kansas Wheat	14,256,085	13,130,452	-7.90%
C	Corn	84,982,196	92,675,550	9.05%
S	Soybeans	55,664,768	60,634,382	8.93%
KC	Coffee	13,768,616	12,073,152	-12.31%
SB	Sugar	41,358,864	32,245,359	-22.04%
CC	Cocoa	11,360,075	10,320,791	-9.15%
CT	Cotton	8,607,528	8,139,651	-5.44%
LH	Lean Hogs	13,568,164	11,487,774	-15.33%
LC	Live Cattle	16,598,707	14,146,672	-14.77%
FC	Feeder Cattle	3,264,585	3,021,630	-7.44%
CL	WTI Crude Oil	349,472,405	281,180,743	-19.54%
HO	Heating Oil	47,049,200	38,302,673	-18.59%
RB	RBOB Gasoline	47,638,808	46,212,745	-2.99%
LCO	Brent Crude Oil	235,151,425	227,452,583	-3.27%
LGO	Gas Oil	87,475,220	77,619,341	-11.27%
NG	Natural Gas	152,609,050	124,406,722	-18.48%
MAL	Aluminum	66,074,130	55,580,268	-15.88%
MCU	Copper	33,706,512	30,330,404	-10.02%
MNI	Nickel	20,765,827	16,118,987	-22.38%
MPB	Lead	11,700,692	10,295,481	-12.01%
MZN	Zinc	25,813,296	20,647,686	-20.01%
GC	Gold	87,924,473	62,339,274	-29.10%
SI	Silver	26,743,343	22,103,439	-17.35%
Total Volume		1,486,528,252	1,302,744,485	-12.36%

2022 Dollar Weight Comparison – Pro Forma

2022 COMMODITY DOLLAR WEIGHT COMPARISON - PRO FORMA

Symbol	Commodity	2021 CPW	2022 CPW	2022 ACRP	2021 TDW	2022 TDW	2021 RPDW	2022 RPDW	Difference (basis pts)
W	Chicago Wheat	18633.54	19458.43	6.539166667	98955.74336	127241.9168	3.74%	3.64%	-10
KW	Kansas Wheat	8576.191	7915.366	6.175	39275.38137	48877.38505	1.48%	1.40%	-8
C	Corn	42509.52	43170.92	5.297291667	152263.787	228688.9548	5.75%	6.54%	79
S	Soybeans	11728.36	12270.07	13.22979167	105027.4638	162330.4698	3.97%	4.64%	68
KC	Coffee	19857.99	20672.35	1.408208333	22125.11053	29110.97554	0.84%	0.83%	0
SB	Sugar	383784.3	390154.8	0.162416667	47717.1813	63367.6421	1.80%	1.81%	1
CC	Cocoa	4.80829	5.013083	2479.416667	11924.15851	12429.52154	0.45%	0.36%	-9
CT	Cotton	54372	54201.50	0.810291667	33684.3602	43919.02377	1.27%	1.26%	-2
LH	Lean Hogs	92812.84	94540.48	0.871479167	56509.48435	82390.05873	2.13%	2.36%	22
LC	Live Cattle	109554.8	110644.1	1.18775	118134.3103	131417.5298	4.46%	3.76%	-70
FC	Feeder Cattle	26933.66	29541	1.474520833	36951.29817	43558.81994	1.40%	1.25%	-15
CL	WTI Crude Oil	13284.94	12392.85	57.37916667	576920.6611	711091.4056	21.78%	20.34%	-144
HO	Heating Oil	75118.71	70902.91	1.726633333	108164.6825	122423.3278	4.08%	3.50%	-58
RB	RBOB Gasoline	76060.08	85545.41	1.771666667	98058.55664	151557.9514	3.70%	4.34%	63
LCO	Brent Crude Oil	8939.108	10024.82	59.93833333	426388.0023	600871.0028	16.10%	17.19%	109
LGO	Gas Oil	332.5306	342.1020	488.5625	144449.9071	167138.2084	5.45%	4.78%	-67
NG	Natural Gas	36243.22	37653.94	3.091916667	74226.11456	116422.8447	2.80%	3.33%	53
MAL	Aluminum	63.58000	65.89200	2219.303333	106390.5333	146234.3352	4.02%	4.18%	17
MCU	Copper	22.76480	23.58000	8596.875	131500.8672	202714.3125	4.97%	5.80%	83
MNI	Nickel	1.996000	2.016000	17299.6875	27329.02408	34876.17	1.03%	1.00%	-3
MPB	Lead	10.84960	11.02000	2083.041667	20371.4802	22955.11917	0.77%	0.66%	-11
MZN	Zinc	13.60000	13.44000	2799.5025	29914.33333	37625.3136	1.13%	1.08%	-5
GC	Gold	99.92453	102.368	1818.833333	166087.8921	186190.3307	6.27%	5.33%	-95
SI	Silver	855.21	887.3607	25.30541667	15937.97863	22455.03225	0.60%	0.64%	4

2022 Sector Weight Comparison – Pro Forma

S&P GSCI SECTOR WEIGHTS			
Sector	2021 Weight	2022 Weight	Difference (basis pts)
Energy	53.93%	53.48%	-45
Agriculture	19.29%	20.48%	119
Livestock	7.99%	7.36%	-63
Industrial Metals	11.91%	12.71%	80
Precious Metals	6.87%	5.97%	-90

- Largest sector percentage increase: **Agriculture**
 - Attributed to percentage weight increases in **Corn** and **Soybeans**
- Largest percentage decrease: **Precious Metals**
 - Attributed to percentage weight decrease in **Gold**

Component Candidate Screening Review

CONTRACTS TESTED FOR INCLUSION

Soybean Oil	E-Micro Gold Futures (MGC)
Soybean Meal	Coal (API2) CIF ARA (ARGUS-McCloskey) (MTF)
Nonfat Dry Milk	1,000-oz. Silver Futures (SIL)
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)	Brent Oil
E-mini Crude Oil (QM)	Gold (Moscow Exchange)
Natural Gas (Henry Hub) Penultimate Financial (HP)	Refined Silver (Moscow Exchange)
Chicago Ethanol (Platts) (CU)	Robusta Coffee - 10 Tonne
Palladium Futures (PA)	White Sugar
Mont Belvieu LDH Propane (OPIS) Futures (B0)	US Dollar/Ounce Gold

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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