

Review of 2019 S&P GSCI Index Rebalancing

S&P GSCI ADVISORY PANEL MEETING

Pro Forma 2019 S&P GSCI Rebalance

Final results will be published in November 2018

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**S&P Dow Jones
Indices**

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Overview

- No membership changes
- Investment Support Level: **US\$ 250 billion**
- Minimal changes to sector weights
- Largest percent weight increases: **Gas Oil, Aluminum and Heating Oil**
- 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: **Aluminum (11.7%)**
- **Cotton** was the only commodity with World Production Average decrease (**-3.6%**)
- Largest percentage volume increase: **Gold (34.43%)**
- Largest percentage volume decrease: **RBOB Gasoline (-2.83%)**

World Production Quantity Sources

- 2014 and 2015 Nickel data provided by current source
- No additional changes to reported sources for 2019

WORLD PRODUCTION QUANTITY SOURCES	
Commodity	Source
Wheat	FAOSTATS
Corn	FAOSTATS
Soybeans	FAOSTATS
Lean Hogs	FAOSTATS & UN data
Cattle	FAOSTATS & UN data
Coffee	FAOSTATS
Sugar	USDA
Cocoa	FAOSTATS
Cotton	USDA
Gold	USGS - MYB
Silver	USGS - MYB
Crude Oil	UN Data
Natural Gas	UN Data
Aluminum	USGS - MYB
Copper	USGS - MYB
Lead	USGS - MYB
Nickel	USGS - MYB
Zinc	USGS - MYB

World Production Averages

WORLD PRODUCTION AVERAGE COMPARISONS				
Commodity	WPQ Units	2018 WPA	2019 WPA	Percentage Change
Wheat	M ton	690,423,419	710,379,591	2.9%
Corn	M ton	932,688,170	964,917,628	3.5%
Soybeans	M ton	270,502,922	281,947,576	4.2%
Lean Hogs	1000 M ton	40,600,373	41,004,075	1.0%
Cattle	M ton	54,796,100	56,877,204	3.8%
Coffee	M ton	8,677,280	8,756,024	0.9%
Sugar	M ton	168,296,600	173,191,200	2.9%
Cocoa	M ton	4,499,853	4,515,547	0.3%
Cotton	M ton	26,509,414	25,568,018	-3.6%
Gold	1 Kg	2,790,000	2,894,000	3.7%
Silver	1 M ton	24,700	25,680	4.0%
Crude Oil	1000 M ton	3,661,383,369	3,718,068,764	1.5%
Natural Gas	1 Petajoule	35,300	36,612	3.7%
Aluminum	1000 M ton	52,096,000	58,178,000	11.7%
Copper	1000 M ton	20,440,000	21,300,000	4.2%
Lead	1000 M ton	10,322,000	10,480,000	1.5%
Nickel	1 M ton	1,784,000	1,870,000	4.8%
Zinc	1000 M ton	12,860,000	13,220,000	2.8%

WPA Comparison Table (2014 – 2019)

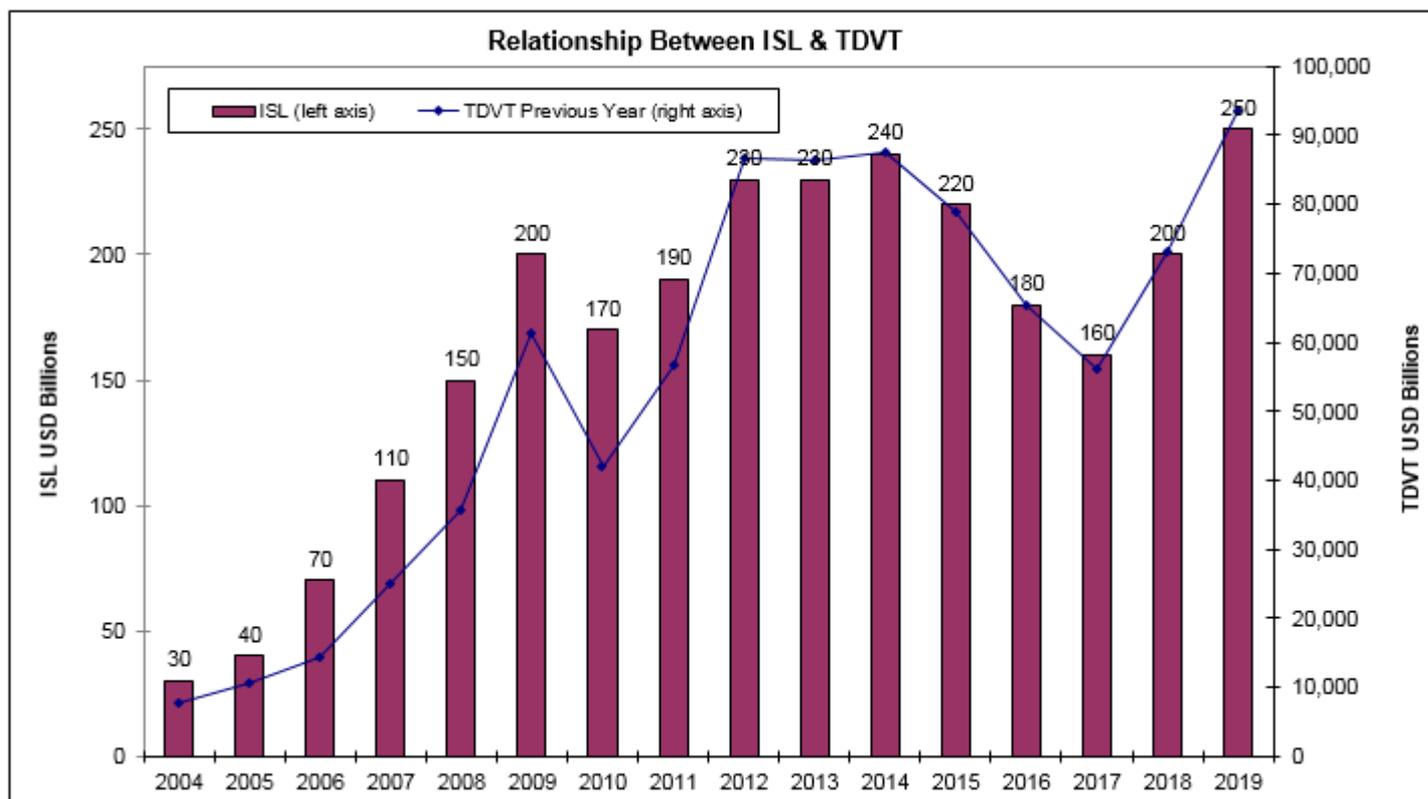
WORLD PRODUCTION AVERAGE COMPARISON TABLE

Commodity	Unit	2014	2015	2016	2017	2018	2019
Wheat	1000 M ton	647,389,857	666,466,762 2.9%	678,027,825 1.7%	684,023,002 0.9%	690,423,419 0.9%	710,379,591 2.9%
Corn	1000 M ton	799,358,319	835,882,151 4.6%	852,546,224 2.0%	889,771,187 4.4%	932,688,170 4.8%	964,917,628 3.5%
Soybeans	1000 M ton	232,246,870	240,278,555 3.5%	244,561,496 1.8%	253,588,379 3.7%	270,502,922 6.7%	281,947,576 4.2%
Lean Hogs	1000 M ton	37,519,258	38,541,813 2.7%	39,767,313 3.2%	40,561,411 2.0%	40,600,373 0.1%	41,004,075 1.0%
Cattle	1000 M ton	48,720,841	49,637,826 1.9%	51,514,494 3.8%	53,177,821 3.2%	54,796,100 3.0%	56,877,204 3.8%
Coffee	1000 M ton	8,077,173	8,245,923 2.1%	8,381,239 1.6%	8,556,349 2.1%	8,677,280 1.4%	8,756,024 0.9%
Sugar	1000 M ton	156,159,370	157,463,200 0.8%	158,969,400 1.0%	161,909,000 1.8%	168,296,600 3.9%	173,191,200 2.9%
Cocoa	1000 M ton	4,178,555	4,277,231 2.4%	4,498,280 5.2%	4,482,378 -0.4%	4,499,853 0.4%	4,515,547 0.3%
Cotton	1000 M ton	24,353,925	25,013,039 2.7%	25,278,836 1.1%	25,818,139 2.1%	26,509,414 2.7%	25,568,018 -3.6%
Gold	1 Kg	2,404,000	2,470,000 2.7%	2,544,000 3.0%	2,644,000 3.9%	2,790,000 5.5%	2,894,000 3.7%
Silver	1 M ton	21,480	22,300 3.8%	23,420 5.0%	24,480 4.5%	24,700 0.9%	25,680 4.0%
Crude Oil	1000 M ton	3,604,982,089	3,604,790,667 0.0%	3,623,323,516 1.4%	3,642,593,890 0.5%	3,661,383,369 0.5%	3,718,068,764 1.5%
Natural Gas	1 Petajoule	31,919	32,783 2.7%	33,382 1.7%	34,398 3.0%	35,300 2.6%	36,612 3.7%
Aluminum	1000 M ton	44,256,000	45,816,000 3.5%	47,090,000 2.8%	48,692,000 3.4%	52,096,000 7.0%	58,178,000 11.7%
Copper	1000 M ton	18,200,000	18,660,000 2.5%	19,100,000 2.4%	19,680,000 3.0%	20,440,000 3.9%	21,300,000 4.2%
Lead	1000 M ton	8,710,000	9,170,000 5.3%	9,484,000 3.4%	9,894,000 4.3%	10,322,000 4.3%	10,480,000 1.5%
Nickel	1 M ton	1,410,000	1,442,000 2.3%	1,516,000 5.1%	1,658,000 9.4%	1,784,000 7.6%	1,870,000 4.8%
Zinc	1000 M ton	11,580,000	12,080,000 4.3%	12,380,000 2.5%	12,580,000 1.6%	12,860,000 2.2%	13,220,000 2.8%

Investment Support Level

- Purpose of ISL:

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



ISL Commentary

- ISL recommendation level: **US\$ 250 billion**
- **25% increase** from recommended level of **US\$ 200 billion** for 2018

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%

ISL AVERAGE CALCULATION

Average Excluding Current Year	84.99%
Average With Current Year	85.29%

2019 S&P GSCI CPW Calculation – Pro Forma

- All data subject to revisions based on revised data from designated sources
- Official 2019 S&P GSCI CPW announcement – **First Thursday of November**

2019 S&P GSCI CONTRACT PRODUCTION WEIGHT CALCULATION - PRO FORMA

Symbol	Commodity	CF	Contract Size	ISL	WPA	Volume	TQT	% TQT	CPW	TDVT (mm)	TVM
W	Chicago Wheat	36.7437	5000	250	710,379,591	37,158,770	5,056,481,791	0.71035199	18541.59	892.1	128.9
KW	Kansas Wheat	36.7437	5000	250	710,379,591	15,151,592	2,061,794,539	0.28964801	7560.385	369.5	128.9
C	Corn	39.3683	5000	250	964,917,628	96,248,095	12,224,060,348	1	37987.17	1776.7	162.9
S	Soybeans	36.7437	5000	250	281,947,576	60,495,352	8,232,071,348	1	10359.8	2950.7	375.6
KC	Coffee	2204.623	37500	250	8,756,024	12,209,162	207,674,317	1	19303.73	550.6	305.1
SB	Sugar	2204.623	112000	250	173,191,200	34,900,273	1,773,015,421	1	381821.3	508.1	131.7
CC	Cocoa	1	10	250	4,515,547	12,146,385	121,463,850	1	4.515547	274.8	346
CT	Cotton	2204.623	50000	250	25,568,018	8,971,540	203,471,070	1	56367.84	359.9	102.4
LH	Lean Hogs	2204.623	40000	250	41,004,075	13,058,432	236,928,164	1	90398.53	354.3	74.3
LC	Live Cattle	2204.623	40000	250	56,877,204	16,106,052	292,223,242	0.78079498	97906.06	736.1	84.6
FC	Feeder Cattle	2204.623	50000	250	56,877,204	3,617,367	82,040,489	0.21920502	27486.73	268.3	84.6
CL	WTI Crude Oil	7.33	1000	250	3,718,068,764	366,314,870	49,974,743,520	0.49000798	13354.41	23306.8	352.8
HO	Heating Oil	315	42000	250	3,718,068,764	45,597,060	6,079,608,000	0.05961124	69816.19	3924.5	352.8
RB	RBOB Gasoline	354.9	42000	250	3,718,068,764	48,687,638	5,761,850,651	0.05649559	74548.34	3954.8	352.8
LCO	Brent Crude Oil	7.33	1000	250	3,718,068,764	236,342,973	32,243,243,247	0.31614863	8616.139	16416.4	352.8
LGO	Gas Oil	1	100	250	3,718,068,764	79,281,661	7,928,166,100	0.07773656	289.0299	4900.4	352.8
NG	Natural Gas	947086.29	10000	250	36,612	135,212,565	1,427,669	1	34674.3	3900.1	501.6
MAL	Aluminum	1	25	250	58,178,000	62,857,998	1,571,449,950	1	58.178	3376.5	347.4
MCU	Copper	1	25	250	21,300,000	37,695,548	942,388,700	1	21.3	6324.9	569.1
MNI	Nickel	1	6	250	1,870,000	24,102,683	144,616,098	1	1.87	1899.2	994.7
MPB	Lead	1	25	250	10,480,000	13,426,192	335,654,800	1	10.48	805.2	412
MZN	Zinc	1	25	250	13,220,000	34,375,067	859,376,675	1	13.22	2679.1	836.1
GC	Gold	32.15075	100	250	2,894,000	85,511,976	265,971,948	1	93.04427	11008.5	1182.1
SI	Silver	32150.75	5000	250	25,680	24,429,904	3,799,274	1	825.6313	1995.9	1903

2019 S&P GSCI CPW Comparison

2019 S&P GSCI CPW COMPARISON				
Symbol	Commodity	2018 CPW	2019 CPW	% Change
W	Chicago Wheat	18577.02	18541.59	-0.19%
KW	Kansas Wheat	6791.687	7560.385	11.32%
C	Corn	36718.35	37987.17	3.46%
S	Soybeans	9939.278	10359.8	4.23%
KC	Coffee	19130.13	19303.73	0.91%
SB	Sugar	371030.6	381821.3	2.91%
CC	Cocoa	4.499853	4.515547	0.35%
CT	Cotton	58443.26	56367.84	-3.55%
LH	Lean Hogs	89508.52	90398.53	0.99%
LC	Live Cattle	95985.02	97906.06	2.00%
FC	Feeder Cattle	24819.72	27486.73	10.75%
CL	WTI Crude Oil	13241.68	13354.41	0.85%
HO	Heating Oil	64895.68	69816.19	7.58%
RB	RBOB Gasoline	76651.74	74548.34	-2.74%
LCO	Brent Crude Oil	8574.135	8616.139	0.49%
LGO	Gas Oil	263.1475	289.0299	9.84%
NG	Natural Gas	33432.15	34674.3	3.72%
MAL	Aluminum	52.096	58.178	11.67%
MCU	Copper	20.44	21.3	4.21%
MNI	Nickel	1.784	1.87	4.82%
MPB	Lead	10.322	10.48	1.53%
MZN	Zinc	12.86	13.22	2.80%
GC	Gold	89.70059	93.04427	3.73%
SI	Silver	794.1235	825.6313	3.97%

2019 ACRP Comparison

- Strong price increases for the **Petroleum sector**
- Modest price decreases within the **Agriculture sector**

2019 ACRP COMPARISON				
Symbol	Commodity	2018 ACRP	2019 ACRP	% Change
W	Chicago Wheat	434.7083333	480.1458333	10.45%
KW	Kansas Wheat	440.1666667	487.75	10.81%
C	Corn	361.4791667	369.1875	2.13%
S	Soybeans	982.3125	975.5	-0.69%
KC	Coffee	140.9875	120.2625	-14.70%
SB	Sugar	17.87083333	12.99833333	-27.27%
CC	Cocoa	2161.083333	2262.083333	4.67%
CT	Cotton	72.6675	80.22166667	10.40%
LH	Hogs	66.01666667	67.82291667	2.74%
LC	Live Cattle	112.8166667	114.2520833	1.27%
FC	Feeder Cattle	134.5416667	148.34375	10.26%
CL	WTI Crude Oil	49.73083333	63.625	27.94%
HO	Heating Oil	1.592458333	2.049266667	28.69%
RB	RBOB Gasoline	1.594383333	1.934016667	21.30%
LCO	Brent Crude Oil	52.52	69.46	32.25%
LGO	Gas Oil	469.5416667	618.1041667	31.64%
NG	Natural Gas	3.10875	2.884416667	-7.22%
MAL	Aluminum	1856.854167	2148.645833	15.71%
MCU	Copper	5776.270833	6711.541667	16.19%
MNI	Nickel	10234.89583	13132.375	28.31%
MPB	Lead	2239.125	2398.9375	7.14%
MZN	Zinc	2704.125	3117.5	15.29%
GC	Gold	1251.158333	1287.358333	2.89%
SI	Silver	17.45041667	16.33975	-6.36%

Yearly Volume Comparison

- Strong reported volume across all metals (Precious & Industrial Metals sectors) & Agriculture sector
- Relatively flat reported volume within the Energy sector

2019 YEARLY VOLUME COMPARISON				
Symbol	Commodity	2018 Volume	2019 Volume	% Change
W	Chicago Wheat	32,819,613	37,158,770	13.22%
KW	Kansas Wheat	11,998,721	15,151,592	26.28%
C	Corn	86,949,305	96,248,095	10.69%
S	Soybeans	54,146,228	60,495,352	11.73%
KC	Coffee	9,338,102	12,209,162	30.75%
SB	Sugar	31,418,305	34,900,273	11.08%
CC	Cocoa	10,576,486	12,146,385	14.84%
CT	Cotton	7,573,155	8,971,540	18.47%
LH	Lean Hogs	10,694,558	13,058,432	22.10%
LC	Live Cattle	15,772,835	16,106,052	2.11%
FC	Feeder Cattle	3,262,820	3,617,367	10.87%
CL	WTI Crude Oil	363,560,976	366,314,870	0.76%
HO	Heating Oil	42,422,938	45,597,060	7.48%
RB	RBOB Gasoline	50,107,984	48,687,638	-2.83%
LCO	Brent Crude Oil	235,409,805	236,342,973	0.40%
LGO	Gas Oil	72,249,275	79,281,661	9.73%
NG	Natural Gas	136,133,513	135,212,565	-0.68%
MAL	Aluminum	51,863,779	62,857,998	21.20%
MCU	Copper	34,144,091	37,695,548	10.40%
MNI	Nickel	19,996,618	24,102,683	20.53%
MPB	Lead	10,174,541	13,426,192	31.96%
MZN	Zinc	27,988,869	34,375,067	22.82%
GC	Gold	63,610,501	85,511,976	34.43%
SI	Silver	21,518,131	24,429,904	13.53%
Total Volume		1,403,731,149	1,503,899,155	7.14%

2019 Dollar Weight Comparison – Pro Forma

2019 COMMODITY DOLLAR WEIGHT COMPARISON - PRO FORMA

Symbol	Commodity	2018 CPW	2019 CPW	2018 ACRP	2018 TDW	2019 TDW	2018 PDW	2019 RPDW	Difference (basis pts)
W	Chicago Wheat	18577.02	18541.59	4.801458333	89196.78749	89026.67182	2.85%	2.77%	-8
KW	Kansas Wheat	6791.687	7560.385	4.8775	33126.45334	36875.77784	1.06%	1.15%	9
C	Corn	36718.35	37987.17	3.691875	135559.5584	140243.8832	4.32%	4.36%	4
S	Soybeans	9939.278	10359.8	9.755	96957.65689	101059.849	3.09%	3.14%	5
KC	Coffee	19130.13	19303.73	1.202625	23006.37259	23215.14829	0.73%	0.72%	-1
SB	Sugar	371030.6	381821.3	0.129983333	48227.79416	49630.40531	1.54%	1.54%	0
CC	Cocoa	4.499853	4.515547	2262.083333	10179.04247	10214.54361	0.32%	0.32%	-1
CT	Cotton	58443.26	56367.84	0.802216667	46884.15723	45219.22071	1.50%	1.41%	-9
LH	Lean Hogs	89508.52	90398.53	0.678229167	60707.28893	61310.91967	1.94%	1.91%	-3
LC	Live Cattle	95985.02	97906.06	1.142520833	109664.885	111859.7133	3.50%	3.48%	-2
FC	Feeder Cattle	24819.72	27486.73	1.4834375	36818.50339	40774.84603	1.17%	1.27%	9
CL	WTI Crude Oil	13241.68	13354.41	63.625	842501.89	849674.3363	26.88%	26.42%	-45
HO	Heating Oil	64895.68	69816.19	2.049266667	132988.5538	143071.991	4.24%	4.45%	21
RB	RBOB Gasoline	76651.74	74548.34	1.934016667	148245.7427	144177.732	4.73%	4.48%	-25
LCO	Brent Crude Oil	8574.135	8616.139	69.46	595559.4171	598477.0149	19.00%	18.61%	-39
LGO	Gas Oil	263.1475	289.0299	618.1041667	162652.5662	178650.5855	5.19%	5.56%	37
NG	Natural Gas	33432.15	34674.3	2.884416667	96432.25066	100015.1288	3.08%	3.11%	3
MAL	Aluminum	52.096	58.178	2148.645833	111935.8533	125003.9173	3.57%	3.89%	32
MCU	Copper	20.44	21.3	6711.541667	137183.9117	142955.8375	4.38%	4.45%	7
MNI	Nickel	1.784	1.87	13132.375	23428.157	24557.54125	0.75%	0.76%	2
MPB	Lead	10.322	10.48	2398.9375	24761.83288	25140.865	0.79%	0.78%	-1
MZN	Zinc	12.86	13.22	3117.5	40091.05	41213.35	1.28%	1.28%	0
GC	Gold	89.70059	93.04427	1287.358333	115476.802	119781.3164	3.68%	3.72%	4
SI	Silver	794.1235	825.6313	16.33975	12975.77946	13490.60903	0.41%	0.42%	1

2019 Sector Weight Comparison – Pro Forma

S&P GSCI SECTOR WEIGHTS			
Sector	2018 Weight	2019 Weight	Difference (basis pts)
Energy	63.12%	62.63%	-48
Agriculture	15.41%	15.41%	0
Livestock	6.61%	6.65%	4
Industrial Metals	10.76%	11.16%	40
Precious Metals	4.10%	4.14%	5

- Largest sector percentage increase: **Industrial Metals**
 - Attributed to percentage weight increases in **Aluminum and Copper**
- Largest percentage decrease: **Energy**
 - Attributed to percentage weight decreases in **WTI Crude Oil & Brent Crude Oil**

Open Interest Comparison

2019 YEARLY OPEN INTEREST COMPARISON

Symbol	Commodity	Aug. 2017 OI	Aug. 2018 OI	% Change
W	Chicago Wheat	399,065	418,460	4.86%
KW	Kansas City Wheat	251,346	257,520	2.46%
C	Corn	1,187,998	1,509,670	27.08%
S	Soybeans	605,298	744,889	23.06%
KC	Coffee	183,651	286,703	56.11%
SB	Sugar	766,539	963,063	25.64%
CC	Cocoa	230,339	226,974	-1.46%
CT	Cotton	212,813	237,179	11.45%
LH	Lean Hogs	230,400	208,644	-9.44%
LC	Live Cattle	293,129	273,162	-6.81%
FC	Feeder Cattle	45,921	42,069	-8.39%
CL	WTI Crude Oil	2,147,985	2,142,185	-0.27%
HO	Heating Oil	348,869	350,037	0.33%
RB	RBOB Gasoline	378,055	421,013	11.36%
LCO	Brent Crude Oil	2,300,658	2,247,680	-2.30%
LGO	Gas Oil	927,333	1,104,479	19.10%
NG	Natural Gas	1,230,847	1,514,868	23.08%
MAL	Aluminum	916,077	853,943	-6.78%
MCU	Copper	449,187	408,303	-9.10%
MNI	Nickel	331,221	297,244	-10.26%
MPB	Lead	140,238	137,851	-1.70%
MZN	Zinc	397,465	354,139	-10.90%
GC	Gold	491,894	433,775	-11.82%
SI	Silver	157,299	195,132	24.05%

Total Open Interest	14,623,627	15,628,982	6.87%
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Sources: CFTC & LME Exchange

CFTC Data for US futures (total long positions only)
 CFTC data for ICE - Europe Exchange (total positions reported only)
 Exchange data for LME (total positions)

Component Candidate Screening Review

CONTRACTS TESTED FOR INCLUSION

Soybean Oil	Coal (API2) CIF ARA (ARGUS-McCloskey) (MTF)
Soybean Meal	Gulf Coast No. 6 Fuel Oil 3.0% (Platts) Futures (MF)
Nonfat Dry Milk	Singapore Fuel Oil 380 cst (Platts) Futures (SE)
Hard Red Spring Wheat	European 3.5% Fuel Oil Barges FOB Rdam (Platts) Futures (UV)
Brent Crude Oil Last Day Financial (BZ)	Oman Crude Oil
Copper (HG)	ICE WTI Crude
Platinum (PL)	ICE NYH (RBOB) Gasoline (Monthly)
Natural Gas (Henry Hub) Last-day Financial (HH)	ICE Heating Oil
E-mini Crude Oil (QM)	Tin (SN)
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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